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2nd INTERNATIONAL NURSING CONFERENCE "NURSING ROLE FOR SUSTAINABLE DEVELOPMENT GOAL ACHIEVEMENT BASED ON COMMUNITY EMPOWERMENT"

Jember, November 14th – 15th, 2015

PROCEEDING

ISBN: 978-602-9030-82-2

School of Nursing, University of Jember

in collaboration with:

Institute of Health Science Banyuwangi
Nursing Academy, The District Administration of Lumajang
Faculty of Health Science, University of Muhammadiyah Jember
Diploma Nursing Program of Bondowoso University
Institute of Health Science dr. Soebandi Jember

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GREETING MESSAGE

Assalamu'alaikum Wr.Wb.
Thanks Allah for all the blessings He has bestowed on us.

First of all, I would like to welcome you all at 2nd the International Nursing Conference 2015. I'm so pleased to see many colleagues, friends, and families from Indonesia; and speakers from University of Jember Indonesia, University of Philippines Manila, Burapha University Thailand, Kanazawa University Japan, National Cheng Kung Taiwan, and Representative from World Health Organization, all in one place, at Jember East Java Indonesia.

Health is expensive due to health care costs remain high. As developing country, the most of people skip out on medical or nursing care over cost concerns. Number of health professionals and health care facilities are not comparable with the needs of society. So we must innovate for strategic planning to overcome this issue. Community empowerment approach is the best way for attaining healthy communities. This the prime reason why this conference take the theme "**Nursing Role to Sustainable Development Goals Achievement Based On Community Empowerment".** We hope, who participate in this conference will facilitate our community to achieve their health by themselves.

Once again I would like to thank you all for coming. Please, enjoy your participation at this International Conference which held and memorable time visiting the Jember District, East Java, Indonesia. We hope you return next year with even more colleagues for 3rd International Conference.

Thank You. Have a wonderful conference.
Wassalamualaikum. Wr. Wb

Chairperson

Ns. Emi Wuri Wuryaningsih, M.Kep., Sp.Kep.J

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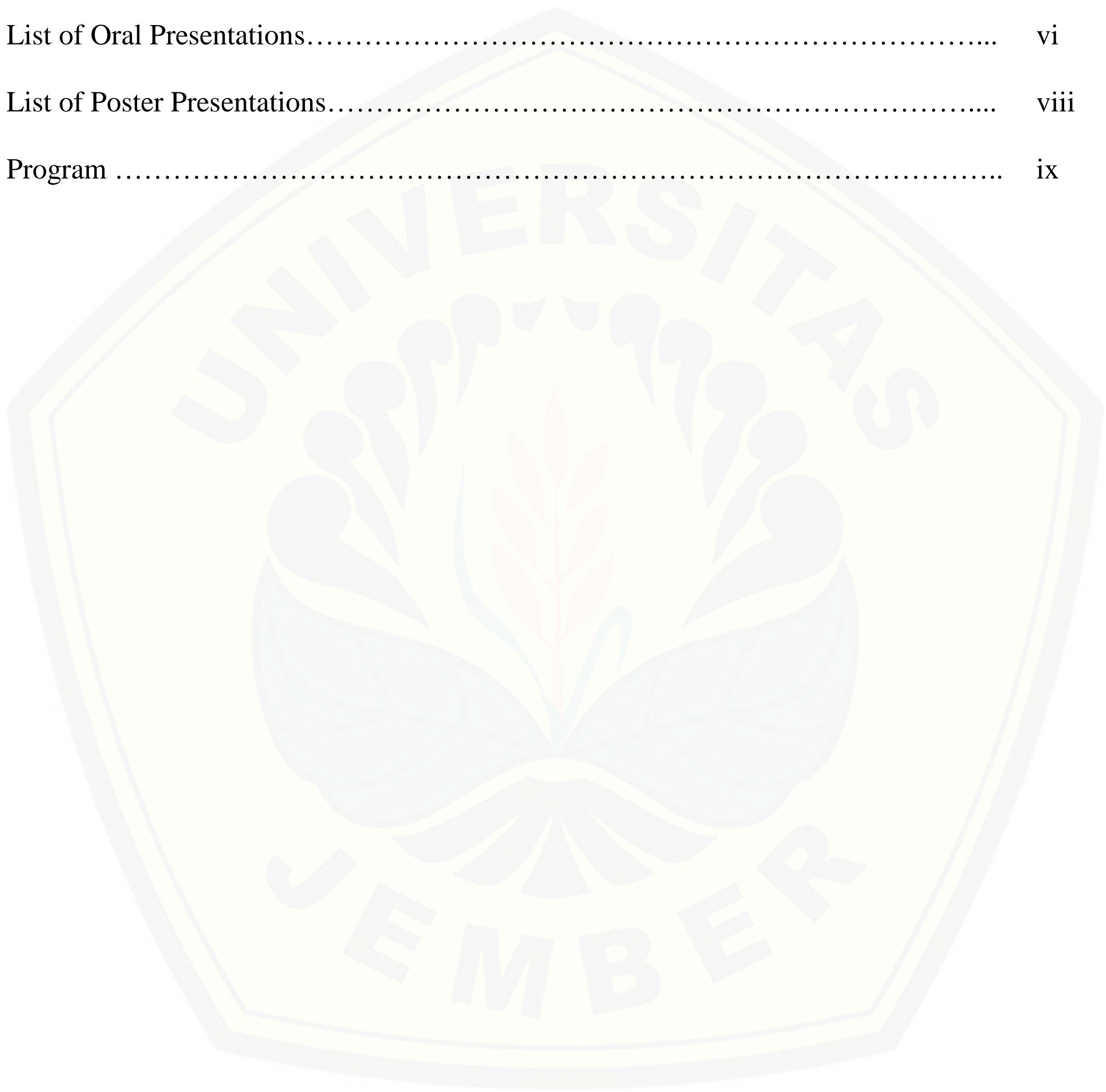

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PROGRAM

2nd INTERNATIONAL NURSING CONFERENCE: Nursing Role for Sustainable Development Goals Achievement Based On Community Empowerment"

Jember, 14-15 November 2015

DAY I, Saturday, November 14th 2015

Time [GMT+8]	**Agenda**
08.00-09.00	Registration
09.00-10.00	**Opening Ceremony :** - Welcoming Dance " Labako" - Sing Indonesia Anthem "Indonesia Raya" - Opening Speech a. Chairperson of 2nd INC b. Rector University of Jember
10.00-10.30	Coffee Break, Poster Presentation, & JFC Presentation
	Session I
10.30-11.45	Speaker I + Discussion "Strategic Role of Nursing in The Era of Sustainable Development Goal's" **(WHO, Indonesia)**
11.45-13.00	Speaker II + Discussion Strategic Planning of nurses in community to decrease the mortality and morbidity rate in maternal and children **[Prof. Rumiko Kimura, Kanazawa University, Japan]**
13.0-15.00	Check In, Break, Lunch, & Pray
	Session II
15.00-16.15	Speaker III Trend & Issues about caring for NCD's in community settings. **[Prof. Dr. Wannarat Lawang, P.hD., M.NSc, RN, Faculty of Nursing, Burapha University, Thailand]**
16.15-17.30	Speaker IV Management of Mental Health Issues in Community Based on Community Empowerment **[Prof. Merle F Mejico, M.N., RN, University of Philippines, Manila]**
17.30-18.00	Discussion Session
18.00-19.00	Break, Dinner, & Pray
19.00-22.00	Oral Presentation in Session I: [40 presenters will be divided in tree groups]
19.00-21.00	**Gala Dinner**

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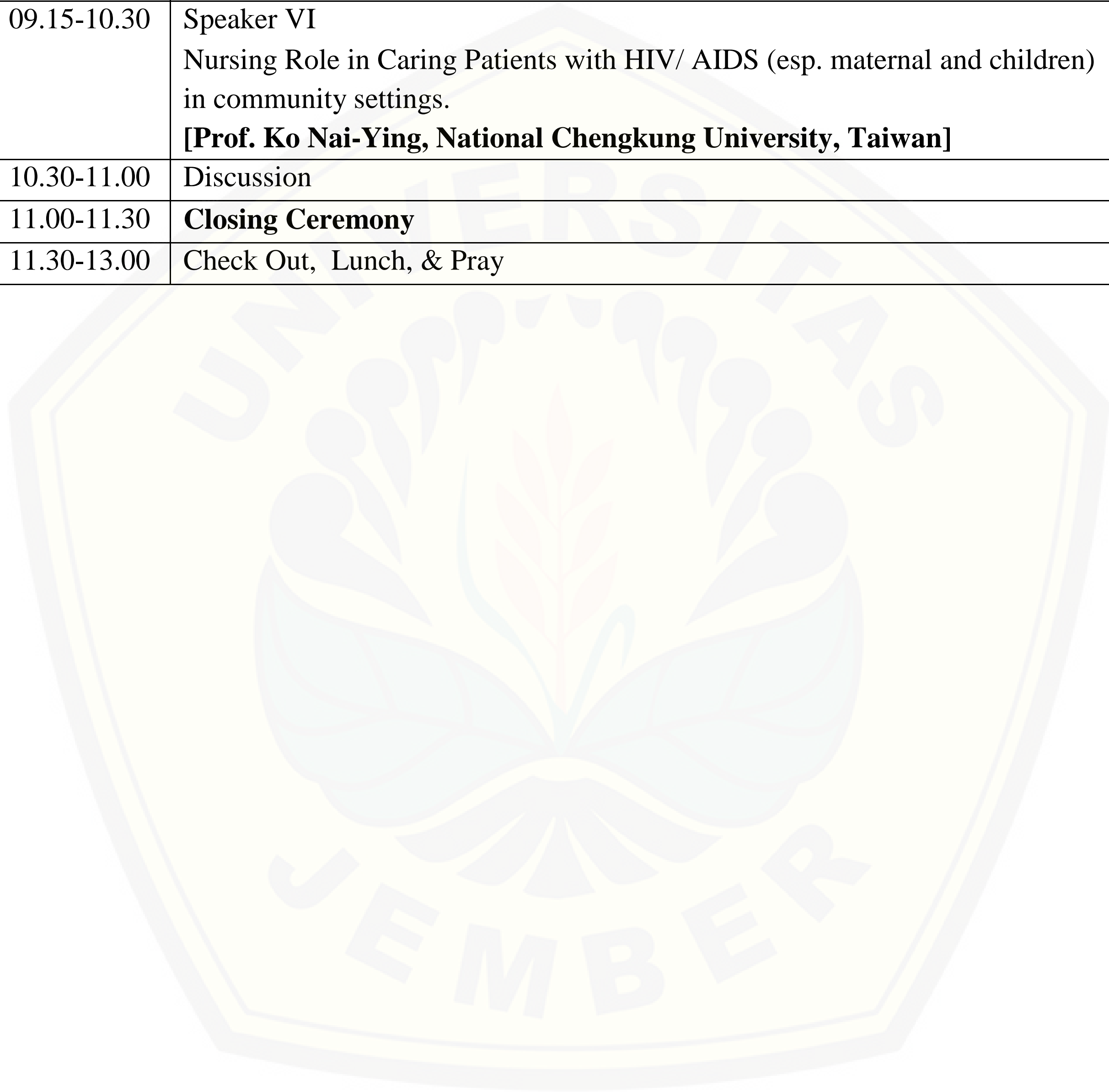
DAY II, Sunday, November 15th 2015

Time [GMT+8]	Agenda
06.00-08.00	Breakfast
	Session III
08.00-09.15	Speaker V Community Empowerment Strategies for Disaster Management in community. **[Prof. Dr. Indarto, S.TP, DEA, University of Jember]**
09.15-10.30	Speaker VI Nursing Role in Caring Patients with HIV/ AIDS (esp. maternal and children) in community settings. **[Prof. Ko Nai-Ying, National Chengkung University, Taiwan]**
10.30-11.00	Discussion
11.00-11.30	**Closing Ceremony**
11.30-13.00	Check Out, Lunch, & Pray



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NURSE'S EXPERIENCE IN MANAGEMENT OF ACUTE TRAUMA PATIENT IN PREHOSPITAL SETTING: A PHENOMENOLOGICAL STUDY

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ABSTRACT

Background: Prehospital nurses should have competencies that may be needed to give appropriate care for emergency patients, including the treatment in acute trauma. However, practically it has many challenges and obstacles in order to achieve the best quality of acute trauma management. This management includes evaluating the scene area, performing an initial assessment, and making critical interventions and patient's transportation. In fact, the nurse's experience in those aspects has not been explored yet. The research objective was to explore the experiences of nurses in prehospital trauma care. **Methods**: In-depth interview was conducted in this study using semi-structured questions which involved 6 nurses as the participants. The data were collected and analyzed using thematic analysis based on Braun & Clarke approach. **Results**: The study uncovered 5 major themes. These themes included lack of support at the scene, nurse's problem on doing initial assessment, complicated clinical interventions, increase of required nurse's competencies, and nurse's dedication on trauma management. **Conclusion**: Nurse's experience at the moment of trauma management is caused by lack of interprofesional support and community support. Nurses are also aware that they need to keep conducting the best trauma management although there are many limitations. In addition, nurses need to develop their knowledge and skill in order to provide appropriate prehospital trauma management. Various problems that arise may give expectation to set up a specialized ambulance nurse, the provision of pre-hospital care facilities, and the convenience of pre-hospital service.

Keywords: nurse's experience, acute trauma, pre-hospital setting.

Introduction

Ambulance is used by Saiful Anwar General Hospital to manage acute trauma in prehospital setting. In 2011, there were 72-73 emergency calls per month that required emergency ambulance service. This number of ambulance utilization was still very low compared to the number of patients in 2011 that came to the emergency room by using variety of vehicles (ED report in Silvalilla, 2014). Limitation of service's authorities and facilities for hospital ambulance creates a need to improve the provision of initial acute trauma management to provide comprehensive health services. Problem faced by ambulance nurses when performing acute trauma management at early stage is that they are hesitant when assessing the scene area and patient's clinical status. This problem shortly happens when the ambulance arrives at the scene and the nurses have hesitations about the victim's condition. Since there are a lot of people who swarm around the scene, nurses are in doubt about the victim's condition then it may affect their clinical assessment (Harmsen, et al., 2015).

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Behavior of emergency ambulance nurse is a manifestation of psychological involvement that will reduce patient's satisfaction about their service while doing collaboration measures (Elliot, et al., 2011; Ebben, et al., 2014).

The general objective of this research was to explore nurse's experience as an ambulance nurse in pre-hospital phase in the management of acute trauma cases that have been responded by the emergency ambulance of Dr Saiful Anwar General Hospital Malang. The specific purpose of this study was to explore nurse's experience while conducting an environmental assessment in patients with acute trauma in pre-hospital setting, to explore nurse's experience while assessing patients severity with acute trauma in pre-hospital setting, to explore nurse's experience while performing management on patients with acute trauma in pre-hospital setting, to explore nurse's psychological experience in the management of severity in patients with acute trauma in pre-hospital setting, and to explore nurse's requirement in acute trauma patients management in pre-hospital setting.

Methods

This study conducted a qualitative approach using phenomenology interpretive design, based on semi-structured interviews. Participants involved in this study were 6 nurses, consisted of four males and two females in 30-48 years range of age. The inclusion criteria were ambulance nurses, with at least 5 years' experience of pre-hospital emergency trauma care. The participants in this study have experience of pre-hospital emergency nursing care ranged from 5 to 15 years.

The data were analyzed using qualitative content analysis. Each interview text was read by researcher several times in order to gain a sense of the text content as a whole. Then, the entire text from all six interviewee was read in order to identify thematic maps, guided by the aim of the study. The thematic maps were condensed and sorted into theme related by content, constituting an expression of the manifest content of the text.

Results

This research revealed 5 themes, including the shortage of society support in the scene area to answer research questions about the environmental assessment, the problem in assessment process to answer research questions about the assessment of the trauma, the complexity measures answering research questions about the management trauma, the increasing competencies requirements to answer research questions about the needs for nurses, and nurse's dedications to answer research questions about how the psychological approach that involve nurse's skill on acute trauma management.

Theme 1: shortage of society support in the scene area

Participants revealed that as soon as they arrived at the scene area, they did environmental hazards assessment by observing problems around the scene area. It was conducted to take the most appropriate solution needed.

> *"..when there was an accident, there were so many people standing around the scene area who just watching down the road.." (P4)*
>
> *"..when ambulance came, there was still*

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a lot of vehicles, motorcycles, the victims surrounded by people on their motorcycle.." (P5)

The meaning of the quotation above is that the nurses perceive the response from the public's culture during a traumatic event that they will come to see what was going on and swarming. It is the nurse's belief that this will cause a problem because they have to parse the crowd in order to reach the patient. This is what the shortage of support within the scene area means.

The nurses who came to the scene area still found that the environment situation was not safe, people gathered around at the scene area and so do the vehicles.

".. Patients with moderate head injury who stuck inside their crushed vehicles are very difficult to be drawn out, I feel afraid that his car may explode..." (P4)

"...I feel so comfortable that when we come to the scene area, there are police officers that manage traffic, so I don't feel afraid of being hit by another car.." (P3)

The meaning of the quotation above is the nurse's needs to find security protection when they are on the scene, so that any actions taken by nurses can be performed well. The lack of security protection may cause lack of support within the scene.

Theme 2: Problem in the assessment process

Assessment of severity by participants was strongly influenced by the nurse's ability. Assessment is defined as a description of the examination that had been found by the participants either history or examination results.

"... People are not aware about patient's conditions. So they only say that there is an accident. And when I arrive at the scene, the patient is already unconscious..." (P2)

"... The callers always state that the patient is in severe condition due to accident, whereas they only get scratched skin, not a severe condition.." (P4)

The meaning of the quotation above is the nurse's finding that the information given by the callers is not clear. It may cause an issue about false initial information so that nurses will misdoubt public's report.

Theme 3: Limitations of trauma management

The difficulty of trauma management in this section is interpreted as any actions done by nurses, started from the scene to ambulance.

"..When I come to pick up a patient at the second floor, the stairway was too narrow for me. So I took ropes and then I dropped him off using hand barrow..." (P5)

".. This patient with moderate head injury was being pinched, so he was very difficult to be pulled out, I thought that he might be in spinal injury. Since I had no short spine board, then I tilt long spine board to take the patient...." (P4)

The meaning of the quotation above is that nurses needs to make modifications for the actions because it will be given depending on the patient's condition and the patient's state at the scene.

Delays in the process of action means nurses find barriers in the process of action that might extends the time of action needed.

"I was going to lift my patients with my ambulance driver, since my co-worker was a tiny young girl, I couldn't ask her to lift this patient. Then I asked for the family's assistance. And then they

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didn't know how to lift the patient..."(P5)

"...actually the people are willing to help but they do not know what to do…" (PI)

The meaning of the quotation above is that nurses perceive that they need a long time on the evacuation process and they need to provide public knowledge related to evacuation in the right way.

Theme 4: The needs to improve nurse's competencies on acute trauma management

The need of nurses on acute trauma management means all of the factors which are necessary to improve nurse's skill. Nurse's knowledge related to advanced life support is considered will be needed by ambulance nurse.

"There should be additional course about ATLS, so we will learn how to do acute trauma management..." (PI)

"Actually BTLS is already good enough anyway, but if there is possible, ATLS will be a great choice... " (P4)

The meaning of the quotation above is nurse's finding that the basic knowledge about the trauma management is sufficient but still lack to develop further knowledge on trauma management. To improve nurse's skill, they need to improve their references according to specific knowledge and competencies needed on pre-hospital setting.

".. We got a phone call about a car crash at night, the victim was trapped but we were able to release him, then coincidentally a police officer came..." (PI)

"... When there was a car accident, the victim was being trapped by door, so we broke it open from up above with police officers assistance ..." (P4)

The meaning of the quotation above is the nurse's thought that they need peculiar skills when there is a case with an unexpected situation, condition or scene. Keeping an optimum physical condition is the basic needs for nurses to be able to evacuate patient in unpredictable situation.

".. the patient's house located inside the alleys, down to the stairs, patient's fell on the second floor, I was so memorable because the difficulties to evacuate this patient. I found that he's obese and his body was paralyzed..." (P2)

The meaning of the quotation above is that the nurses are aware to have good physical health to carry out patient's evacuation from the scene.

Theme 5: Nurse's dedication

The nurse's satisfaction to help patients in this section is interpreted as a sense of happiness after doing such interventions that might help patients to recover from their state.

"... I was doing CPR on my way until we arrived at ED. Luckily, this patient survived and made his move on inpatient ward. And when I went to visit my neighbor at inpatient ward, I saw that patient. Knowing that he is alive, it makes me so proud although he does not know me ..." (PI)

"..First, I made a contact to hospital's radio medical communication if they agree to do an oral intubation, then I will proceed this intervention. There is only me who able to do the intubation, so the patient is able to survive. If it happens, I feel so proud..." (P4)

The meaning of the phrase above is the nurse's feeling after having good result related to patient's condition from getting a

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quick and precise action by nurses. Nurse's emotional state that defined in this section is a condition of the nurse feeling while they are on the scene area or while performing an intervention.

"... I took the patient to the ambulance and brought him immediately to the hospital..." (P3)

"... The patient is so fat, but I have no choice than to remain calm and bring him to the ambulance immediately... " (P2)

"... Although the patient was having bleeding issue, I decided to take him to the ambulance immediately, and after that I was able to give resuscitation..." (P4)

The meaning of the quotation above is the nurses believe that they should keep calm so they may able to take appropriate and quick action. Next issue is nurse's motivation as the first helper as part of the psychological involvement when nurses work in ambulance.

"...fortunately, we took respond immediately, otherwise the patient might be taken to hospital by using pickup car that used to brought vegetable to market..." (P2)

"... Ambulance nurses must be a mad person, they must be ready to go anywhere and anytime to give their best respond..." (P5)

The meaning of the previous statement is that as an ambulance nurse, they need to come right away following an emergency call. It gave them both challenges and pride.

When nurse comes to respond a trauma emergency call, nurse needs to assess scene's situation, type and mechanism of trauma from the patient, and the patient's respond as soon as they arrive at the location. Actual and potential problems must be identified so that the goal of acute trauma management can be resolved at the pre-hospital phase (Campbel, 2011). All of the participants take some assessments about environmental state to decide if there are any situations that may cause harm to the responder. The access difficulty to the neighborhood where the incident occurs may be described when the patient's lay in a complicate position that may affect the evacuation process. Prehospital care providers should begin the assessment by evaluating the scene to ensure the safety of themselves and their patients. An environmental assessment must be conducted fast and complete before they reach the patients (Martin & Meredith, 2012).

When the nurses come to the scene, they will find some environmental hazards, such as high traffic road. In the developed countries, there is a system called Emergency Response System that involves three government officers, i.e. police department, fire fighters department, and ambulance department (Pitt & Pusponegoro, 2005. Tazarourte, 2013). The obscurity of trauma events is the main problem that has been identified in assessment process. According to the preliminary assessment concept, it consists of a systematic approach to identify life-threatening conditions that require urgent interventions (Martin & Meredith, 2012).

Trauma patients usually will sustain loss of consciousness and bleeding from the scene area. Level of consciousness will be assessed to predict mortality risk at the initial phase. Then the ambulance nurse will assess the bleeding loss only by

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estimating blood volume, not by calculating the exact measures (Jacob, et al., 2010. Sjolin, et al., 2014).

Therapy administration given at the pre-hospital phase requires some modification techniques such as equipment and its application in order to adapt the limitation occurs at the accident scene. Nurses need to decide which medical equipment and supplies to be carried to trauma scene, while transportation process may implicate the final outcome and emergency transportation availability. Equipment taken should be light and easy, it also needs to have good endurance and durability (Kozier, et al., 2012).

Giving actions in prehospital phase requires some modification techniques, including the use of the tool. Determination of equipment that should be taken in transporting the patients will depend on the patient's condition and the availability of type of transport used. The equipment should be light yet durable and strong (Kozier, et al., 2011). Success of prehospital management of acute trauma depends on time of decision making triage and transportation. Patients with severe injury should be immediately sent to the hospital for definitive treatment, with all the management provided during the transportation (Pitt & Pusponegoro, 2005. WHO, 2005. Martin & Meredith, 2012).

Ambulance service as the main facility has a major function in prehospital. Provision the majority of the actions will be carried out in an ambulance. Mentoring patients by nurses who are experienced and have the appropriate competence is very important. Nurses who are not experienced may not be able to recognize or address the problems that may occur in the ambulance (Jevon & Ewens, 2009).

An increase in nurses' knowledge related to the management of trauma further considered important as a basic for management in prehospital. Initial of the problems and dangers that could potentially occur during the ambulance will affect patient monitoring accurately and effectively, that is to minimize morbidity and mortality (Jevon & Ewens, 2009). Increased self-nurses competency meets the demands of special competence in prehospital, including evacuation techniques and ability to use the evacuation equipment. This requires the evacuation of demands excellent physical strength. Based on observations in patients who can survive from emergency situations, patients who arrive at the hospital and obtain follow-up care within an hour has a greater chance of survival than patients who arrived at the hospital late (Alzghoul, 2014. Martin & Meredith, 2012).

Psychological approaches that involve nurse's perception towards the satisfaction of helping patients with urgency condition can be improved. Studies of ambulance nurses showed that the assessment of ambulance nurses is associated with a particular nursing situation and working environment. Subjective assessment of trauma management is experienced in different ways by different people (Svensonn, 2008). According to the participants' motivation as the first helper is part of the psychological involvement of nurses working in ambulances. It is giving a great challenge for nurses to immediately come early and be able to provide immediate relief (Blackwell, 2012).

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The role of nurses in patient transportation consists of carrying out nursing care, including assessment of patients, planning and implementation of an action plan, and evaluation of patient response (ENA, 2008). Competency in basic trauma life support should include a formal competence in prehospital care, environmental management, evacuation techniques, patient stabilization and delivery of trauma patients (WHO, 2005). Facility as an important part of the prehospital services should be available. Standard on the ambulance according to the American College of Surgeon Committee on trauma (2009) covers basic emergency equipment (BLS) and advanced life support (ALS). Delivery of the patient to the hospital should be with the communication system between ambulances, clinics and community or hospital nearby area. Communication systems both locally and nationally need to be entered in prehospital system. It aims to facilitate and increase the activation response of the prehospital system (WHO, 2005).

Conclusion

Nurses believe that there is lack of support in trauma management because of no guarantee of safety in the scene, difficulty of taking a patient and shortage of the society support. Nurses are also aware that they need to keep conducting best trauma management although there are many limitations occur. Nurses still need to develop themselves in order to provide appropriate prehospital trauma management. However, nurses have high dedication although there are many limitations occur.

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STRATEGIES TO IMPROVE THE QUALITY OF CARDIOPULMONARY RESUSCITATION (CPR) IN CARDIAC ARREST PATIENTS: A LITERATURE REVIEW

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ABSTRACT

Background: Nowadays, the incidence of cardiac arrest is about 135 million people with the number of survival rate ranges from 2% to 11%. Seeing the trend of the incidence of cardiac arrest that occurred at this time, the necessary steps for appropriate treatment increased the survival rate of cardiac arrest patients perform well in CPR. Increasing the high quality of CPR give great impact on patient safety in both cardiac arrest outside and inside hospital. The aim of this study was to identify the strategies to improve high quality of CPR. **Methods:** This literature review was done by collecting and analyzing articles concern on high quality CPR (Cardio Pulmonary Resuscitation). Articles was collected through electronic databases: EBSCOhost, ProQuest and Science Direct used keywords about CPR, high quality CPR, and cardiac arrest. Seventeen research articles were reviewed and the criteria of articles was has full text and published between 2009 until 2015. **Results:** The important strategies in achieving indicators of high quality CPR are: correct patient position, using hand dominant position, turn over the rescuer position, body mass index and body posture, using video simulation, and using music to maintain the correct rhythm during CPR. **Conclusion:** High quality CPR is essential to apply both intra and out of hospital to maintain the survival rate of cardiac arrest patients. Therefore, it is expected for all of rescuers to improve their skill and the outcome high quality of CPR.

Keywords: CPR, High Quality CPR, Cardiac arrest.

Introduction

Today, the incidence of cardiac arrest is very high and become a global problem faced by all countries in the world (Terzi, 2012). According to Meaney et al., (2013) more than 135 million people died because of heart disease, due to cardiac arrest outside the hospital. The incidence of cardiac arrest stand from 20 to 140 in 100,000 populations with survival rate ranged from 2% to 11%. In USA, the incidence of cardiac arrest more than 500 thousand people with ~~a~~ survival rate less than 15% outside the hospital. Meanwhile, the survival rate in the hospital figure reached 18% for adult patients and 36% for pediatric patients. In Indonesia, the incidence of cardiac arrest is still uncertain, but based on data from the National Heart, Harapan Kita Hospital, for a day there is 3-5 people with cardiac arrest admit to the hospital. So that the estimates of the prevalence of patients with cardiac arrest in Indonesia in one year is estimated at about 10 thousand citizens or means 30 people in one day patients with coronary heart disease (Departemen Kesehatan Republik Indonesia, 2006).

Seeing the trend the incidence of cardiac arrest that occurred at this time, it needs steps for appropriate treatment to increase

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the survival rate of cardiac arrest patients. The survival rate of cardiac arrest patients related to effort of quality of CPR. This is in accordance with the opinion of Stiell et al., (2012) in Meaney et al., (2013) which states that the implementation of the CPR that does not the standards will decrease the survival rate of cardiac arrest victims. Suppose that the depth of compression is done in less than 5 cm and made with compression slowly (less than 100 beats/minute) will cause victims in case of return of spontaneous circulation (ROSC) in hospitals will deteriorate from 72% to 42%. The statement indicates that the management of cardiac arrest by increasing the high quality of CPR give a great impact on patient safety in both cardiac arrest outside and inside hospital. Opinion was supported by Bryan et al., (2011) that the appropriate treatments of cardiac arrest patients outside or inside hospital become the first priority with a waiting time of zero minutes. This will require the readiness and ability of all health workers, including nurses to perform high quality of CPR. This is because almost all the cases of cardiac arrest in the emergency encountered by nurses, so that early rapid initiation of cardiac arrest required knowledge and skills from nurses to performed well in high quality CPR (Terzi, 2012). The implementation of measures CPR within minutes of gold including rapid resuscitation and early defibrillation within 1-2 minutes can improve survival in cardiac arrest patients to 60% (Hasegawa et al., 2014).

However, problems may arise when a series of measures to improve the high quality of CPR is done with inadequate procedure. The statement explain about the implementation of the real CPR is very difficult to do if the rescuer is not familiar to perform well in CPR, so the result was poor. Problems were found either in the hospital or within the hospital that a rescuer perform of high quality CPR is usually difficult in maintaining CPR quality with good covering chest compressions to the rhythm constant, the depth of 5 cm, interruptions are minimal and recoil maximum, so this is an issue faced by rescuers of cardiac arrest victims (Travers et al., 2010)

According to Gutwirth, Williams and Boyle, (2009), the most important problem that arise when implementing high quality CPR is derived from the rescuer itself. Other studies according to Rajab (2011) states that the implementation of high quality CPR is influenced by several things that contribute significantly include the dominant hand position when performing chest compression, rotation carried by rescuers and body posture from the rescuer.

The aim of this study was to identify the components of high-quality CPR performed and individual factors that influence the quality cardiopulmonary resuscitation because the application of high quality CPR is not performed optimally. It takes effort to increase it so that all health workers, especially nurses can perform CPR quality in the treatment of cardiac arrest cases.

Methods

This literature review was collected and analyzed the article on high quality CPR (Cardio Pulmonary Resuscitation). Articles collected through electronic databases, EBSCOhost, ProQuest and ScienceDirect and using the keyword about CPR, chest

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compression, high quality CPR, and cardiac arrest. The criteria of articles was has full text and published in the period between 2009 and 2015. Seventeen research articles were reviewed. ScienceDirect databases were searched for relevant articles. Reference lists of original papers and literature review were searched for additional research papers, and availability followed up on the ScienceDirect databases.

Results and Discussion

Cardiopulmonary resuscitation (CPR) is a series of lifesaving actions that improve the chance of survival following cardiac arrest. Although the optimal approach to CPR may vary, depending on the rescuer, the victim, and the available resources, the fundamental challenge remains: how to achieve early and effective CPR (Travers et al., 2010).

a. Cardiac Arrest Victims

Despite important advances in prevention, cardiac arrest remains a substantial public health problem and a leading cause of death in many parts of the world and occurs both in and out of the hospital. Cardiac arrest is a common occurrence that is sudden or unexpected and can lead to death quickly. Cardiac arrest is characterized by the cessation of cardiac function suddenly in someone as a result of the electrical activity of the heart stopping and accompanied stopping breathing (Jacobs, Bahr, Berg and Billi, 2004). Victims who suffered cardiac arrest has been limited to providing blood flow and adequate oxygen to the brain and muscles, causing sudden death when the electrical system of heart does not function properly and produce abnormal heart rhythms such as VT without pulse, VF, PEA and asistole (Berg et al., 2012; Travers et al., 2010).

b. Effort to Improve Survival Rate Cardiac Arrest Patients With CPR

Today, one of the efforts to deal with cardiac arrest is to provide action cardiopulmonary resuscitation (CPR) both outside and inside the hospital. Cardiac arrest is treated with cardiopulmonary resuscitation (CPR) and chest compressions are a basic component of CPR. The quality of the delivered chest compressions is a pivotal determinant of successful resuscitation. In spite of this, the quality of chest compressions, even if delivered by healthcare professionals, is often suboptimal. Therefore it is important that providers carefully familiarize themselves with this technique (Rajab, Pozner, Conrad, Cohn, & Schmitto, 2011). CPR is procedure to save the lives of cardiac arrest patients by increasing circulation and oxygenation through the action of compression and ventilation breathing . The real objective of CPR is to provide oxygen to the brain and heart until the start of the medical definitive treatment and precise to restore the function of the heart and lungs back to normal.

Meanwhile, according to the indications from Travers et al., (2010) CPR can be given to all ages of victims, there are only specific technical differences related to age. CPR can be given to people who suddenly collapse, fell unconscious or not accompanied by pulse was not palpable. It could be due to cardiac arrest or respiratory arrest. After CPR was performed, there is some reason to stop CPR, the heart started

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beating them is adequately, the environment is not safe for the rescuer, medical personnel take over the action and rescuer fatigue .

Implementation of CPR is the second action after early access to 5 chain of survival, so that CPR is a mandatory action that must be carried out by rescuers when it finds the victim of cardiac arrest while waiting for medical personnel to arrive on the scene. Implementation of the 5 chain of survival is highly dependent on the rescuer or helper, events and availability of EMS (Travers et al., 2010)

c. Componen High Quality CPR

Currently, to get best outcome in the management of patients with cardiac arrest required the application of high quality CPR. The applications of these principles become essential when helping victims of cardiac arrest before the defibrillator. According to Travers et al., (2010) focus on maintaining high quality CPR main thing is to keep the rhythm of chest compression to the maximum while the components in the implementation of high quality CPR is : 1) Depth compression means that depressed as deep as 5 cm chest with one hand rescuer second snap; 2) Full Recoil it means that opportunity the chest wall to inflate the maximum after a given pressure is 5 cm; 3) Compression speed it means that the number of chest compressions were performed within one minute of at least 100 beats/minute; 4) Minimal interruptions, means that reduce interruptions up to 10 seconds, so that the compression process is done effectively

d. Strategies to Improve Perform in High Quality CPR

Strategies to improve the quality of CPR is to maintain the quality of chest compressions. The technique of delivering chest compressions is highly standardized and based on international consensus that is updated in 5-year intervals (Rajab et al., 2011). There are some of the strategies to improve high quality CPR: 1) Make sure the patient position is correct, 2) Using hand dominant position, 3) Turn over the rescuer position, 4) Body mass index and body posture, 5) Using video simulation to maintain high quality CPR, and 6) Using music to maintain the correct rythm during CPR.

Some studies suggest that there are several strategies to improve the quality of CPR:

1) Corret Patient's Position

Rajab et al., (2011) said that the patient in cardiac arrest should be placed in supine position with the rescuer standing beside the patient's bed or kneeling beside the patient's chest. Adjustment of the bed height or standing on a stool allows leveraging the body weight above the waist for mechanical advantage. For optimal transfer of energy during chest compressions the patient should be positioned on a firm surface such as a backboard early in resuscitation efforts. This decreases wasting of compressive force by compression of the soft hospital bed. While re-positioning the patient, interruptions of chest compressions should be minimized and care should be taken to avoid dislodging any lines or tubes.

2) Using Hand Dominant Position

Strategies that can be selected to maintain the high quality of CPR is to use the dominant hand when carrying out CPR. Place the dominant hand over the center of

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the patient's chest. This position corresponds to the lower half of the sternum. The heel of the hand is positioned in the midline and aligned with the long axis of the sternum. This focuses the compressive force on the sternum and decreases the chance of rib fractures. Next, place the non-dominant hand on top of the first hand so that both hands are overlapped and parallel. The fingers should be elevated off the patient's ribs to minimize compressive force over the ribs. Also avoid compressive force over the xiphisternum or the upper abdomen to minimize iatrogenic injury (Rajab et al., 2011).

The previously taught method of first identifying anatomical landmarks and then positioning the hands two centimeters above the xiphoid-sternal notch was found to prolong interruptions of chest compressions without an increase in accuracy (Nikandisha, Shahbazib, Golabic, & Beygic, 2008). Similarly, the use of the internipple line as a landmark for hand placement was found to be unreliable. Therefore these techniques are no longer part of the international consensus guidelines. For maximum mechanical advantage keep your arms straight and elbows fully extended. Position your shoulders vertically above the patient's sternum. If the compressive force is not perpendicular to the patient's sternum then the patient will roll and part of the compressive force will be lost (Rajab et al., 2011).

Related research conducted by Jiang, Jiang, Zhao, Xu and Zhou (2015) suggests the use of the dominant hand during chest compression because it will increase high quality CPR by increasing the depth of compression, the average compression per minute and prevent premature fatigue in the helper. With our dominant hand can easily search for landmarks chest compression to achieve and maintain a quality CPR. Use the dominant hand also minimizing fatigue during chest compression. The statement according to research of Jantti et al., (2009), the cause of the decline in the quality of chest compressions during CPR is physical exhaustion of helper. Each implementation of CPR with maximum compression quality compression quality will decline by 20% within 2 minutes. Compression depth and chest wall recoil to be the most prevalent decline.

Another opinion according to Travers et al., (2010) stated that the effective implementation of high quality CPR in just 2 minutes. It means that the physical condition of a person capable of performing chest compressions adequately tolerance in just 2 minutes without fatigue. However, in this case there is little difference with the opinion of Aston et al., (2002); Hightowe et al., (1995); Ochoa et al., (1998); and Greingor (2002) in Gutwirth, Williams and Boyle (2009) which states that the compression fatigue in the implementation of CPR will appear in the minutes to 3-4. While the minutes of the previous compression performed an inadequate level can still be maintained. So that we can know that the maximum time a person can survive optimally in maintaining a high quality CPR is approximately 1-3 minutes.

3) Turn Over Position Rescuer

High quality CPR can be achieved by performing the rotation of the rescuer during the implementation of the CPR. The aim of change the rotation is to reduce

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fatigue of the rescuer to maintain the quality of the compression in CPR. This was stated by Zhang, Yan, Huang and Bai (2013) that for female helper turnover should be done in the implementation of CPR on a regular basis to maintain a given compression quality and avoid fatigue quickly. Thus, female rescuer can control or delay physical fatigue, maintain the speed and quality of adequate chest compressions during resuscitation. This is due to because the women rescuer have a lighter weight than the man rescuer, it make the man can possibility of making a greater effort in performing chest compression. This statement is in line with research of Hasegawa et al., (2014) that describes the weight helper will be directly related to the quality of chest compressions given during the implementation of the CPR.

4) Body Mass Index and Body Posture

Another study stated that men can maintain the quality of CPR in terms of the depth of chest compression and the average amount of compression performed than women at 70% for 8 minutes. Whereas in women after 1 minute of performing CPR, average the speed and depth compression decreased by 20% but in terms of physical exhaustion, women with low weight have a better resistance levels than men (Shin et al., 2014). This means that if the rescuers have less weight, he can't maintain the quality of compression but more tolerance to physical fatigue. So it can be concluded that the higher weight of the rescuer is more give the quality of compression but make the rescuer a high level of physical fatigue.

Another alternative could be done to improve the quality of CPR is identify the ideal helper posture. This is consistent with research Mokhtari (2012) in Hasegawa et al., (2014) states that the problems experienced by the majority of the ER nurses in Japan is a matter of body posture. The majority of 95 % of nurses in Japan is a woman with a body posture that is relatively smaller than the nurse with the European race in general. So it will much affect the quality of CPR performed.

5) Using Video Simulation to Maintain High Quality CPR

Apart from the rescuer high quality CPR can be improved through some effort into improving their knowledge and skills as well as video or simulation based learning CPR. The research conducted by Creutzfeldt, Hedman and Tsai (2012) suggests the use of simulation games on the implementation of CPR can improve knowledge, skills and confidence to participants. In addition, a simulation game can be used in performing CPR guidelines. Another opinion says CPR training program for 45 minutes can improve CPR quality and attitude of non-medical participants. This suggest that CPR can be learned and understood and applied by everyone (Hirose et al., 2014).

6) Using music to maintain the correct rythm during CPR.

According to Roach, Langdon, DeFalco and George (2014) described that the use of music enhancement in training can improved nurses' ability to demonstrate the recommended chest compression rate for CPR immediately after the education and practice session. Music enhancementmay improve their ability to maintain the correct rate of compressions during recertification more than traditional instruction.

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Conclussion

The incidence of the cardiac arrest is very high, but the numbers of survival rate patients are still low. This is because the managements of cardiac arrest are still not optimal, especially in the management of CPR. High quality CPR can be achieved if the compression depth indicator more than 5 cm, the compression speed min 100 beats/minute, full recoil and minimal interruptions reached. To achieve high quality CPR, there are several strategies to improve high quality CPR 1) make sure the patient position is correct, 2) using hand dominant position, 3) turn over the rescuer position, 4) body mass index and body posture, 5) using video simulation to maintain high quality CPR, and 6) using music to maintain the correct rythm during CPR.

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EXPANDING AWARENESS OF CARDIAC ARREST: A LITERATURE REVIEW

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ABSTRACT

Background: Cardiac arrest is an emergency condition that often occurs in all countries. Early recognition of cardiac arrest and activation of Emergency Medical Services (EMS) is the first step to rescue patients with cardiac arrest. Expanding awareness of cardiac arrest is a strategy to improve early recognition of cardiac arrest in the community. The aim of this study was to identify the efforts that can be performed to raise public awareness of cardiac arrest. **Methods:** This literature review analyzed articles on expanding awareness of cardiac arrest. Articles were collected through electronic databases of Sagepub, NCBI, Creative Commons Attribution License, Elsevier, BioMed Central, and CPD Module, using ScienceDirect, Proquest, and Google with the keywords of cardiac arrest, early recognition of cardiac arrest, awareness of cardiac arrest and nurse role on expanding awareness of cardiac arrest. The criteria of articles were full text and published between 2010 and 2015. **Results:** The principles of expanding awareness of cardiac arrest in community include doing campaign about the easiness and safety to start bystander CPR, informing to public about the existence of "Restart a Heart Day", giving high quality resuscitation training to everyone, and involving government in terms of national policy and legislation on community support for funding. **Conclusion:** awareness of cardiac arrest can be improved through a campaign about the easiness and safety to start bystander CPR, high-quality training of resuscitation, and government involvement in financial support.

Keywords: cardiac arrest, early recognition, awareness

Introduction

Cardiac arrest is an emergency condition of heart disease that often occurs and the incidence is still high in all countries in the world. Early recognition of cardiac arrest and activation of emergency services (EMS Activation) is the first step that needs to be done in an attempt to rescue patients with cardiac arrest (American Heart Association [AHA], 2010). Early recognition is a process performed by a bystander to recognize victims who need assistance from the Emergency Medical Services (EMS). Failure in early recognition leads to lower survival rate, especially in patients with Out of Hospital Cardiac Arrest (OHCA). This is an indication that public awareness of cardiac arrest is still low (Gergiou & Lockey, 2013; Marios, 2013; Lee et al., 2013). According to the results of several studies, the difficulties in cardiac arrest recognition by rescuers or bystanders are factors that hinder rescuers to take the first action to rescue the victims (Bradley et al., 2011).

Some studies have shown several factors that prevent bystanders or rescuers to perform Cardiopulmonary Resuscitation (CPR), including difficulty in recognition of cardiac arrest, expectation of others to act first, uncertainty about how to perform CPR, concern about the quality of CPR given, and reluctance to give mouth to mouth rescue breathing (Bradley et al., 2011). CPR training program has been

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implemented throughout the country to increase the CPR initiation by bystander (Sipsma et al., 2011). However, most cases of cardiac arrest were not followed by the initiation of CPR by bystander although they got CPR training program (Berdowski et al., 2010). In addition, most of participants of CPR training program are in the young age range, whereas most of cardiac arrest victims are in the old age range and cases usually occur at home. The family doctor sometimes does not intense advise family members to participate in CPR training (Lockey & Georgious, 2013).

Survival rate of patients with sudden cardiac death brought to the hospital was 7.6%. The death was directly related to the low number of bystander CPR (<5.0%) and the high incidence of delayed resuscitation (Proclemer et al, 2012; Berdowski et al, 2010). In order to increase survival rate of patients with cardiac arrest both in intra-hospital and in out of hospital, it is important to increase public awareness of the incidence of cardiac arrest, not only about early signs of cardiac arrest but also action needed to help patients (Bobrow et al., 2010; Lee et al., 2013; Marios, 2013).

CPR training and use of Automatic External Defibrillator (AED) in layperson is very important since there is high incidence of cardiac arrest occurred outside of hospital (Cho et al., 2010; Sasson et al., 2010). Training of CPR or Basic Life Support (BLS) will increase public awareness of the incidence of cardiac arrest. A common understanding and skills in the management of cardiac arrest by bystander increase expected survival rate either intra-hospital or out of hospital.

Methods

This literature review analyzed articles on expanding awareness of cardiac arrest. Articles collected through electronic databases of Sagepub, NCBI, Creative Commons Attribution License, Elsevier, BioMed Central, and CPD Module, using ScienceDirect, Proquest, and Google with the keywords of cardiac arrest, early recognition of cardiac arrest, awareness of cardiac arrest and nurse role on expanding awareness of cardiac arrest. Eighteen articles were reviewed. The criteria of articles were full text and published between 2010 and 2015.

Results and Discussion

Raising public awareness on cardiac arrest is an attempt to teach about cardiac arrest, starting from learning about early signs and how to perform CPR to help save people with sudden cardiac arrest. (Gergiou & Lockey, 2013; Marios, 2013; Lee et al., 2013). The aim is to improve public awareness of the incidence of cardiac arrest and provide understanding and skills in the management of cardiac arrest by laypeople who will become first responders or bystander CPR (Lee et al., 2013; Soar et al., 2010).

Various efforts to increase public awareness of cardiac arrest have been widely performed, starting from the campaign about easiness and safety to start bystander CPR, teaching on how to perform high-quality training of resuscitation, and involving government in financial support for free CPR education (Proclemer et al., 2012; Gergiou & Lockey, 2013; Marios, 2013). A campaign

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of CPR with chest compressions by AHA increased significantly the number of bystander CPR (Bobrow et al., 2010; Bradley et al., 2011). The campaign was also manifested in the declaration of October 16th as "Restart a Heart Day". The effort was a new breakthrough made by the European Resuscitation Council (ERC), which once was considered as the European Cardiac Arrest Awareness Day. ERC committed to provide protection to human life through high quality resuscitation training available to everyone. The celebration of "Restart a Heart Day" will use different themes and targets each year. The ERC launched theme of "Children Saving Lives" in 2013 because the ERC strongly believes that children not only will become adult in the future but also a lifesaver on the day and later in the future (Colquhoun, 2012; Kanstad et al., 2011; Lorem et al., 2010; Plant & Taylor, 2013). In terms of the theme, the ERC wants to convey the message to the public that it is safe and simple to perform bystander CPR (Gergiou & Lockey, 2013; Marios, 2013).

Dissemination of information to raise public awareness of cardiac arrest was also conducted through internet and social media. Video, social media pages, games, mobile applications and web pages were also used in campaigns about CPR. A simple search of the internet will easily give more than 4000 results on CPR. One recent example is a free program that is released by the Resuscitation Council (UK). These applications are available on the web and smartphones that allows users to participate in a simulated three scenarios in real-time resuscitation (Lee et al, 2013; Jeon et al, 2011).

In addition, through the efforts of the campaign, the provision of public learning about qualified CPR for free is also important. In some developed countries CPR education has been carried out for elementary school students, workers in public places such as in subway stations. CPR training is also imposed on the organizers of sporting events and the industrial safety officials (Proclemer et al., 2012; Lee et al., 2013). In developed countries such as Korea, resuscitation or CPR ability has become a mandatory component of the exam to get a license. The important thing is how to build a system of regional governance to improve CPR education. One of examples is the Korean government. which has passed a law called the "Good Samaritan Law". Through the law, the Korean government provides financial support to supply AED in a public places such as airports, railway stations, and school as a pilot project in 2012. An open forum and a public hearing to discuss education issues of CPR and AED are also held at the National Assembly Government of Korea to raise public awareness of cardiac arrest (Lee et al., 2013).

According to the survey in 2011 conducted in South Korea, post-granting program to improve public awareness of cardiac arrest which was conducted from 2007 to 2011 showed an increase in public awareness of AEDs from 3% in 2007 to 32% in 2011. The percentage of general public who have undergone CPR training in two years was also significantly increased from 27% to 49%. In terms of training methods, 60% of those surveyed in 2011 had received based practice CPR training, and 22% of them had received AED training. However, the proportion of people who understand the

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use of AED was lower than the implementation of a qualified CPR (Lee et al., 2013).

Public awareness to perform CPR is also affected by many factors, including relevant policy and legislation in society. According to Lee et al (2013), the national policy on resuscitation has the power to increase the willingness of citizens to perform bystander CPR. However, not all programs to increase public awareness about cardiac arrest can run smoothly. Many obstacles and problems are encountered in the implementation of the program.

Almost all of countries have common barriers in raising public awareness of cardiac arrest. Low average CPR training and lack of preparation for bystander CPR is a global problem in efforts to raise public awareness (Proclemer et al., 2012; Lee et al, 2013). The most cases of sudden cardiac arrest occurs in older people at home, where women and people aged over 60 years are most likely to be bystander CPR (Bradley et al, 2011; Lee et al, 2013; Lockey & Georgious, 2013). Meanwhile, predictors of willingness for someone to perform CPR include gender of male, age <60 years, experience of CPR training, experience in military service, ability to perform CPR or use an AED, and CPR training participation (Bobrow et al., 2010; Lee et al., 2013). Therefore, in order to raise public awareness of cardiac arrest, it is important to target CPR education on women, people aged over 50 years, people living in rural or remote areas, unemployed people, housewives, and especially groups of people who rarely get access to CPR training facilities, such as military members, school children and office clerks (Proclemer et al., 2012; Lee et al., 2013).

Funding is also an obstacle to conduct CPR education programs in the community (Lee et al., 2013). In developing countries, participant must pay to follow CPR education, so that the number of CPR education attainment in developing countries is still low. Only certain people are willing to follow CPR education due to get CPR training certificate. So, CPR education is not considered as a necessity that everyone needs.

On the other hand, based on the survey in South Korea, despite increased awareness of CPR and AED use, the rate of experience by bystander to perform CPR on a real case remained unchanged, which was from 3.6 in 2007 to 3.9% in 2011. This is similar to report in Japan which was 4%. According to the survey of 2011 in South Korea, it was found that the causes of reluctance for someone to perform CPR included fear of facing a deteriorating situation (35.1%), inability to determine whether CPR should be performed (34.0%), lack of confidence (11,7%), no sympathy (7.5%), and fear of infection transmission (0.7%) (Lee et al., 2013). These findings also indicated that high level of training and willingness to perform bystander CPR did not increase the level of bystander CPR experience in actual heart attack cases. Further study is needed to clarify why people are not doing CPR despite their good ability to perform bystander CPR.

Conclusion

Increasing public awareness of cardiac arrest can be improved through a campaign

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about the easiness and safety to start bystander CPR, high-quality training of resuscitation, and government involvement in financial support.

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FACTORS RELATED TO PRIMARY PREVENTION BEHAVIORS OF ISCHEMIC HEART DISEASE IN COMMUNITY: A LITERATURE REVIEW

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ABSTRACT

Background: Ischemic heart disease can be prevented by primary prevention. There are four major factors that can be modified for the prevention of ischemic heart disease include smoking, checks the blood vessels, diet, and physical activity. This article explores factors related to primary prevention behavior of ischemic heart disease in community. The article also reviews, identifies and describes component of primary prevention behaviors of ischemic heart disease in community, identify factors related and measurement to primary prevention behaviors of ischemic heart disease in community. **Methods:** A literature review was conducted by analyzing 44 scholar papers including research articles, theses/dissertations, and books which met the inclusion criteria's. Articles were searched through PubMed, ProQuest and Cinahl. The keywords used were 'primary prevention', factor related to primary prevention', community ', 'ischemic heart disease' and 'behaviors'. **Results:** The result of analysis presents dimension of component primary prevention behaviors include smoking cessation, diet, blood pressure control and physical activity. **Conclusion:** Factors related to primary prevention behavior include knowledge, attitude, social economical, educational level & self-perceived financial with directional relationship are consistent within all study.

Keywords: Primary prevention behavior, Ischemic heart disease, Community

Introduction

Ischemic heart disease can prevent by primary prevention there are four major factors that can modify for the prevention of ischemic heart disease include smoking, checks the blood vessels, diet, and physical activity (Lim et al., 2013), but which became the problem are why patient smoke, do not routinely check the blood pressure and eat food that is risk of ischemic heart disease (IHD) and rarely do physical activity (Kearney, Kearney, Dunne & Gibney, 2000).

The health care providers particularly a nurse should have knowledge to prevent ischemic heart disease, as prevention is holistic and is the essence of the nursing (Weintraub et al., 2011) Prevention for patients as a process (Droomers, Schrijvers & Mackenbach, 2004) to modify behaviors, knowledge, and actions to meet the needs of the individual and their families.

The most effective way to prevent ischemic heart disease is primary prevention behaviors, but still requires further explanation (Glanz & Bishop, 2010) and also what factor can predict people or patient with ischemic heart disease in the future and what measurement tool to measure these primary prevention behaviors not clear yet especially in community. Therefore, this paper will report and examine factor related to the primary prevention behaviors of ischemic heart disease.

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Methods

Literatures that relevant to the topics and published between 2000 to 2015 were identified from the following data bases: PubMed, ProQuest and Cinahl. The search was limited to articles published in English and Bahasa Indonesia. All clinical trials, Randomized control trials, meta-analyses, and review articles were eligible for inclusion criteria. Full text articles also identified. Relevant articles extracted into the created table and the items in the table consisted of authors, year of publication, study design and length, sample characteristics, intervention, measurement, outcomes, results, and level of evidence.

Results and Discussion

A selection was directed by the purpose of the review. Key concepts of the review were elaborated into several subtopics. The findings were categorizes follows:1) primary prevention behaviors of ischemic heart disease in community 2) components of primary prevention behaviors 3) factors related to primary prevention behaviors of ischemic heart disease in community 4) measurement of primary prevention of ischemic heart disease

Concept of Primary Prevention Behaviors in Ischemic Heart Disease

Primary prevention refers to the way to perform, avoid or prevent before ischemic heart disease detected, Primary prevention behaviors to protect healthy people from developing a ischemic heart disease (Purcell et al., 2007; Purwandari, Hidayati, Tamam, & Arifin, 2014; Skinner, 2014) prevention of ischemic heart disease or coronary heart disease is divided into primary and secondary. Primary prevention means to prevent the progression of atherosclerosis and the incidence of acute coronary events, in people who have never experienced. Secondary prevention means to prevent the progression of atherosclerosis and recurrence of acute coronary events in those who had never had a heart attack (Goff, Lloyd-Jones, Bennett, O'Donnell, Coady & Robinson, 2014).

Behavior is a range of actions, perform and mannerisms of the self-made man, the object or issue (Goffman, 2008). Behavioral health is all the activity or activities of a person that can be observed and unobserved, relating to the maintenance and improvement of health. This health care includes preventing or protects them from disease and other health problems, improve health, and search for a cure when exposed to illness or health problems (Skinner, 2014).

Primary prevention behaviors in IHD refers to the way to perform, avoid or prevent CVD, cardiovascular health behavior to protect unhealthy individual not becomes illness (Purcell et al, 2007). In order to deliver outcomes or behavior benefits. According to skinner (2014) people must have self-control and thinking because not only people know about primary prevention behaviors but also must have regularity and control until the behavior becomes a habit for the people.

Component of Primary Prevention Behaviors in Ischemic Heart Disease

Component of primary prevention behaviors refers to habits are various ongoing efforts to prevent the emergence of a disease or illness (*See Table 1*).

a. Smoking Cessation

Smoking is a major risk factor for ischemic heart disease, the risk of many

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diseases can reduce with smoking cessation, particularly coronary illness, a type of CVD that is decreased by 25%–50% inside 1–2 years, took after by gradual risk reduction to that of nonsmokers 10–15 years after cessation (Stead, Perera, Bullen, Mant & Lancaster, 2008).

At this time smoking has been included as one of the major risk factor for IHD due to hypertension and hypercholesterolemia. People who smoked> 20 cigarettes per day can affect or amplify the effects of hypertension and hypercholesterolemia. Research of Framingham revealed that sudden death from IHD in male smokers is 10x greater than in non-smokers and women smokers 4.5x more than in non-smokers. Effects of smoking is causing cardiovascular load increases due to stimulation by catecholamines and decreasing consumption of oxygen due to inhalation co or in other words can cause Tachycardia, vasoconstriction blood vessels, change the permeability of the blood vessel walls (Critchley, Capewell & Unal, 2003)

Patricia (2009) justified, smoking cessation may have a more impact on reducing the danger of mortality among patients with IHD than other treatment or intervention. Another study was led to examine the viability of an intervention for smoking cession with IHD patient, and the study result that following 12 months of no-smoking, individual has less 57% chance of affirmation than the individuals who smoke over and repeatedly (Smith & Burgess, 2009). An individual who is worried about IHD should not get smoking or ought to smoking cessation instantly. Some studies reported that those people who quit smoking had a significant diminishing in risk for heart disease compared to the individuals who kept on smoking (Prochaska, Velicer, Fava, Rossi & Tsoh, 2001). There are several important preventive behavior and activities that can prevent smoking habits early and easily among young adults. Smoking behaviors can be modified by personal motivation and parental involvement of consciousness towards their young children is very important in this regards (Smith & Burgess, 2009).

The educational environment should also be freed from smoking, prohibit of excess production, and, governmental initiation and periodical education program through mass media can prevent the young adult from smoking addiction. In conclusion, Smoking is a high-risk factor for heart disease because the carcinogens in the cigarettes contribute to various heart problems as an independent risk factor for developing IHD. This habit can be prevented by education. Smoking among young adults can also be prevented by increase the awareness of smoking adverse effects through periodic health education program.

Unfortunately, most smokers do not want to quit smoking. Heart Attacks often coercive factors for someone to quit smoking and smokers need education to change behavior because smoker with less education in some studies is more difficult to quit smoking (Xu et al., 2013).

b. Blood Pressure Control

One of the causes of heart disease is hypertension, elevated cardiovascular risk in hypertensive individuals occurred as a result of uncontrolled blood pressure;

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identify factors that affect blood pressure control in the individual, some study find important factors for tight BP control in primary care i.e.: overweight, the presence of stable angina pectoris (SAP) and family history of diabetes (Xu et al., 2013). Statin drugs can reduce blood pressure greater in patients treated with and, among those treated with antihypertensive drugs (Borghi, Dormi, Veronesi, Sangiorgi, Gaddi & Party, 2004). Drugs consumption regularly is effective to reduce grade 1 of hypertension or mild hypertension without preexisting manifest cardiovascular disease (Sandstorm et al., 2015).

Hypertension or high blood pressure refers to repeatedly elevated blood pressure exceeding 140 and 90 mmHg. It is a condition where the pressure of the blood in the arteries is too high, which makes the heart work harder and increases risk for developing IHD (Kim, Min, Lee, Park, Hong, & Yang, 2002). There are two types of hypertension: essential hypertension and secondary hypertension. Essential hypertension, also known as primary hypertension, has no clear cause and is thought to be linked to genetics, poor diet, and lack of exercise and obesity that increases the risk of cerebral, cardiac and renal events (Xu et al., 2013).

The incidence of hypertension, in 90 to 95 percent of high blood pressure cases in adults, there is no identifiable cause and it tends to develop gradually in the upcoming future. On the other hand, It is a condition where the pressure of the blood in the arteries is too high, which makes the heart work harder and increases risk for developing CVD (Park, 2002). Approximately 5 to 10 percent of high blood pressure cases are caused by an underlying medical, condition or factors. It tends to appear suddenly and causes higher blood pressure than primary hypertension does. Various conditions and medications can lead to secondary hypertension and these conditions can also make high blood pressure more difficult to control (Ture, Kurt, Kurum & Ozdamar, 2005).

IHD affects one quarter of the adult population, approximately 50 millions of young adults in the world (Kontak, 2010). It is a single biggest risk factor for the development of cardiovascular disease and plays a significant role in heart attacks (Champagne & Cash, 2013). It is also a contributing factor to the eventual thickening of walls of blood vessels. This increases the possibility of heart attacks and strokes. Hypertensive cardiovascular disease is one of the leading killers at present; around 7 people out of every 1000 suffer from this disease (Kim, Min, Lee, Park, Hong, & Yang, 2002). A study was conducted to examine whether pre hypertension was associated with increased IHD mortality risk and the association of blood pressure with IHD outcome is modified by social demographics or hypertension treatment and control.

The result strongly supported that there was a significant and independent association of elevated blood pressure and IHD mortality risk (Gu, Burt, Paulose, Yoon & Gillum, 2008). A similar study conducted by Vasan et al. (2001) to determine the association between blood pressure category at baseline and the incidence of cardiovascular disease on follow-up among 6,859 participants in the Framingham heart study. The result revealed that high blood pressure was

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associated with an increased risk of cardiovascular disease even though hypertension is not curable, but literature strongly emphasized that the effective role can control or maintenance blood pressure.

c. Diet Management

Diet management necessary to prevent heart disease and have relationships between lifestyle factors (Grau, Tetens, Bjørnsbo & Heitman, 2011). With Maintaining levels of total cholesterol <200 mg / ld. total cholesterol ratio: HDL cholesterol <4.5 LDL-cholesterol <100 mg / ld., can reduce IHD, Maintaining that the BMI of less than 23 and less than 80 cm abdominal circle (in women) and less than 90cm (in males) if it is possible.

Diet management include: 1) reduce fat intake to less than the full 5% of total calories or use only 2-3 tablespoons oil containing unsaturated fatty acids every day. Avoid foods that contain lots of saturated fat. Cooking methods for reducing fat intake are boiling, steaming, cooking, sautéing, baking, burning and mimeses. 2) Increase intake of unsaturated fats single, such as olive oil, canola oil, peanut oil and avocados, up to about 20% of total calories per day (Philippou, Brynes, Dornhorst, Leeds & Frost, 2008). 3) Eating foods with contain omega-3 fatty acids such as fish and unsaturated oil-double in an amount of about 10% of total calories per day. Lyon Diet Heart Study in French, conducted a study of history of IHD with 600 respondents. The result state that Mediterranean diet consisting of a menu of vegetables, fruits, whole cereals, fish and olive or canola oil as a source turned out to generate the incidence heart attack on a smaller when compared with the same group who eat regular (Kris-Etherton, Eckel, Howard, Jeor & Bazzarre, 2001). If high triglyceride levels, less consumption of simple carbohydrate like sugar, brown sugar, honey, and other sweet foods. Multiply the consumption of complex carbohydrate such as vegetables, fruits, and cereals / grains intact and other fibrous foods. If high levels of cysteine in the blood, diet can be done to reduce triglyceride levels. 4) Increase dietary fiber intake to 35 grams / day with the consumption of these kinds of a balanced diet eating foods that contain lots of antioxidant nutrients such as vitamin E, C and beta-carotene which will reduce the levels of oxidized LDL. Oxidized LDL is more difficult phagocytosis by phagocytic cells such as macrophages than usual so that the form of oxidized LDL is more likely to survive in the serum.

Diet control and care at home with encouraging healthy eating can help to maintain and protect from further problems such as healthy weight, reduce risk of diabetes, high blood pressure and high cholesterol and reduce the risk of residents developing IHD or if it is already present and diet management include lipid, weight management or Maintain a healthy weight (Tamura, Bell, Masaki & Amella, 2013).

d. Physical Activity

The incidence and fatality rate from cardiovascular disease by up to 50% and blood pressure (systolic and diastolic), the risks for ischemic stroke for older adults and favorably influence lipid profiles can reduces with Regular physical activity throughout life (Bouchard & Rankinen, 2001).

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The beneficial effect for Physical activity on cardiovascular health by reducing the overall risk of incident CHD and stroke among men and women by 20 to 30 percent, while moderate level of occupational physical activity might reduce 10 to 20 percent risk of CVD (Li, & Siegrist, 2012) encourage 30 minutes or more of moderate to vigorous intensity physical activity on most days of the week (weekly total ≥ 150 minutes) (30) physical activity not only exercise but include with recreational physical activity because recreational physical activity can predict reduced cardiovascular mortality over fifteen years (Dhaliwal, Welborn & Howat, 2013). Primary prevention behaviors in the implementation should have clear pattern of behaviors so that the preventing the progress of IHD can be achieved, primary prevention behaviors include regularity, duration, intensity and frequency (Renner, & Schwarzer, 2012).

Patters of Behaviors

Implementation of behaviors:

Regularity: Behavior change can make good results; People must do each component of primary prevention behaviors at least one times a week. Such as infrequent exercise can do more harm it making oxygen distribution throughout the body undisturbed. Regularity is also important in smoking cessation, check blood pressure, and following a suitable diet, benefits of regularity can know the progress of each component.

Intensity: How big is the individual response to a stimulus that is given to him or how often performs a behavior? In this study, the term intensity is defined as how often people do primary prevention measures.

Duration: The time required to complete the desired practice, example the longer the duration of exercise, typically the more calories burned as well. As for weight, the heavier body weight tends to burn more calories than people whose body weight is lighter, although the duration of the same exercise.

Frequency: Many things in behavioral studies, the frequency can be interpreted as the number of actions that occurred in the days that have been scheduled.

Becker in 1974 outlines health behaviors into three domains, namely knowledge of health (health knowledge), attitudes toward health (health attitude) and health practices (health practices). It is useful to measure the extent of an individual's health behavior of the unit of analysis research. Becker in 1974 classifies health behaviors into three dimensions:

1) *Health knowledge*, health knowledge includes what is known by someone on ways to maintain healthy, such as knowledge about infectious diseases, knowledge of the relevant factors and or affect health, knowledge of health care facilities, and knowledge to avoid accidents.
2) *Attitudes*, attitude towards health is the opinion or judgment on matters relating to health care, such as attitudes towards infectious and non-infectious diseases, attitudes toward factors related and or affect the health, attitudes about health care facilities, and attitudes to avoid accidents.
3) *Health practices*, health practices for healthy living is all of the activities or the activities of people in order to maintain health, such as measures against infectious and non-communicable diseases, action against

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the relevant factors and or affect the health, measures of health care facilities, and measures to avoid accident.

Factor Predicting Primary Prevention Behaviors of Ischemic Heart Disease

IHD deaths have shifted to develop countries and developing countries as a lifestyle approach to high-income countries. In high-income countries, populations ability maintain and prevent IHD cause death 7.249 million in 2008, 12.7% of the global total mortality. IHD deaths highest in Eastern Europe and Central Asian countries; high-income countries such Western Europe, American, English have the lowest mortality. Mortality was 20-fold difference between the countries, and this trend can provide important information for dealing with the epidemic IHD who migrate, and still growing (Finegold, Asaria & Francis, 2013).

People with poor knowledge, attitude, practice/behavior significant association with smoking, poor blood pressure control, unhealthy diet and low physical activity management (Nedo & Paulik, 2012; Vaidya, Aryal & Krettek, 2013) Factor related to primary prevention behavior include knowledge, attitude, social economical, educational level & self-perceived financial with directional Relationship is consistent with all study (Graham et al., 2007; Nedo & Paulik, 2012; Vaidya, Aryal & Krettek, 2013).

Tool Measurement of Primary Prevention Behaviors

There are various types of instruments for measuring behavior in the primary prevention of cardiovascular disease for example Lifestyle Questionnaire, Behavioral assessments, The Healthy Lifestyle and Personal Control Questionnaire (HLPCQ), WHO STEPS instrument (*See Table 2*), in the community STEPS Instrument widely used, but WHO not provide instrument for knowledge, attitude and behavior practice, some researcher develop from other source for addressing knowledge, attitude and behavior practice (Vaidya, Aryal & Krettek, 2013).

Conclusion

Primary prevention behaviors were reported at low level. Dimension of component primary prevention behaviors include smoking cessation, diet, blood pressure control and physical activity. Factor related to primary prevention behavior include knowledge, attitude, social economical, educational level & self-perceived financial with directional relationship is consistent with all study.

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Table 1
Component related to Behavior

Author	Component related to behavior					
	Smoking cessation	Blood pressure control	Diet Management	Weight management	Physical activity	Diabetes management
Bullen, C. (2008)	✓	✓		✓	✓	
Unal, Critchley, &Capewell(2003)	✓	✓	✓			
Yue-Lin Zhuang, Anthony C. Gamst, Sharon E. Cummins, TanyaWolfson&Shu-Hong Zhu (2015)	✓	✓			✓	
Patricia, Smith, & Burgess (2009)	✓					
Johan et al. (2015)		✓				
Park(2002)		✓				
DachunXu, et al. (2013)	✓	✓		✓	✓	
KatrineGrau ,IngeTetens, Kirsten S Bjørnsbo&Berit L Heitman. (2010)		✓	✓		✓	✓
E Philippou, BMC McGowan, AE Brynes, A Dornhorst, AR Leeds and GS Frost. (2008)	✓	✓	✓			
Jian& Johannes, (2012)		✓			✓	
Dhaliwal SS, Welborn TA, Howat PA (2013)	✓	✓	✓			

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Table 2
Tool Measurement of Primary Prevention Behaviors

Domain	Lifestyle Questionnaire (1976)	Behavioral assessments (1970)	The Healthy Lifestyle and Personal Control Questionnaire (HLPCQ) (2014)	WHO STEPS instrument (2009)
Dimension	Eating habits section, physical activity section, motivation and state of mind section, medication section, smoking section	Function, Self deficit and Performance deficit	Dietary healthy choices, dietary harm avoidance, daily routine, organized physical exercise, Social and Mental Balance	Demographic information Behavioral measurement & Physical measurement: Include: Smoking, Alcohol consumption, diet, Physical activity, blood pressure.
Item	15-20 questions every section	30 questions	26 questions	6-18 questions every section
Scoring Score	Score 0 – 100, higher score reflect Higher health prevention	Score 0 – 39, Higher score reflect Higher behavior	Score 0 – 39, Higher score reflect Good life style and wellbeing	Questions based on a 5-scale Likert questions
Tool/developer	Hettler (1976)	John Geier (1970)	Darviri (2014)	WHO (2009
Reputation	Añez, Reis, &Petroski, (2008)	Andrasik, karuna, nebergal, koblin, &kublin (2010)	Darviri (2014)	Vaidya, Aryal& Alexandra Krettek (2013)
Significant relationship	(p=0.2) between all factor	(p=0.5) between all factor	(p=0.5) between all factor	(p=0.5) between all factor
Validity and reliability	Sample non-probabilistic The internal consistency using total correlation and Cronbach's alpha	The internal consistency using total correlation and Cronbach's alpha	Cronbach's alpha values were calculated to assess internal consistency	Credibility and Cronbach's alpha

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EFFECT OF THREE HOUR-CARDIOPULMONARY RESUSCITATION TRAINING WITH TUTORIAL METHODS TO KNOWLEDGE AND SKILLS OF HIGH SCHOOL STUDENTS IN MALANG

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ABSTRACT

Background: As the increasing case of emergency in our daily, it is necessary to improve knowledge and skill of cardiopulmonary resuscitation (CPR) in public. It can be done by conducting CPR training, such as using traditional teaching method, tutorial. The aim of this experiment was to identify the increased knowledge and skill of CPR for students after got 3 hours tutorial teaching method. **Methods:** This experiment was a quasi-experimental with pretest-posttest without control group design used 48 high school students as the samples obtained by purposive sampling technique. Data from a pretest and a posttest were collected to measure the difference in knowledge and skill before and after the training. **Results:** Results showed that the average of knowledge was 6.94 (1.8) before training, and 9.13 (1.2) after training, with p value 0.001. The participants could not perform the complete procedure of the CPR. After training, the participants showed the average results was 35.7 mm for chest compression depth, 117.6 chest compression speed, 0.3 times ventilation, and 142.8 second in 5-cycles CPR. The participants were unable to perform chest compression adequately for both depth and speed. **Conclusion:** According to the results, traditional teaching of CPR training may increase the students' knowledge. Therefore, it is suggested that CPR training is necessary for lay persons and we must find another strategy to improve knowledge and skill of them as lay rescuers.

Keywords: Knowledge, CPR Skill, Tutorial

Introduction

Out-of-Hospital Cardiac Arrest (OHCA) is considered as a life-threatening condition that occurs out of hospital's range. The prevalence of OCHA is rising in several countries. In 2003, *American Heart Association* (AHA) published the Heart Disease and Stroke Statistics, stating that OHCA happened to 359,400 people in USA alone. Among 40.1% of these victims were treated with Cardiopulmonary Resuscitation (CPR) by nearby people. It was revealed that the survival rate of OCHA victims increased 9.5% after treated with CPR (AHA, 2014). It shows that common people actually have massive role in increasing the survival rate of cardiac arrest patients.

The number of common people who can perform CPR for cardiac arrest patients is still low, i.e. between 1% and 44% (Sasson et al, 2013). The obstacles are including relatively low intellectual level and public awareness to perform CPR (Berg, 2000). In Indonesia, the presence or number of people who perform CPR for cardiac arrest patients in public has not been reported yet.

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In order to increase the number of people who are able to perform CPR when encountering victims of sudden cardiac arrest, AHA has developed a program to provide CPR training to the community. The training was conducted to raise public awareness of the importance of community's role in the management of patients with cardiac arrest (Abella et al, 2008). The aim in this study was to determine the effect of 3 hours-CPR training with tutorial method to the knowledge and skills of high school students in Malang.

Methods

This research used Quasi-experiment without control group design, which compares CPR knowledge and skill of students before and after got 3 hours of CPR tutorial. The research was conducted in Sumber Pucung 1 Public High School in Malang Regency. The population was 100 Grade XI students. Samples were taken randomly with criteria: students have neither trained nor informed about CPR before. 48 participants were willing to join the 3 hours CPR Training. This Training was guided by AHA-licensed BLS instructor. The training consists of 45 minutes of tutorial, 15 minutes of discussion and 120 minutes of CPR practice.

Knowledge level was measured by questionnaire contains crucial items of CPR knowledge including definition, indication, review, how to do calling for help and high quality CPR that made up into 11 questions. CPR performance level was measured by CPR performance sequence and the ability of performing CPR in 5 cycles.

Results and Discussion

According to the statistical analysis, traditional teaching of CPR training may increase the knowledge (Table 1) and skill (Table 2) significantly compared to before training. The ability of respondent to call EMS may increase significanly after 3 hours tutorial CPR training. The quality of CPR significantly different after 3 hours tutorial CPR training, but can not achieve the gold standart of CPR

CPR training using traditional teaching method may increase person's knowledge and skill. This method is widely used for CPR training. This training uses certified instructor with the method of lecture and demonstration to mannequin along with the explanation of emergency responses that one may perform in dealing with cardiac arrest patient. The teaching style of the instructor may affect the success of this training.

Nowadays, traditional teaching is considered as an old method that has flaws, such as passive participants where they are only focusing on listening to the instructor, leading to the reducing of attention and forgetfulness. A better output, however, would be produced when traditional teaching is combined with instructional and interactive approach. In this approach, the participants would be more active and are involved in the guided practice. It is in line with Machin and McNally's research (2008) which revealed that interactive approach has several advantages, such as positive effects on participants' achievement. This method will become success when supported by good teaching materials and the experience

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of the instructors (Machin and McNally, 2008).

Table 1

Knowledge Level of CPR Before and After Training Traditional Teaching method

No	Knowledge	Pre n (%)	Post n (%)	p-value
1	Definition of cardiac arrest	39 (81,3)	47 (97,9)	0,005*
2	Definition and aim of CPR	9 (18,8)	13 (27,1)	0,206
3	Indication of CPR	38 (79,2)	26 (54,2)	0,005*
4	Reviewing cardiac arrest patient	27 (56,3)	47 (97,9)	<0,001*
5	Emergency call	48 (100)	48 (100)	1,000
6	CPR performance	37 (77,1)	48 (100)	0,001*
7	High quality CPR (hand and body positions)	29 (60,4)	44 (91,7)	<0,001*
8	High quality CPR (speed)	12 (25)	37 (77,1)	<0,001*
9	High quality CPR (freeing airway)	35 (72,9)	39 (81,3)	0,285
10	High quality CPR (ventilation)	34 (70,8)	46 (95,8)	0,001*
11	High quality CPR (ventilation)	25 (52,1)	43 (89,6)	<0,001*

Note*: p-value < 0,05 (p-value is obtained from Wilcoxon test)

Table 2

Respondent Skill in Performing CPR Before and After Traditional Teaching CPR Training

	Tutorial CPR Training		
	Pre	Post	p-value
Stages of emergency responses			
• Safety assurance[a]	0 (0)	33 (68,8)	<0,001*
• Checking victim's responses[a]	0 (0)	47 (97,9)	<0,001*
• Calling for paramedics[a]	0 (0)	48 (100)	<0,001*
Hand Position			
Wrong hand position (in number)[b]	0 (0)	26,50 (0 -152)	<0,001*
Qualified CPR			
• Compression depth average (mm)[c]	0 (0)	35,71 (9,60)	<0,001*
• Compression speed average(time/mnt)[c]	0 (0)	117,58 (11,17)	<0,001*
• *Incomplete release* (in number)[b]	0 (0)	0,02 (0,144)	<0,001*
• Effective ventilation (in number)[b]			
Compression-ventilation duration (in second)[d]	0 (0)	143,75 (20,20)	<0,001*

*: p-value < 0,05

[a] Data is presented in proportion (participants percentage), p-value is obtained from Wilcoxon test

[b] Data is presented in mean (standard deviation), p-value is obtained from Wilcoxon test

[c] Data is presented in mean (standard deviation), is obtained from paired t test

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The instructor's teaching style in traditional teaching method may also affect participants' achievement significantly. An experienced instructor will produce maximum achievement as expected and this becomes one of the main considerations in using traditional teaching method for CPR training (Schwerdt G et al, 2011).

However, in the most crucial achievement of CPR (as mentioned in Table 2), the component of safety assurance within emergency response and the component of hands position have different result for both groups where each p-value is < 0,001. In safety assurance, it appears that with traditional teaching all participants (100%) were able to perform the action well. The same result for the correct hand position which is in the middle of chest wall. Improved quality of compression point or hand position during CPR appeals when the dominant hand is touching sternum, in which the correct position for adult CPR is in the middle of the chest (Kundra P et al., 2000). Compression conducted on outer the area is risky, due to the damage of intra-abdominal organs. If the hand is on the correct position, the time gap between ventilation and compression would be shorter and this would improve the quality of the CPR (Handley, 2002).

In the assessment, only two components, i.e. compression speed and incomplete release; meet the standard of high quality CPR. Compression speeds performed by both groups were considered adequate, ranging 100 – 120 times/minute. On the other hand, the achievement of complete recoil measured by incomplete release component resulted in incomplete releases that mostly happen during the training.

In the component of effective chest compression depth, participants were unable to reach the required depth of 5 cm. The average depth performed by them was 35.71 mm. The dept of chest compression cannot give sufficient pumping to cardiac.

Other skill measured, effective ventilation skill within five cycles of CPR that should reach ten times, none of the respondents of this research was able to meet the standard. They were only able to produce effective ventilation of averagely 0.395 in self-directed video group. It is thus suggested that achieving the effective ventilating skill is not an easy task.

Some factors of ineffective ventilation are lacking of skill in ventilating correctly by doing head tilt chin lift, inability to perform tight seal and blowing correctly which led to less or even ineffective air blow. In addition, the lack of confidence in blowing into the mannequin's mouth also contributed the ineffective ventilating. This is as suggested by Johnston et al (2003), where mouth-to-mouth breathing assistance becomes the hurdle in performing CPR.

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The presence of obstacles among lay rescuers, AHA produces recommendation for lay rescuers to only perform hand-only CPR when treating cardiac arrest patient. Hand-only CPR is an act of performing compression only without breathing assistance (ventilation). This act can be done by untrained people. Trained people may perform CPR by giving compression and ventilation within 30:2 ratio in every cycle. The lack of confidence in ventilating is a hurdle even for trained people, and when they feel so, they may only perform compression; which is better than no help at all.

The participants' inability in performing effective ventilation will affect hand-off period—that prolongs—and lead to a longer pause between compression and ventilation, causing a less effective CPR. It was in accordance with the results mentioned where both methods resulted in longer compression-ventilation duration longer than the maximum standard of 140 seconds. The participants of both groups averagely used more than 140 seconds in one performance.

It was thus confirmed that, to achieve high quality CPR, the techniques must be done correctly staring from the correct hand position, the appropriate pressure for the maximum depth, adequate speed and effective breathing assistance. These achievements will not be obtained in a single practice. Regular training and practice is needed to maintain the qualified CPR performance.

In this training, the participants did not receive feedback so their achievements in specific component were not optimum. It is expected that the feedback given by the instructor would improve the CPR performed by the participants. Based on the feedback, it is also expected that the participants would know what they are lacked of and try to improve their CPR skills to meet the standard.

Conclusion

CPR training using traditional teaching method is able to increase the knowledge and skill of the participants. However, several components, such as effective ventilation and adequate depth, were fail to be achieved in the training with 3-hour tutorial. Based on the results, it is suggested that CPR training for common people should focus on chest compression and disregard breathing assistance. This act should be concentrated on the fast and strong compression as an initial intervention in the case of cardiac arrest prior to the presence of paramedics.

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FACTORS AFFECTING NURSES RESPONSE TIME IN CARING HEAD TRAUMA PATIENTS AT EMERGENCY DEPARTEMENT OF BANGIL GENERAL HOSPITAL

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ABSTRACT

Background: Response time is time needed in caring patients at Emergency Departement (ED), started from triage until the intervention had been finished. The response time for trauma patients in Indonesia still need to be improved. The response time in caring patients with head injury may be influenced by various factors. This study determined factors that affect response time of nurses in caring patients with head injury at ED of Bangil General Hospital. **Methods:** This observational analytic study carried out at the ED of Bangil General Hospital for one month. Samples were taken with total sampling technique. Subjects were selected according to specific inclusion criterias and had filled informed consent. Data on work experience, work schedules, workload, level of education, training, infrastructure, and the nurses response time were assessed used questionnaires and observation. Statistical test used Chi-square exact (CI 95%). **Results:** The majority of nurses response time were good enough (52,9%), factors affected nurses' response time were work experience ($p = 0.004$), educational level ($p = 0.002$), and training ($p = 0.009$). **Conclusion:** Work experience, level of education and training are the factors that most influence nurses response time in caring patients with head injury.

Keywords: head trauma, response time, nurse, emergency department

Introduction

Head trauma is a mechanical injury to the head, either directly or indirectly due to neurological function including physical disorder, cognitive, psychosocial functioning, either temporary or permanent (PERDOSSI, 2006). Head trauma is one of the major health problems in each country and cause of death in the first four decades of life (Gad *et al.,* 2012).

Head trauma became one of the most common injuries in Indonesia as a result of traffic accidents which reached 17.6%-42.2% (Wahyudi, 2012). The incidence of head trauma in the ED of Bangil General Hospital since 2012 to 2015 up to 1800 patients with head trauma caused by traffic accidents. The highest incidence rates of head trauma in ED Bangil General Hospital were in 2014, reached 606 head injury patients (RSUD Bangil, 2015).

Head trauma patients should be treated fast, precise, and accurate to prevent disability and death. Response time is strongly influenced by the ability of human resources and the completeness of infrastructure and facilities (Iskandar J, 2004). Research related to the response time in head trauma has not been done in Indonesia. Data from Dr. Wahidin Sudirohusodo General Hospital in Makassar stated that the average of response time in ED was 8 minutes 20 seconds (Kepmenkes, 2009). Other hospital, at Prof. Dr. R. D. Kandou General hospital in Manado concluded that

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response time in ED was 5 minutes (Sutawijaya, 2009).

Nurses response time in handling head trauma patients in Indonesia has not been well standardized. Kepmenkes (2009) mentioned that the longest response time standards for head injury patients is 5 minutes, but has not been identified in detail based on the severity of head trauma itself.

Response time on head trauma patients handling is influenced by many factors. A combination of external and internal factors also influence the duration of nurses response time. These conditions support researchers to identify factors that influence nurses response time in manage head trauma patients in ED.

Methods

This observational analytic study carried out at the ED of Bangil General Hospital for one month. Samples were taken with total sampling technique. Subjects were selected according to specific inclusion criterias and had filled informed consent. Data on work experience, work schedules, workload, level of education, training, infrastructure, and the response time nurses assessed using questionnaires and observation. Statistical test used Chi-square exact test.

Results and Discussion

Internal and external factors that can affect nurses' response time in managing head trauma patients at ED are identified and showed in table 1 below.

Tabel 1. Nurses' Response Time

Variabel		Response Time				p
		Poor		Good		
		n	%	n	%	
Experience	Good	0	0	7	100	0,004*
	Enough	5	71,4	2	28,6	
	Less	3	100	0	0,0	
Schedule	Satisfied	6	40,0	9	60,0	0,206*
	Not	2	100	0	0,0	
Workload	Suitable	7	43,8	9	56,0	0,471*
	Not	1	100	0	0,0	
Education	High	2	18,2	9	81,8	0,002*
	Low	6	100	0	0,0	
Training	Complete	8	72,7	3	27,3	0,009*
	Not	6	100	0	0	
Facilities	Complete	1	25,0	3	75,0	0,576*
	Not	7	53,8	6	46,2	

* *Fisher test*

The Correlation between Experience and Response Time

Working experience has a significant relationship to the nurses' response time (p=0,004). All of ED nurses who have good working experience showed good in response time. Working experience in this research is the experience of nurses working at emergency ward before working in the ED Bangil General Hospital.

This study showed that 7 of nurses have been working in the Intensive Care Unit (ICU), Intensive Cardiac Care Unit (ICCU), and Operating Room (OR) more than two years before working in the ED Bangil General Hospital. The longer the working time the more cases are handled, therefore increasing experiences and skills (Sastrohadiwiryo, 2005).

Working experience in non-emergency did not affect the ability of emergency skill nurses in handling head trauma patients at ED. As revealed in this study that all nurses who have experience working in non-emergency unit showed poor response time.

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The success of response time is highly dependent on the speed and experience in the management of emergency cases. ED nurses are expected to have work experience in the emergency room either at ED or others such as ICU, ICCU, OR at least for 2 years. ED nurses' working experience in the field of emergency became a major impact on the skills of action or emergency aid (Wiroatmojo & Karjadi, 2004).

The Relationship between Working Schedule and Response Time

The results showed that the work schedule does not have a significant relations to the nurses response time (p=0,206). Nurses' satisfaction towards the work schedule affect the nurses response time in handling head trauma patients at ED. More than 40% ED nurse are satisfied with the work schedule but they still showed poor response time.

Bangil General Hospital management has determined that morning shift and afternoon shift each consisting of five nurses and three night shift nurses. The allocation of nurses on duty has been adjusted to the average patient visits that come to the ED on Bangil General Hosptal. There are also a number of nursing students who are conducting clinical practices at ED Bangil General Hospital. However, the results also showed that the number of adequate human resources do not significantly affect the nurses response time. Nurses response time in handling head trauma patients still unsatisfactory with time average >56 minutes.

ED nurses' satisfaction towards the work schedule is not to be one of the factors that affect response time. Skills on handling head trauma cases strongly influenced by the skills of nurses, both individually and team. An adequate number of nurses without capable team skills do not have a major impact on the response time of head trauma cases.

The Relationship between Workload and Response Time

The results showed that the workload does not have a significant relationship to the response time nurses (p=0,471). Workload in this research is the presence of additional tasks beyond the role of a nurse in the ED Bangil General Hospital. More than 90 % of ED nurses considers that their workload was appropriate because it does not get additional tasks beyond the predetermined shift.

The nurses’ workload is directly related to the needs of patients such as providing nursing care in accordance with action taken. While indirect activities are activities carried out by nurses, but not directly related to the patient, such as writing medical records and sterilization tool (Kusmiati, 2005).

In this study, the nurses workload identified were workload that directly related to activities in handling head trauma patients. The indirect workload as writing medical records and sterilization are not identified. The identification of nurses workload which does not complete can be one of the factors causing no significant relationship between workload of nurses and the response time in handling patients with head injury.

The Relationship between Educational Level and Response Time

This research showed that the level of education has a significant relationship to

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nurses response time (p=0,002). In this studies ED nurses with higher education levels showed better response time (81,8%). The level of education in this research is the last formal school level.

The level of education has a significant relationship to the response time because the higher education level impact on better skill. The majority of nurses with higher education have a good response time. Previous research also showed that each level of S1, D3, and SPK have a different relationship to the strength of the response time to the treatment of patients with head injury (Sastrohadiwiryo. S, 2004).

Nursing education should be developed to produce nurses who have the attitude, knowledge and professional skills in order to carry out its role and function as a professional nurse in the management of trauma patients rapidly, precisely, and accurately (Hardianti *et.al*, 2008).

The Relationship between Training and Response Time

This results showed that the training has a significant relationship to the response time nurses (p=0,009). The training in this research means training to increase the skills of emergency at least the last 2 years.

Emergency room nurses in Bangil General Hospital with length of working more than 10 years assumed that additional training was not required. The results showed that 6 nurses who are not trained in the last 2 years have poor response time (100%).

Training is one of important things for nurses to upgrade their knowledge and skills. Good training and knowledge are the sources of the ability to act fast, precise, and accurate in patients with head injury (Rivai & Veithzal, 2006).

The Relationship between Infrastructure and Response Time

The results showed that the infrastructure does not have a significant relationship to nurses response time (p=0,576). Infrastructure refers to instruments which cover all components of the equipment used in conducting the activity in ED of Bangil General Hospital.

Completeness instrument on handling head trauma cases assessed through observation process. The results showed that the majority of process on handling head trauma cases is not supported by a complete infrastructure (76.5%). Another results also showed that some cases support by a complete instrument but the response time is still poor (25%). Skills in operating instruments become an important part besides the completeness of the instrument itself.

Infrastructure (completeness instrument) in ED Bangil General Hospital categorized as complete. Unfortunately, majority of the nurses do not use these tools well. Most of instruments are in good condition but these are not ready to use.

On the other hand, other research suggests that incomplete medical equipment on handling head trauma cases seriously affects the patient's condition (Sastrohadiwiryo. S, 2004). The instrument completeness became one of an important things on handling head injury cases (Thomas K.E., *et al.,* 2006).

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Conclusion

Work experience (p=0,004), level of education (p=0,002) and training (p=0,009) are factors that most influence nurses response time in handling patients with head trauma. The results showed that the quality of emergency services, especially in the management of patients with head injury is strongly influenced by the quality of human resources. ED nurses are expected to have work experience in the field of emergency at least 2 years, have followed the minimum basic emergency training in the last 2 years and pursue a final education level as Bachelor of Nursing.

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EXPLORING EXPERIENCE LAY PERSONS PROVIDE FIRST AID FOR COLLISION VICTIMS IN MALANG: A PHENOMENOLOGYCAL STUDY

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ABSTRACT

Backgrounds: Collisions are major cause of the victims of death in the world. Many collisions occur in developing countries such as Indonesia. First aid determine the safety of accident victims, lay persons around scene can improve the survivability and reduce the serious injuries by a simple action. The purpose of this study is to determine the experience of lay persons in giving first aid to the accident victims in Malang. **Methods:** This study is a qualitative research with phenomenological method that uses interpretive method. Six participants were involved in this study. The analysis phase in this research uses a six-stage of Van Manen that divided into four themes, namely emotional response, moves the victims, limited transportation, limited physical strength. Four themes above illustrate how lay persons give a first aid to the victims of collisions. **Results:** In this study, the writer obtains two reaction mechanisms while helping the accident victims, namely cognitive and skill of lay persons. **Conclusions:** Hopefully, nurses as educator provide education or counseling to the society about such first aid to help the victims of accidents, in order to develop an active community in responding the emergency situations on collisions in a right step.

Keywords: Lay persons experience, collisions, first aid, cognitive mechanisms and skills, active community

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Introduction

Accidents are the leading cause of death, about 1.2 million cases occur each year across the highway in the world, it puts the sequence number eight cause of death at the age of 15-29 years (WHO, 2013). In Indonesia, accident is the third largest cause of death, under coronary heart disease and tuberculosis. Traffic Corps Police East Java recorded increase the number of motor vehicle accidents, in 2009 as many as 13.657 into 15.622 in 2010. Meanwhile, death because of the accident in East Java, including in Malang, a total of 5.395 victims in 2011.

There are several factors that cause collisions in Indonesia, namely human factor, vehicle, road and environmental factors. Among four factors causing collision, the main factor is the human, they often deliberately violate traffic signs or do not see the provisions in force. Second ranks is vehicle, because the owners often do not routinely take care of the vehicle, alter or modify the function of the vehicle. Many roads were damaged and potholes and the lack of user signs into the third factor causing the accident. The last

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factor is bad weather, especially during the rainy and smoky that may hinder visibility for motorists (PPSDM DGLT, 2013).

Transport accidents on the road today has many causes casualties, from light injurie until died. This is an emergency condition that requires alertness aid at the time of the incident. First aid at the time of occurrence of the accident, including the initial phase of pre-hospital system. Treatment begins when there is an emergency call in the switch until the patient received in the hospital emergency room (Elmqvist, *et al*, 2009).

Incidence of death in a collision occurred at the pre-hospital phase (EM Larsson, 2002), but according to the post mortem examination of pre-hospital deaths indicates that at least a third of the deaths can be prevented with simple ways (Handley, 2005). Pre-hospital care measures are actually supposed to be carried out by medical personnel who already have special qualifications in the field of emergency management and training certificate advance life suport. But the reality in the field is inversely proportional phenomena, precisely that first aid is a lay persons in the vicinity of the scene.

Limited aid in case of accidents on victims of sudden injury or illness of an collision can save the lives of victim until medical personnel arrive providing life support (Van de Velde S. 2007, Handley AJ, 2005). Similar things were dictated by Pallavisarji (2013) that the first auxiliary accident victim is someone who first beside the scene of the accident which provide rescue and relief simple management.

Based on the explanation, the authors wanted to do a qualitative study using phenomenological study, so that will be obtained in depth understanding of the experience of lay persons in giving first aid to the victims of collision. The research question in this study is how experience lay persons in providing first aid to the victims of collision ?

Methods

This is a qualitative study using phenomenological method with interpretive approach. This research was conducted in black spot areas or place where frequently occur collisions at Malang in september 2014, involving six lay persons who ever give aid to accident victims as participants. Interviews conducted with indepth interviews using semistructured interview guide based on Critical Decision Method (Hobbery and Cooke, 2010).

Results of this study have been obtained four theme, the themes are emotional response, moves the victims, limited transportation, limited physical strength. The first time a lay persons find victims of collision arising emotional reactions found with three sub-themes that worried, shocked and empathy.

> *"emmm afraid there will be another vehicle that fall, there will be a vehicle passing by, I panicked emm if not immediately assisted to the dangert, because if it does not directly condition, transferable right behind another vehicle was hit,". (P1)*
>
> *"not confused and don't panic too, just shocked even my friend said that the victims just fine, still alive".(P2)*

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"The first I saw he is my friend, well I was surprised and do not believe so, I'm shocked anyway." (P6)

"Yaa pathetic I was, at his son's tragic" (P5)

Second theme is moves the victim indicated by the action of moving the victim to the safer place.

"..... Lifting with four persons his legs, hips, his head lifting together with us ...." (P4)

"first time yaa lift his mother then put aside the edge ...." (P4)

Limited transportation is the third theme, this is indicated by a lay persons who had difficulty finding transportation to bring the victim to the nearest hospital to be given more help.

"If it ever happens, evening night, nobody to transport ...". (P3)

"....... The problem vehicle to transport to the nearest hospital." (P1)

Fourth theme is limitation of physical strength, that they are not able to remove an collision victim alone.

"at here if alone I ask someone to help, I has not enough physic energy if help victims alone ......". (P5)

"Yaa if there is no other people are not so easy." (P1)

Results and Discussion

In this study identified nine themes are interrelated and describe the experiences of lay persons while helping victims of collisions. This interpretation is the result of merging the information obtained from all participants through interviews during the study was referred to the theory or prior research so as to produce a conceptual framework that describes the experience of lay persons in helping victims of collision

Feelings that emerged is form of emotional reaction in participants relatively different, obtained three emotional responses that arise from a lay persons when it finds the victim of collisions on the highway. The first emotional response is worried, second is surprised and the third is empathy. Mixed reactions are the result of the activation of the neuroendocrine system that will produce physiological changes in a person's body at a later stage the body goes through changes in behavior that is characterized by increased heart rate, blood pressure, respiration, and other changes, and finally someone decided to deal with the situation or leave it (Ramsey, A *et al*, 2012).

Fiew minute after the collision a number helper is still a little to worry that arise in lay persons also higher and increasing desire to help immediate victims, the research conducted by Kogut. T and Ritov (2005) shows that more people are watching events that more decreasing of them would give relief, these conditions would be contradictory if the number of rescuers are decrease or few persons.

Surprised to attract the attention and human vision that occurs in the natural environment around (Itti. L and Baldi, P, 2005). This simple reaction can not be translated by the lay persons as a threatening situation before they see by themselves the incidents that threaten the lives of collision victims. Empathy is also felt by lay persons when encountering victims of collision on the highway, having previously felt surprised and then defined to a form of emotional response that is empathetic to the victims of accidents,

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Research conducted by Hakanson. J (2003) revealed that empathy can add attention to others in need.

The first rescuers on the scene as a lay persons can perform simple actions are immediately needed for survivors (Pallavisarji, *et al*, 2013). The simple action is to move a victim who is not too far from the scene in order to temporarily safer and more severe injuries due to an accident of other vehicles.

Command system calls that are not integrated in the emergency relief organization becomes a serious problem (Eric, OM, *et al*, 2011). Means of transport is an important element in providing help when giving first aid to accident victims this often becomes a barrier for the first rescuers to access health facilities (Kobusingye. O, 2005). As was disclosed by David. A (2008) that in general, death often occurs in the phase of pre-hospital and often died on the way to a medical facility by taxi, private vehicles, police cars and other vehicles.

Brill PA (2000) revealed that someone who maintain physical fitness by doing gymnastics or exercise routine will be maintained his stamina but individuals who do not routinely perform these activities will decrease physical fitness, usually it is characterized by muscle strength, flexibility, range of motion and fitness the body itself. Besides a result of the aging impact on changes in the physical and biological structure and function of muscles.

This study was only done in one area. Generalizing the results less can be done if there are differences in culture and habits of other places.

Conclusion

First aid provide by a lay persons in giving first aid to collision victims is a simple action and does not pay attention to the safety of victims themselves and pose a risk of injury is more severe for them, increased knowledge and ability skill in lay persons by providing first aid training is an needs that must be immediately implemented, so it is very important to give counseling and training to the public about correct rescue techniques emergency situations, in order to create communities that are responsive emergency situations. It is important for coordination local government agencies with cross-sectoral to play an active role to revive the EMS system. With these deliberations are expected to awaken a new EMS system more responsive and high-tech.

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THE EFFECTIVENESS OF HEALTH EDUCATION WITH PEER EDUCATOR METHOD ON SELF-CARE ACTIVITIES OF CLIENT WITH TYPE 2 DIABETES

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ABSTRACT

Background: Self-care activities are conducted by client with type 2 diabetes to control blood glucose level so that complications can be prevented. Health education with peer educator method can be used as a way to improve self-care activities in client with type 2 diabetes. The purpose of this study was to determine the effectiveness of health education with peer educator method on self-care activities of client with type 2 diabetes in the work area of Sumbersari Public Health Center Jember. **Methods:** The design of this study was quasi-experiment with non-equivalent control group design. A total of 26 type 2 diabetes patients were enrolled in this study using purposive sampling technique. The sample was divided into 2 groups which consisted of 13 people as a control group and 13 people as a treatment group. Health education was conducted 8 sessions within a month. Data were analyzed using dependent t-test and independent t-test. **Results:** The result showed p-value of 0.000 (α=0.05), so it can be concluded that there was significant effect of health education with peer educator method on self-care activities. **Conclusion:** Health education with peer educator method can improve self-care activities. Nurses can apply peer educator method in health education, especially to improve self-care activities of patients with type 2 diabetes.

Keywords: type 2 diabetes mellitus, self-care activities, peer educator method

Introduction

Type 2 diabetes is a chronic disease caused by insulin resistance in the body or insulin relative deficiency that can lead to hyperglycemia (Smeltzer & Bare, 2001). There are four types of diabetes, namely type 1, type 2, gestational diabetes mellitus and other types (American Diabetes Association [AHA], 2009 in Tjokroprawiro, 2011). Type 2 diabetes usually occurs in people over the age of 40 years old and often remains undetected for years and it is only recognized when complications arise or blood glucose test is performed (International Diabetes Federation [IDF], 2011).

Progression of type 2 diabetes will continue a lifetime and it can lead to various complications. This is caused by the decrease of body's ability to react to insulin or inability of pancreas to produce insulin to maintain normal blood glucose levels. This condition leads to hyperglycemia that may result in both acute and chronic metabolic complications (Smeltzer & Bare, 2001). Type 2 diabetes required special self-care behaviors to control blood sugar within normal level (Potter & Perry, 2005; Berman et al., 2008).

Self-care activities in type 2 diabetes refer to the components of diabetes management,

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including diet, exercise, medications, blood glucose monitoring, foot care, and avoiding smoking behavior (Smeltzer & Bare, 2001; American Association of Diabetes Educator [AADE], 2012). Interviews conducted in 18 people with type 2 diabetes mellitus in Public Health Center of Sumbersari Jember showed that 11 of them did not know exactly personal care that must be done every day. They mentioned that only regular eating, exercise, and medicine taking which must be carried out in type 2 diabetes treatment.

Health education is one of components in type 2 diabetes management (PERKENI, 2002, in Hartono 2006). One of method that can be applied in health education is peer educator method (Simamora, 2009). According to research by Tsimikas (2011), peer-led diabetes education programs could improve glycemic control of diabetes in high-risk mexican americans, including HbA1c (p=0.02), diastolic blood pressure (p=0.04), HDL (p=0.01) and total cholesterol (p=0.04).

The advantage of peer educator method is the information will receive direct feedback. The use of same language in peer group can reduce misunderstanding and accept the information directly (Koelen & Ban, 2004). Information of self-care activities in type 2 diabetes is delivered by peer leader who has same condition with other type 2 diabetes patients (Tang et al., 2011).

Methods

The design of this study was quasi-experiment with non-equivalent control group design. The population was 84 type-2 diabetes patients aged 40-60 years old during July-mid September 2012 based on medical record from Sumbersari Public Health Center Jember. A total of 26 type 2 diabetes patients were enrolled in this study using purposive sampling technique. The criteria of sample were: living in Sumbersari, having strong interests to participate in this study, living relatively close to each other with other respondents, and participating in peer education until the last session. The sample was divided into 2 groups which consisted of 13 people as control group and 13 people as treatment group.

All of respondents were given pretest about self-care activities (SCA) before the intervention. In order to select peer leaders, respondents in treatment group were also assessed their knowledge level about self-care. Selection of peer leaders was based on the score of knowledge level which was ≥ 80.

Health education was conducted 8 sessions within a month. Four sessions was given to train peer leaders and 4 sessions was given to train peer to peer. The material of education included diabetes self-care which consisted of diet, exercise, blood glucose monitoring, medication, foot care, and the effect of smoking. After the intervention, all of respondents were given posttest to measure their self-care activities. The data were analyzed using t dependent test and t independent test.

Results and Discussion

The distribution of respondents based on age, diabetes duration, and family member can be seen in table 1.

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Table 1

Characteristics of Respondents Based on Age, Duration of Illness, and Member of Family

No.	Variable	Mean	SD
1.	Age (year)		
	Control	52.15	6.230
	Treatment	53.38	6.049
2.	Diabetes duration (year)		
	Control	3,23	2.315
	Treatment	3,85	2.609
3.	Member of family		
	Control	4.00	0.707
	Treatment	4.38	0.650

The average age of respondents in control group was 52.15 years old, while the treatment group was 53.38 years old. The average length of illness in control group was 3.23 years, while the treatment group was 3.85 years. The average of family member was 4 people.

Table 2

Characteristics of Respondents Based on Gender, Education Level, Occupation, and Income

No.	Variable	Treatment	Control	Total
1.	**Sex**			
	1. Male	3 (23.1%)	5 (38.5%)	8 (30.8%)
	2. Female	10 (76.9%)	8 (61.5%)	18 (69.2%)
2.	**Education level**			
	1. Elementary school	3 (23.1%)	2 (15.4%)	5 (19.2%)
	2. Junior high school	4 (30.8%)	7 (53.8%)	11(42.3%)
	3. Senior high school	6 (46.2%)	4 (30.8%)	10 (38.5%)
3.	**Occupation**			
	1. Self employed	0	3 (23.1%)	3 (11.5%)
	2. Civil servant	2 (15.4%)	2 (15.4%)	4 (15.4%)
	3. Pensioner	1 (7.7%)	2 (15.4%)	3 (11.5%)
	4. Housewife	10 (76.9%)	6 (46.2%)	16 (61.5%)
4.	**Income**			
	1. < 920.000	2 (15.4%)	3 (23.1%)	5 (19.2%)
	2. ≥ 920.000	11 (84.6%)	10 (76.9%)	21 (80.8%)

Table 3

Characteristics of Respondents Based on Medication, Exercise, and Glucometer Ownership

No.	Variable	Treatment	Control	Amount
1.	**Type of medication**			
	1. Oral	13 (100%)	12 (92.3%)	25 (96.2%)
	2. Oral and insulin	0	1 (7.7%)	1 (3.8%)
2.	**Medication schedule**			
	1. Oral (7 days in a week)	13 (100%)	12 (92.3%)	25 (96.2%)
	2. Oral and insulin (7 days in a week)	0	1 (7.7)	1 (3.8%)
3.	**Type of exercise**			
	1. Walking	9 (69.2%)	9 (69.2%)	18 (69.2%)
	2. Cycling	3 (23.1%)	1 (7.7%)	4 (15.4%)
	3. Other	1 (7.7%)	3 (23.1%)	4 (15.4%)
4.	**Ownership of glucometer**			
	1. Yes	0	2 (15.4%)	2 (7.7%)
	2. No	13 (100%)	11 (84.6%)	24 (92.3%)

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According to Table 2, most of respondents were females (69.2%), having mid-level level education (42.3%), becoming housewife (61.5%), and having income more than Rp.920,000.00 (81.8%). Study by Ismonah (2009) and Kusniawati (2011) showed that there was no significant correlation between gender and diabetes self-care. Both men and women with type 2 DM have full responsibility in doing treatment to prevent long-term complications caused by type 2 DM. Most of respondents' education level was in the middle level (42.3%). The level of education also determines easiness to receive information. The higher the education level, the higher the person's knowledge and the easier to understand information. Understanding health information can affect a person in changing attitudes and implementing healthy behavior (Rogers 1974 in Sunaryo, 2004).

Table 3 shows that most of respondents used oral medication (96.2%), had medication schedule of 7 days a week (96.2%), did walking exercise (69.2%), and did not have glucometer (92.3%).

Table 4
Distribution of Respondents Based on Self Care Activities Before and After Intervention

Indicator	Intervention	Group	Mean	SD
Diet	Before	Control	23.38	9.52
		Treatment	25.15	7.93
	After	Control	23.31	8.45
		Treatment	31.62	3.07
Exercise	Before	Control	6.92	5.52
		Treatment	7.46	5.08
	After	Control	6.62	5.03
		Treatment	11.77	5.08
Blood glucose monitoring	Before	Control	0.85	0.89
		Treatment	0.69	0.63
	After	Control	0.31	0.48
		Treatment	0.92	0.28
Medication	Before	Control	12.54	4.14
		Treatment	13.54	1.12
	After	Control	13.46	2.26
		Treatment	13.85	0.56
Foot care	Before	Control	19.69	9.17
		Treatment	21.31	5.06
	After	Control	20.62	9.17
		Treatment	34.15	5.06
Total	Before	Control	63.38	15.21
		Treatment	68,15	7,81
	After	Control	64.31	11.51
		Treatment	92.31	4.91

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Table 4 shows that mean score of self-care activities before intervention in the treatment group was higher than in control group, which was 68.15 and 63.38, respectively. Diet had the highest score both in control and treatment group. Table 4 also indicates that mean score of self-care was higher in the treatment group than in control group after peer education. The highest indicator is found in diet for control group and in foot care for treatment group.

Table 5

Distribution of Respondents Based on Smoking Status before and after Intervention

Intervention	**Group**	**Smoking Status**		**Average of cigarette/day**
		Yes	**No**	
Before	Control	1 (7.7%)	12 (84.6%)	0.15
	Treatment	0	13 (100%)	0.00
After	Control	1 (7.7%)	12 (84.6%)	0.15
	Treatment	0	13 (100%)	0.00

The majority of respondents in control group before intervention did not smoke (84.6%), and all of respondents in treatment group did not smoke (100%). The smoking status after peer education is same either in control or treatment group.

Table 6

The Differences in Self Care Activities before and after Intervention

Group	**Self Care Activities**	**Mean**	**SD**	**Mean SE**	**p *value***	**t**	**N**
Control	Before	63.38	15.213	4.219	0,617	0.513	13
	After	64.31	11.514	3.193			
Treatment	Before	68.15	7.809	2.166	0.000	15.128	13
	After	92.31	4.906	1.361			

Dependent t test in control group obtained p value of 0.617 (p-value >0.05), so it can be concluded that there was no difference in self-care activities between pretest and posttest. Dependent t test in treatment group obtained p value of 0.000 (p-value <0.05), so it can be concluded that there was significance difference in self-care activities before and after peer education method in the treatment group.

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Table 7

The Differences in Self Care Activities between Control and Treatment Group

Group	Δ Mean Self Care Activities Variable	SD	Mean SE	p *value*	t	95%CI (*lower-upper*)	N
Treatment	24.15	5.757	1.597	0.000	9.658	18.266-28.195	13
Control	0.92	6.487	1.799				13

Independent t test obtained p value of 0.000 (p-value <0.05), thus there was significance difference in self-care activities between control and treatment group after peer education method. Therefore, it can be concluded that there was an influence of health education using peer educator method on self-care activities in client with type 2 diabetes in Public Health Center of Sumbersari Jember.

Health education is any combination of learning experiences designed to help individuals and communities improve their health by increasing their knowledge which influence the attitudes (Craven and Hinle (1996) in Mubarak, 2007). Research by Khadavid (2012) explained that there was an influence of health education on knowledge and attitude of type 2 DM patients. Research conducted by Ismonah (2009) showed that there was a significant correlation between diabetes self-care and knowledge.

Health education can improve knowledge of client with type 2 diabetes and affects self-care activities. Clients with type 2 diabetes who received health education with peer method get information about self-care activities in type 2 DM, including diet, exercise, medication use, blood sugar testing, and the danger of smoking. Intervention group in this study had higher score of self-care activities in all indicators.

Peer educator is a method used to influence, to change and to improve knowledge, attitudes and behavior of peer partner, by disseminating health information on a particular community (Ergene, 2005). Peer educator is one of approaches used to convey information in health education. Peer educator is trained to deliver health information and to bring changes and improvement in knowledge, attitudes, beliefs, and behaviors in the peer group.

A peer is defined as someone of equal standing, this means a person who has diabetes or is affected by diabetes, and thus has firsthand knowledge of the daily struggles and present issues. Other characteristics that may be important when seeking peer support for diabetes include type of diabetes, age, cultural background, ethnicity, gender, and type of diabetes treatment used. The most important thing for the peers is to be able to build relationship honestly and comfortably with each other to share information and experiences (Tang et al., 2011).

Health Promotion Model (HPM) developed by Pender et al. (2002) states that the main sources which have interpersonal influence on the improvement of health behavior include

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family, peers, health care providers, and social support (emotional and instrumental) as well as a role model. Interpersonal relationship becomes an influence factor in forming health behaviors. This occurs due to changes in awareness and perception of the importance of healthy behavior and its benefits to health condition.

A peer educator also serves as a role model for peer group through peer education method. The existence of good interpersonal relationships within peer group will facilitate peer educator to influence, change and improve healthy behaviors. Through health education with peer educator method, type 2 diabetes patients can become a peer educator for other patients by providing information about self-care and sharing their experiences among each other to improve self-care in peer group. Baghianimoghadam et al. (2012) explained that peer education can be an effective method to control blood sugar within normal level (fasting blood sugar and 2 hours post prandial) with p value 0.001 and decrease HbA1c level till 9%.

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BARRIERS TO SELF-CARE MANAGEMENT IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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ABSTRACT

Background: Self-care management is essential in type 2 diabetes patients to achieve normal blood glucose level. Patients may face some barriers when implementing self-care. Identifying the barriers is important to attain optimal self-care. This study aimed to explore patients' perceptions about barriers to diabetes self-care management. **Methods**: A qualitative method through in-depth individual interview was conducted in this study. A total of 9 patients with type 2 diabetes mellitus were enrolled in this study by using purposive sampling technique. Individual interviews were conducted to explore patients' perceptions about barriers to self-care management of diabetes. The interviews were recorded, transcribed verbatim and analyzed using a thematic approach. **Results**: Data analysis uncovered three themes, namely psychological barriers, physical barriers, and knowledge barriers. Psychological barriers consisted of decreased motivation and low self-efficacy to perform self-care. Physical barriers included internal barriers, such as aging process, decreased physical abilities, and external barriers, such as cost spent for check-up and environmental conditions. The barriers of knowledge included lack of knowledge about medication and foot care. **Conclusion**: Identifying perceived patient barriers to self-care is important, so that appropriate interventions can be designed targeting those barriers.

Keywords: psychological barriers, physical barriers, knowledge barriers

Introduction

Diabetes mellitus (DM) is defined as a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both (American Diabetes Association ([ADA], 2011). The number of adults affected by diabetes has been predicted to increase from 285 million (6.4%) in 2010 to 439 million (7.7%) in 2030 (Shaw, Sicree, & Zimmet, 2010). International Diabetes Federation ([IDF], 2013) has estimated the increased number of people aged 20-79 years with diabetes from 382 million (8.3%) in 2013 to 592 million (10.1%) in 2035. Urbanization that leads to risky lifestyles, such as increased consumption of junk food, obesity and physical inactivity has been found to be correlated with the increasing prevalence of diabetes (Khan, 2011).

Indonesia is one of countries in the world facing the growing problem of diabetes. The number of people with diabetes in Indonesia has been projected to rise from 8.4 million in 2000 to 21.3 million in 2030 (Shaw et al., 2010). Indonesia was in the seventh rank of the top ten countries for number of people aged 20-79 years with diabetes in 2013. Diabetes case in Indonesia was 8.5 million with the national prevalence of 5.5% in 2013 (IDF, 2013).

Since diabetes requires a lifelong management, self-care is an essential component in diabetes treatment. Making

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healthy food choices, understanding portion sizes and learning the best times to eat are central in managing diabetes (American Association of Diabetes Educators [AADE], 2009). Exercise has a positive effect on glycemic control and decreased cardiovascular risk in type 2 diabetes. Poor medication adherence and other inappropriate medication-taking can hinder achievement of treatment goals (Austin, 2005). Monitoring of blood glucose can help patients attain better self-management (Owens et al., 2004). Effective risk reduction behaviors such as smoking cessation, foot inspection, and blood pressure monitoring can diminish diabetes complications (Austin, 2005).

Diabetes demands daily self-management and lifestyle modifications to achieve successful glycemic control. Some factors may become barriers when implementing self-care. If patients meet such barriers, they should be assisted to find different behavioral steps to achieve the goal or to set a different plan (AADE, 2003). Non adherence with self-care management has been identified as a factor which contributes to poor glycemic control (Khattab et al., 2010). This condition can lead to some complications which can cause disability, reduced quality of life, and death (IDF, 2010).

Public Health Center of Jember Kidul is one of public health centers in Jember with diabetes patient visit in 2013 reached more than 500 visits. The patients mentioned difficulties in self-care management, such as controlling diet, doing regular exercise, and maintaining ideal body weight. Patients sometimes feel hopeless about the disease (Hakim, 2014). This study aimed to identify barriers to self-care management in type 2 diabetes patients in work area of Public Health Center of Jember Kidul, thus suitable interventions can be designed to optimize patient self-care.

Methods

A qualitative method through in-depth individual interview was conducted in this study to explore barriers to self-care management in type 2 diabetes patients. A total of 9 patients with type 2 diabetes mellitus were enrolled in this study by using purposive sampling technique. The criteria of participants included having been diagnosed with type 2 diabetes for at least 3 months, being able to communicate well, and can speak Indonesian language. The interview was conducted in each house of participants. Interviews referred to the interview guide which consisted of open-ended questions about barriers to self-management. The interviews were recorded, transcribed verbatim, checked, and analyzed using a thematic approach.

Results and Discussion

The age range of participants was 46-67 years old. Of all 9 participants, 8 participants were female, 5 participants attained elementary school, 6 participants were housewife, and 7 participants have had diabetes duration less than 10 years. All of participants live with their family.

The barriers of self-care were expressed by participants in three themes, including psychological barriers, physical barriers, and knowledge barriers. Psychological barriers consisted of decreased motivation and low self-efficacy to perform self-care. Patients expressed powerlessness and

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despair. Physical barriers included internal barriers such as aging process, decreased physical abilities, and external barriers such as cost spent for check-up and environment conditions. Barrier of knowledge described by participants was a condition of lack of knowledge about medication and foot care.

Psychological barriers

Psychological barriers mentioned by participants were decreased motivation and low self-efficacy. The causes of decreased motivation included boredom, fear, and laziness. Participants expressed getting bored to manage diet, perform foot care, and take medication. This was revealed by the participants as follows:

> *"It is impossible to eat like that continuously. I eat much when I fell it is delicious. I totally forget about my diabetes diet, and my eating became out of control. If it is severe and I cannot walk, I buy meat soup, but cannot too much. It is so troublesome" (Participant 1/P1)*
>
> *"I must wear sandals and socks every day, but I am not patient. I rarely wear sandals. I have been tired with all of this" (P1)*
>
> *"I am getting bored taking medicine. I must take medicine in the morning and afternoon. It makes me hate the smell of the medicine, but must drink continuously" (P3)*

Two participants in this study have been suffered from diabetes more than 10 years, moreover one participant have had diabetes for 29 years. According to WHO (2003), adherence to self-care is influenced by duration of the illness. Longer duration of the illness can decrease adherence to self-care, including diet management (Austin et al., 2011). Patients who have longer diabetes duration tend to consume inappropriate food, consume more saturated fat food, and less follow appropriate diet planning (Glasgow et al., 1987).

Depression and complicated medication may become obstacles in medication adherence (Odegard & Capoccia, 2007). The complexity of medication rule can affect patient compliance (WHO, 2003). Adherence to take anti diabetic agents is influenced by dosage frequency. Patients on a once-daily dose were more compliance than patients on three time's daily dose. However, overconsumption is frequently happen in patients on once daily dose regimen (Paes et al., 1997). The number of drugs consumed by patients also influences the compliance. Patients receiving single anti hyperglycemic medication had better adherence than patients receiving multiple anti hyperglycemic agents (Dailey et al., 2001). Non-adherence to medication can hinder target achievement. Patients should have knowledge about prescribed medicine, including action, side effect, affectivity, toxic effect, dosage, time, frequency, storage instruction, and safety (Austin, 2005).

Feeling of fear was expressed by participants as one of factors which decrease motivation in self-care. The fear was caused by physical conditions such as fatigue or environmental conditions such as safety which lowers motivation to perform physical activity such as walking. This was stated by participants as follows:

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"Regarding exercise, I walk every day, but I cannot go too far nowadays" (P1)

"I am less likely to do exercise because I am afraid my legs become swelling if I get exhausted" (P3)

"I am afraid walking in the morning because a mad person ever hit me when I went to market, moreover many people around here like to drink and get drunk, so I am afraid" (P7).

Physical conditions can affect diabetes self-care (AADE, 2003). Research by Fort et al. (2013) indicated physical limitations as a barrier to change behavior. Blood glucose levels that are too high or too low will cause fatigue in patients with type 2 diabetes. However, fatigued people will get benefit from doing gentle exercise, such as walking, yoga, or seated exercise (Spero, 2012). Barriers are addressed to any factor that inhibits the effectiveness of self-care, including lack of safe places to exercise (AADE, 2003). Exercise has positive effect on glucose control and decreased risk of cardiovascular disease in type 2 diabetes mellitus (Kavookjian et al., 2007). Physical activity helps reduce stress and maintain body mass index, body weight, and blood pressure (AADE, 2010). It is important to assess patient attitudes and knowledge related to physical activity, including environmental barriers (Dutton et al., 2005).

Other factor which decreased motivation of participant was laziness. Participants mentioned that they felt lazy to manage diet, to do exercise, and follow medication regimen. This was mentioned by participants as follows:

"I eat any fruit. There is always fruit. I buy and eat. I also eat meat. I do not avoid any food. Regarding exercise, I never do any exercise, including walking. I take care my grandchildren every day, go shopping to market. Doctor gives advices, but I do not obey (P2)

"I often take 2 tablets. It is usually 1 tablet, but I take 2 tablets. Sometime I take those medicines per two days, sometime per 3 days. I take medicine regularly, but sometime I do not take regularly. Sometime I feel lazy to take medicine. I prefer to drink herbs because it is not bitter. I eat anything, but I will not eat restricted food if I feel unwell" (P4).

Study by Ong et al. (2014) showed that self-motivation promoted the practice of self-monitoring of blood glucose in diabetes patients, but participants of study were not able to keep such motivation. Some participants called that as laziness. Internal barriers, such as motivation may play a larger role than environmental barriers to perform physical activity (Dutton et al., 2005). Sigurdardottir (2005) reported that emotion factor and self-efficacy may affect metabolic control through increased self-care ability. In order to optimize self-care, it is important to identify factors that cause laziness in performing self-care so that appropriate interventions can be designed to address the problems. Motivational interviewing was associated with improved self-management abilities among type 2 diabetes patients (Song et al., 2014).

Another psychological barrier expressed by participants was a feeling of

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helplessness and despair. Below is the quote from participant:

" it does not mean I forget, but I think it is unnecessary. I feel I do not need to take medicine.." (P5)

"I am feeling desperate" (P1)

Lack of self-efficacy can be a barrier to self-care activities (AADE, 2003). Research by Walker et al. (2014) showed that higher self-efficacy associated with improved glycemic control, treatment adherence, self-care behaviors, and mental health-related quality of life. The complexity of the disease can hinder self-efficacy and coping skills. Desperation can lead to depression (Kent et al, 2010). Depression has a significant relationship with glycemic control. This must be considered when providing education to patients to improve glycemic control (Santos et al, 2013).

Physical barriers

Physical barriers consisted of internal physical barriers and external physical barriers. Internal physical barriers stated by participants included age and decreased physical abilities. There was participant who mentioned about the effect of aging on the decline in planning of physical activity. Below is the quote from participant:

"In the past I used to plan my physical activity, walking everywhere. I started not planning my physical activity at age of 67 years old, oh 66 .. (P1)

Physical abilities such as fatigue condition, decreased strength, decreased health, and foot pain were described by participants as factors that lead to decreased physical activity. The statement was expressed by participants as follows:

"Sometimes I feel I am not able to walk. I did not walk during these past several days. I felt weak to walk. When I start to walk, I feel my legs shake, but it will relieve gradually if I continue walking.." (P4)

I feel my health is getting decreased, everything is decreased (P1)

"This leg is slightly bent, if I sit too long, it is pain. It is difficult to stand after sitting too long.." (P9)

Fear of falling, negative experiences in physical activity and declined health conditions may become obstacles in exercising, especially in people with limited mobility (Rasinaho et al., 2007). Declined health is one of the main obstacles in the implementation of physical activity in elderly (Moschny et al., 2011). Physical limitations that inhibit activity, such as pain in the legs, are a major obstacle in conducting physical activity (Dutton et al., 2005). Patients should have knowledge regarding appropriate physical activity, duration, intensity, security, and other considerations for selected physical activity (Austin, 2005). Health education about appropriate physical activity in accordance with the conditions needs to be given to optimize the patient's activity level.

External physical barriers stated by participants included cost spent for blood glucose checking and environment condition. Transportation fee to reach facilities which provide blood glucose checking and cost spent for examination were considered by participants in performing regular blood glucose

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checking. This was revealed by participants as follows:

> *"Anyway, If I feel unwell, I will go check-up if I have money….I will not go if there is no money.." (P1)*
>
> *"The cost spent for transportation fee is more expensive than examination fee..It is inconvenience to go there.." (P 7)*

Financial condition can be a barrier to blood glucose monitoring (Austin, 2005). Factors associated with non-compliance in blood glucose monitoring include longer diabetes duration, less-intensive therapy, age, low education, and low income. Negative relationship between blood glucose monitoring with an education and health insurance participation indicates that socioeconomic barriers affect blood glucose monitoring practices. The cost spent for blood glucose monitoring can be an obstacle for people with limited economic conditions. Overcoming financial barriers related to examination fee can be one of the efforts to improve blood glucose monitoring (Karter et al., 2000). Research by Fort et al. (2013) indicated financial difficulty could hinder disease management. Financial concerns included the expense of medications and examination. Providing financial incentive by health authorities to encourage blood glucose monitoring is become important (Ong et al., 2014).

Participants described environment condition as a factor affecting self-care. Environment conditions included house condition that increases the risk of foot injury, environmental safety, and accessibility to facilities which provide blood glucose examination. The following quotes refer to these barriers.

> *"It is difficult, I often get wound easily. There is an iron, chair, and others. My feet do not feel when it hit something and it will become wound.." (P4)*
>
> *"It is not easy from here to reach facilities which provide blood glucose checking. The cost is more expensive if I check in the lab. The place is also far from here" (P7)*

Minor trauma is an important cause of foot ulcer in people with diabetes. Patients with sensorimotor neuropathy show declined mechanism to identify pain and trauma in lower extremity (Reiber et al., 1999). Injuries can occur at home due to loss of vision and poor lighting (Spero, 2014). Proper footwear can protect the feet from external trauma that can cause ulceration (Ucciolli et al., 1995).

Environmental conditions can be barriers to physical activity (Austin, 2005). Environment can prohibit healthy coping. For example, the environment in the cities often makes people ignore healthy eating because there are many food stores (Kent et al., 2010). Accessibility to health care services can influence disease management (Fort et al., 2013).

Knowledge Barriers

The barriers of knowledge were expressed by participants as a condition of lack of knowledge about medicine and foot care. The following quotes refer to barriers of knowledge.

> *"The side effects of drugs, I do not know at all about the side effects of the drugs .." (P1)*

Lack of knowledge about foot care expressed by participants by not caring the

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wound properly, washing the feet by rubbing with stones, and walking barefoot. It was disclosed by participants as follows:

> *"I do not perform foot care. I will let it heal by itself if there is a wound, for example after hitting something.." (P 7)*
>
> *"Foot care…I wash with soap and rub with stone. I do not wear sandals if I just walk nearby.." (P2)*

Self-care behavior is positively related to the level of knowledge about diabetes (Huang et al., 2013). Knowledge of diabetes is correlated with glycemic control (Bains & Egede, 2010). Medication compliance is crucial for optimizing the results in diabetes management (Michael Ho et al., 2006). Patients should have knowledge about the drugs such as the action, side effects, efficacy, toxicity effects, the prescribed dose, timing, frequency of taking medication, and instructions in storing, traveling, and safety (Austin, 2005).

Research by Li et al. (2014) showed a positive correlation between knowledge and behavior of foot care. The better the knowledge, the better the foot care. Knowledge will form a positive attitude and confidence. A positive attitude and confidence will be the strength to change behavior (Tang et al., 2008 in Li et al., 2014). It is important for nurses to provide access to education on foot care and describes the serious complications that can result from improper foot care (Li et al., 2014). Research by Pollock et al. (2014) indicated some behaviors that increase risk to patients, including direct contact of feet to heat and walking barefoot. Interventions to improve knowledge and practices are necessary to prevent problems of foot ulcers and amputations.

Conclusion

Data analysis revealed three themes of barriers to self-care management, namely psychological barriers, physical barriers, and knowledge barriers. Identifying perceived patient barriers to self-care is important, so that appropriate interventions can be designed targeting those barriers.

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THE ROLE OF NURSES IN HYPOGLYCEMIA PREVENTION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS: A LITERATURE REVIEW

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ABSTRACT

Background: The number of patients with type 2 Diabetes Mellitus (T2DM) has increased. In order to provide blood glucose control, the use of insulin or other hypoglycemic agent has increased, and it will raise the risk of getting severe hypoglycemia. The condition of severe hypoglycemia is a medical emergency that requires rapid detection and treatment to prevent organ damage. An appropriate strategy is needed to prevent hypoglycemia and its complications in T2DM patients. The aim of this study was to identify the roles that can be performed by nurses to prevent hypoglycemia. **Methods:** This literature review was analyzed articles on hypoglycemia prevention. Articles were collected from electronic databases of Sagepub, NCBI, Creative Commons Attribution License, Elsevier, BioMed Central, and CPD Module, using ScienceDirect and Google with the keywords of hypoglycemia, hypoglycemia prevention and nurse role in hypoglycemia prevention. Eleven articles were reviewed in this study. The criteria of articles were full text and published between 2010 and 2015. **Results:** The principles of hypoglycemia prevention in patients with type 2 diabetes mellitus include diabetes self-management, independent blood glucose-monitoring, flexible uses of insulin or drugs, and health provider support. The nurse role in hypoglycemia prevention includes providing intensive self-management education about hypoglycemia, establishing support system for the patients, and providing intensive support to patients. **Conclusion:** Nurses have important roles in hypoglycemia prevention, such as providing intensive self-management education, establishing support system, and providing intensive support to the patients.

Keywords: nurse's role, hypoglycemia prevention, type 2 Diabetes Mellitus

Introduction

Type 2 Diabetes Mellitus (T2DM) is a metabolic disorder that is primarily caused by progressive insulin resistance and pancreatic beta cell damage which can lead to deficiency of insulin secretion (Ferre-Garcia et al., 2011). That condition can increase levels of glucose in the blood. Approximately 21.3 million people in Indonesia are expected to suffer from Diabetes Mellitus in 2030 (Sutandi, 2012).

The aim of T2DM management is to maintain adequate metabolic control so that the progression of complications can be reduced (Giorda et al., 2014). However, therapy to decrease blood glucose, such as sulfonylureas or insulin turn out to have serious side effects which are often not realized (Fisher, 2010; Hicks, 2013; Williams et al., 2012)). One of these side effects is hypoglycemia (Chen et al., 2015); condition with blood glucose level less than 3.5mmol/L (63mg/dL) (Hicks, 2013).

The more the number of patients with T2DM, the more the insulin or hypoglycemic agents needed to provide strict control on blood glucose, thus the risk of severe hypoglycemia will also increase. Risk of hypoglycemia will

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increase if insulin or hypoglycemic agent is initially administered while the blood glucose is inadequately controlled (Yong et al., 2015). In addition, many factors can cause hypoglycemia in patients with T2DM, including low socioeconomic status, elderly age, female gender (Chen et al., 2015), duration of T2DM, micro vascular complications (Yong et al., 2015), changes in diet pattern, infections (Shafiee et al., 2012), incorrect dose of insulin or sulfonylureas with lifestyle, and the failure to realize the development of hypoglycemia (Hicks, 2013).

Severe hypoglycemia which is commonly associated with insulin therapy can lead to hospitalization and serious complications. The incidence of mild hypoglycemia also occurs more frequently in patients with T2DM. The increased incidence of hypoglycemia will raise the risk of long-term complications, decrease quality of life, increase anxiety, decrease productivity, and increase health care costs (Williams et al., 2012).

Shafiee et al. (2012) explains that condition of hypoglycemia is a medical emergency which requires rapid detection and treatment to prevent organ damage. The condition of severe hypoglycemia will improve T2DM patient visit to emergency department. In US, it was reported about 1.2 million patients with hypoglycemia visited emergency department between 2006 and 2009 with 25% of them got hospitalization (Ginde et al. in Chen et al., 2015). About 34% of T2DM patients with severe hypoglycemia who got emergency care died within 3 years after the first incident (Parsaik et al. in Chen et al., 2015). Chen et al (2015) in their study also explained that in the last 10 years, there had been an increased visit to emergency department with regard to hypoglycemia in patients with T2DM in Taiwan.

Those phenomena are the problems that need to be managed by health provider. If patients with T2DM are not getting appropriate treatment to prevent hypoglycemia, the patients who visit emergency department because of hypoglycemia will increase. It needs right strategy to prevent hypoglycemia in patients with T2DM. The aim of hypoglycemia prevention is to reduce complications (Shafiee et al., 2012). Because of that, this study aimed to identify the roles that can be performed by nurses to prevent hypoglycemia.

Methods

This literature review analyzed articles on hypoglycemia prevention. Articles were collected from electronic databases of Sagepub, NCBI, Creative Commons Attribution License, Elsevier, BioMed Central, and CPD Module, using ScienceDirect and Google with the keywords of hypoglycemia, hypoglycemia prevention and nurse role on hypoglycemia prevention. Eleven articles were reviewed in this study. The criteria of articles were full text articles and published between 2010 and 2015.

Results and Discussion

The main purpose of prevention and management of T2DM complications is to achieve and maintain optimal blood glucose control, although hypoglycemia remains a major challenge. Hypoglycemia prevention is needed to avoid the complications and the economic burden.

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Hypoglycemia prevention requires consideration of several principles, including: 1) diabetes self-management; 2) self-monitoring of blood glucose; 3) appropriate administration of insulin or other medication; 4) consideration of risk factors of hypoglycemia; and 5) support and guidance (Fisher, 2010; Shafiee et al., 2012).

1. Self-management of diabetes

   Self-management is fundamental in management of T2DM. Education in diabetic patients is essential in the treatment (Yong et al., 2015). Several studies have shown that self-management education is effective in changing behavior with a positive influence on the outcome of diabetes management (Shafiee et al., 2012).

   Patients with T2DM need to be informed about symptoms of hypoglycemia, hypoglycemia risk factors, prevention and treatment, and special attention to monitor blood glucose levels. Therefore, providing education to patients and their families is a key factor in the prevention of hypoglycemia. Fisher (2010) mentioned that the education includes discussion about the prevention, early identification and appropriate treatment of hypoglycemia for self-management. According to Yong et al. (2015), an intensive education provides additional advantages in avoiding and managing patients with hypoglycemia. Provision of intensive education includes understanding of diabetes, how to perform self-monitoring of blood glucose, diet planning, physical activity, stress management, and proper care of hypoglycemia with glucose supplement. The research of Yong et al. (2015) concluded that education in a structured group that is combined with intensive individual education has positive benefits in preventing and overcoming hypoglycemia in patients with T2DM.

   Other studies have shown that an increase in diabetes-related knowledge is a key factor to realize the symptoms of hypoglycemia. However, despite the increase of introduction regarding associated risks and episode severity of the symptoms, hypoglycemia still becomes a common complication. Therefore, good attention is devoted to self-management to minimize complications by ensuring adequate metabolic control (Giorda et al., 2014).

   Self-management for the prevention of hypoglycemia also can be prepared when patients will perform the activity. If the activities require much energy, patients who are at risk of hypoglycemia are recommended to prepare fast action carbohydrate, such as glucose tablets or drinks that contain glucose. In addition, patients who take any diabetes medications that can cause hypoglycemia are encouraged to bring an identification card which identifies the type of drugs consumed by patients. So, health provider can administer advanced therapies properly (Hicks, 2013).

2. Independent blood glucose monitoring

   Monitoring of blood glucose using peripheral glucose is an important part of diabetes self-management, especially for patients who have

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episodes of hypoglycemia. Monitoring blood glucose provides immediate evaluation of blood glucose levels and the information can be used to guide therapy and detect hypoglycemia, as well as providing feedback on glycemic control and patient satisfaction (Shafiee et al., 2012). Checking blood glucose levels after extra activities and then the next 2 hours is always advisable due to hypoglycemia which often happens after activity has been completed (Cryer, 2009, in Hicks, 2013).

Evidence shows that self-monitoring of blood glucose (SMBG) has limited clinical effectiveness in improving glycemic control in type 2 diabetes patients with oral medication or diet alone. SMBG can improve glycemic control by providing information to adjust lifestyle and medication. SMBG is more effective if patient is able to adjust to drug therapy (Clar et al., 2010). There was a decrease in the incidence of hypoglycemia with SMBG, because patients in the SMBG group can use the tool to detect asymptomatic episodes and confirm the symptoms of hypoglycemia episode (Czupryniak et al, 2014). Thus, when blood glucose can be well controlled, the risk of hypoglycemia can be prevented and reduced.

3. Appropriate administration of insulin or other medications
   Episodes of hypoglycemia in patients with a history of recurrent incident become part of the importance of identification to provide appropriate therapeutic regimens. The use of insulin needs to be considered in accordance with the needs of patients. Likewise, the use of oral anti-diabetic such as sulfonylureas can increase the risk of hypoglycemia. Replacement such as metformin, dipeptidyl peptidase-4 inhibitor, or thiazolidine can be given to minimize the risk of hypoglycemia (Shafiee et al., 2012).

   Study by Rosenstock et al. (2014) found that long-term administration of insulin glargine is more meaningful in reducing the risk of hypoglycemia than neutral protamine Hagedorn. Therefore, selection of insulin that is used preferably has more beneficial effect. Moghissi (2009) in Pescatore and Najarian (2014) also mentioned that replacement of sulfonylurea with subcutaneous insulin therapy gave better result in blood glucose monitoring and proper nutrition.

4. Support of professional team
   Treatment of each patient must be determined by a close relationship between diabetes care team and the patient. Professional care providers can improve patient’s knowledge and establish positive changes in patient’s lifestyle and self-care. Treatment of T2DM involves teams who not only provide initial guidance to patients but also observe complications for early detection and management of hypoglycemia (Shafiee et al., 2012).

   Wang et al (2014) in his study explained that the physical and psychosocial support by the treatment team can have a positive impact on T2DM patients through continuous

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education and long-term monitoring. The support aims to reduce patient anxiety by increasing spirituality, positive feelings and expectations, as well as peace on mind. The best support for patient is form of self-motivation. In addition, the establishment of support systems, including patients, families, and professional care team, are also required to provide holistic type 2 diabetes management. The action for hypoglycemia prevention gave an impact on the incidence of hypoglycemia. Patients with better action experienced lower incident of hypoglycemia than those who had less action. Patients with a positive support have peace of mind which results in good action on hypoglycemia prevention (Farida, Alam, & Sukriyadi, 2014).

Hypoglycemia in T2DM patients is usually caused by excessive use of drug doses, elderly age, and inappropriate consumption of food after using the drug. Farida, Alam, and Sukriyadi (2014) mentioned that there was a significant association between knowledge and ability to prevent hypoglycemia. The better the patient's knowledge, the better the action to determine what the best for health is. Patients tend to pay attention to DM management in appropriate way as the advice of a physician.

The first effort that can be performed by nurses as a team of health providers is providing diabetes self-management education. Based on Yong et al. (2015), education is fundamental in diabetes treatment. Diabetes self-management education can produce behavior change which gives positive influence on the outcome of diabetes management (Shafiee et al., 2012). Nurses can provide intensive education about symptoms of hypoglycemia, risk factors of hypoglycemia, prevention of hypoglycemia, special attention on blood glucose monitoring or early identification and appropriate treatment, including self-management of hypoglycemia (Fisher, 2010; Shafiee et al, 2012). Education can be provided through a variety of methods and media which is appropriate to patients. Nurses also need to consider that patients require continuous education.

Other nurse's effort in hypoglycemia prevention is establishing support system for the patients. The support system includes patient, family, and health provider. Support system is needed to provide holistic diabetes management, ranging from intensive education, self-monitoring blood glucose, diet planning, physical activity, stress management, and proper care of hypoglycemia with glucose supplement. This management is performed by all members in the support system (Yong et al., 2015).

Next effort is giving continuous support to patients. Providing initial guidance to patients is also necessary to monitor short-term and long-term complication for early detection and hypoglycemia management (Shafiee et al., 2012). Physical and psychosocial support by health provider team can give positive impacts on patients through continuous education interventions and long-term monitoring (Wang et al., 2014). This support aims to reduce patient anxiety by increasing

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spirituality, positive feeling and expectation, as well as peacefulness. That conditions support patient for optimal self-management performance and hypoglycemia complications, such as hypoglycemia. Farida, Alam, and Sukriyadi (2014) stated that the prevention reduced the incidence of hypoglycemia. The results also showed that the action for hypoglycemia prevention had impact on the incidence of hypoglycemia.

Conclusion

The principles of hypoglycemia prevention in patients with T2DM include diabetes self-management, self-monitoring of blood glucose, appropriate administration of insulin or other medication, and professional team support. The nurse role to prevent hypoglycemia incidence includes providing intensive education, establishing support system for the patient, and providing continuous support both physical and psychological to patients.

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THE EFFECT OF DIABETES GYMNASTIC EXERCISE ON BLOOD CIRCULATION AND RISK OF DIABETIC FOOT ULCERS IN TYPE 2 DIABETES PATIENTS

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ABSTRACT

Background: Chronic hyperglycemia in type 2 diabetes mellitus (T2DM) can give an impact on systemic circulation, such as increasing blood pressure and reducing peripheral circulation. Disruption of blood supply to the tissue can increase risk of diabetic complications, such as hypertension and diabetic foot ulcers. This research aimed to analyze the effect of diabetes gymnastic on blood circulation and risk of diabetic foot ulcers in type 2 diabetic patients. **Methods:** This research employed randomized control group pretest-posttest design. A total of 30 T2DM patients were enrolled in this study by using simple random sampling technique. The sample was divided into 2 groups which consisted of 15 patients as control group and 15 patients as treatment group. The diabetes gymnastic was conducted three times a week with the total of 12 sessions within a month. The posttest measurement of Blood Pressure (BP), Ankle Brachial Index (ABI), and risk of Diabetic Foot Ulcers (DFU) was done one hour after the last session. Data were analyzed using dependent t-test and independent t-test ($\alpha = 0.05$). **Results:** The result of dependent t-test indicated significant differences of blood circulation before and after intervention either in the intervention group or control group (intervention group: pBP= 0.005, pABI=0.000; control group: pBP=0.039, pABI=0.004). Risk of DFU was also different significantly (intervention group: p=0.000; control group: p= 0.029). However, the decrease of DFU risk was higher in the intervention group than in control group (intervention group: t=4.461; control group: t=2.436). Furthermore, independent t test showed significant differences between intervention and control group on blood circulation and risk of DFU (pBP =0.001; pABI=0.000; pDFU risk=0.047). **Conclusion:** The results indicated a significant effect of diabetes gymnastic on blood circulation and risk of DFU in type 2 diabetic patients. Nurse is expected to apply diabetes gymnastic as one of interventions to enhance blood glucose control and blood circulation so that diabetic complications can be prevented.

Keywords: diabetes gymnastic, blood pressure, ankle brachial index, risk of DFU

Introduction

Type 2 diabetes mellitus (T2DM) is metabolic disease characterized by hyperglycemia that need long term treatment and health education to manage the disease so that acute and chronic complications can be prevented (American Diabetes Association [ADA], 2014). There is an increased tendency in the number of diabetic patients in the world. It will reach 299 million of people with diabetes in 2025. According to World Health Organization [WHO], T2DM patients in Indonesia are increasing progressively. In 2000, number of T2DM patients was 8.4 million and it will become 21.3 million in 2030. It was ranked fourth in the world after USA, India, and China (PERKENI,

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2011). Chronic hyperglycemia will increase blood viscosity which can cause blood circulation disruption and impaired nerves condition. Increased blood glucose level can lead to gluconeogenesis process that cause atherosclerosis. This condition gives impact on systemic circulation, such as increasing blood pressure and reducing peripheral circulation which can induce peripheral arterial disease (PAD). An estimated 8.5 million (7.2%) adults over the age of 40 in the US have peripheral artery disease (PAD); a condition of reduced blood flow to the lower limbs that is associated with functional limitations and a two-fold increase in the risk of cardiovascular mortality (Allison, 2007). The prevalence of PAD is 2-3 times higher in persons with 2 type diabetes (T2DM) (Selvin, 2004).

Disruption of blood flow to the tissue can increase risk of diabetic complications, such as hypertension, transient ischemic attack and diabetic foot ulcers (DFU). In addition, diabetic patients have 15% risk of DFU (Baughman and Hackley, 2005). The DFU conditions lead patient to have an amputation on their feet 30 times higher than in non-diabetic patients. An estimated of 50–75% diabetic patients have amputation on lower extremity. Diabetic is commonly known as predisposition of a traumatic amputation in the USA and Europe, which is more than 60 % diabetic patient or 82,000 per years (Armstrong, et al., 2005; Frykberg, et al., 2006). The DFU prevalence in Indonesia is 15 % with the amputation rate is 30 % and mortality rate is 32 % after amputation. DFU commonly causes hospitalization of diabetic patients, which is 80 % (Hastuti, 2008). According to the pilot study on 10 T2DM patients in Rambipuji Public Health Center, 60% T2DM patients had a systolic blood pressure of 140 – 160 mmHg and 40 % had a mild occlusion (ABI: 0,6–0,7). Rambipuji Public Health Center did not have special program for T2DM patients, such as diet planning and gymnastic exercises.

The main goals of diabetic regiments are to normalize insulin activities and blood glucose level and decrease the development of neuropathy and vascular complications without hypoglycemia conditions (Price and Wilson, 2005). One of treatments on T2DM is physical activities (PERKENI, 2011). The benefits of physical activities are increasing blood glucose control, increasing the strength of myocardium, activating heart arteriole and capillary blood vessels, increasing number of insulin receptors, preventing obesity, normalizing blood lipid profile and blood pressure, and improving physical works (Marks, 2000; Sudoyo et al., 2006). One of physical activities for diabetic patient is diabetic gymnastic exercise that is recommended by KEMENPORA (Sudoyo et al., 2006). Physical exercises are known in improving post prandial glucose level, blood pressure, VO_2 Max, and the strength of the muscles (Marks, 2000). This research aimed to identify the effect of diabetes gymnastic exercise on blood circulation and risk of DFU in T2DM patients.

Methods

This study was quasi experiment with randomized control group pretest posttest design. The population of this study was 87 type 2 diabetes patients in the work area of Rambipuji Public Health Center. A total of 30 T2DM patients were enrolled in this study by using simple random sampling

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technique. The sample was divided into 2 groups which consisted of 15 patients as control group and 15 patients as intervention group. The diabetes gymnastic was conducted three times a week with the total of 12 sessions within a month. Data were collected by measuring blood circulation (systolic blood pressure and ankle brachial index) and the risk of DFU before after the intervention, which was one hour after the last session. Inlow's 60-Second Diabetic Foot Screen Tool was applied to identify risk of DFU. Blood pressure and ankle brachial index was measured by using sphygmomanometer. Data were analyzed using dependent t-test and independent t-test (α = 0.05).

Results and Discussion

Characteristics of Respondents

Table 1 shows the average of diabetes duration which was 71.27 months in the intervention group and 37.67 months in control group. The average of blood sugar levels in the intervention group was 192.07 mg/dl, while in the control group was 227.33 mg/dl. Both in the intervention and control group (table 2), the majority of respondents were women, attained elementary education level, worked as private employee, and used prescribed hypoglycemia agents. Based on smoking status, all the respondents either in the intervention or control group was not smoking.

Table 1

Respondent distribution based on Age, Diabetes duration, Body Mass Index, and Random Blood Glucose Levels

Characteristic	Mean	SD	Min-Max
Age (years)			
Intervention group (n = 15)	57.53	6.512	43-65
Control group (n = 15)	55.73	6.386	40-65
Diabetes duration (month)			
Intervention group (n = 15)	71.27	88.789	1-288
Control group (n = 15)	37.67	51.708	1-155
Body Mass Index			
Intervention group (n = 15)	24.81	4.974	14,88-35,54
Control group (n = 15)	23.23	2.490	20-28
Random blood glucose levels(mg/dl)			
Intervention group (n = 15)	192.07	80.685	71-294
Control group (n = 15)	227,33	41.429	141-289

The condition of systemic circulation was measured using systolic blood pressure. Prior to the intervention, there were 3 respondents (20%) in the intervention group experienced hypertension stage 3, and after the intervention, no respondents experienced hypertension stage 3. Pre-test in control group showed that there was 40% of respondents had hypertension stage 1, and the number increased to 53.33% in post-test (table 3). According to table 4, both intervention and control group had a decrease in systolic blood pressure, but the decrease in the intervention group was higher than in control group (-10.67vs-9.3).

The peripheral circulation was measured by Ankle Brachial Index. Table 3 shows that most of respondents in

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the intervention group were in the mild occlusion category before the intervention, which were 6 people (40%). There was no respondent who experienced occlusion after the intervention. The majority of respondents were in normal category, which was 80 %. The table also shows that most of respondents in control group were in the normal category (86.67%) for pre-test, and at the time of post-test (a month later) value of ABI decreased to borderline ABI (46.67%), more over 4 respondents (26.67%) had mild or moderate ischemia. Table 4 shows that the intervention group had an increase of ABI value to normal category (+0.12), while control group had a decrease of ABI value (-0.16).

Table 3 indicates risk of diabetes foot ulcer in the intervention group. Percentage of respondents who had a DFU in low risk category was decreased from 13.3 % to 6.67% after the intervention. The percentage was also decreased in control group from 33.3 % in pre-test to 26.67% in post-test. According to table 4, both intervention and control group had a decrease mean of risk of ABI, but the decrease in the intervention group was higher than in control group (-1.33vs-0.47).

Table 2

Respondent distribution based on Gender, Education level, Occupation, Smoking status, hypoglycemic drugs consumption

Characteristic	**Intervention group (n=15)**		**Control group (n=15)**		**Total**	
	∑	%	∑	%	∑	%
Gender						
Male	6	40.0	5	33.3	11	36.7
Female	9	60.0	10	66.7	19	63.3
Education level						
No education	1	6.7	1	6.7	2	6.7
Elementary School	9	60	9	60	18	60
Junior High School	2	13.3	3	20	5	16.7
Senior High School	1	6.7	0	0	1	3.3
Diploma or University	2	13.3	2	13.3	4	13.3
Occupation						
No occupation	5	33.3	3	20	8	26.7
Government employee	1	6.7	2	13.3	3	10
Private employee	6	40	9	60	20	50
Farmer	0	0	0	0	0	0
Retired	3	20	1	6.7	4	13.3
Smoking status						
Active smoker	0	0	0	0	0	0
No smoking	15	100	15	100	30	100
Hypoglycemic Drug						
Medical drugs	13	86.7	11	73.3	24	80
Traditional drugs	2	13.3	4	26.7	6	20

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Table 3

Systemic Blood Pressure, ABI, and Risk of DFU in Intervention and Control Group

Category	Intervention group (n=15)				Control group (n=15)				Total (n=30)			
	Before		After		Before		After		Before		After	
	∑	%	∑	%	∑	%	∑	%	∑	%	∑	%
Hypertension												
Normal	4	26.7	5	33.3	2	13.3	3	20	6	20	8	26.7
Pre hypertension	4	26.7	6	40	5	33.3	8	53.3	9	30	14	46.7
Hypertension, stage 1	4	26.7	2	13.3	6	40	3	20	10	33.3	5	16.7
Hypertension, stage 2	0	0	2	13.3	1	6.7	1	6.7	1	3.3	3	10
Hypertension, stage 3	3	20	0	0	1	6.7	0	0	4	13.3	0	0
Ankle Brachial Index												
Non compressible artery	0	0	0	0	0	0	0	0	0	0	0	0
Normal ABI	5	33.3	12	80	13	86.7	4	26.7	18	60	16	53.3
Borderline ABI	4	26.7	3	20	2	13.3	7	46.7	6	20	10	33.3
Mild to moderate ischemia	6	40	0	0	0	0	4	26.7	6	20	4	13.3
Severe ischemia	0	0	0	0	0	0	0	0	0	0	0	0
Risk of DFU												
Very low	11	86.7	14	93.3	10	66.7	11	73.3	21	70	25	83.3
Low	3	13.3	1	6.7	5	33.3	4	26.7	8	26.7	5	16.7
Moderate	1	0	0	0	0	0	0	0	1	3.3	0	3.3
High	0	0	0	0	0	0	0	0	0	0	0	0
Very High	0	0	0	0	0	0	0	0	0	0	0	0
Amount	15	100	15	100	15	100	15	100	30	100	30	100

Table 4

Normality and Homogeneity test on Systolic Blood Pressure, Ankle Brachial Index and Risk of DFU in Intervention Group and Control Group

Variable	Mean		Mean difference	Normality Test (Shapiro Wilk Test)		Homogenity Test (Levene test)	
	Before	After		Before	After	F value	p value
Systolic Blood Pressure (mmHg)							
Intervention Group	148	137.33	-10.67	0.858	0.166	0.000	1.000
Control Group	148.7	139.33	-9.3	0.071	0.157		
ABI							
Intervention Group	0.93	1.05	0.12	0.268	0.117	4.416	0.555
Control Group	1.09	0.93	-0.16	0.268	0.461		
Risk of DFU							
Intervention Group	5.87	4.53	-1.33	0.165	0.520	3.823	0.061
Control Group	5.80	5.33	-0.47	0.329	0.143		

Statistical Result

Table 5 shows the results of dependent t test of systolic blood pressure. The intervention group had t value = 3.378 ($p=0.005<\alpha=0.05$), while the control group had t value = 2.283 ($p = 0.039 <\alpha = 0.05$). There were significant differences in blood pressure between before and after intervention in both of group. Positive t value indicates that there was a decrease in

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blood pressure after the intervention. The table 5 also shows the result of independent t test for blood pressure between the intervention group and control group, which was t = 3.617, p = 0.001 <α = 0.05 This indicates that although there was decreased blood pressure in both groups, the decrease of blood pressure was significantly higher in the intervention group than in control group.

Table 5 also shows the results of dependent t test on ABI. The intervention group had t value = -5.267; p = 0.000 <α = 0.05, while the control group had t value = 3.422; p = 0.004 <α = 0.05. This shows that there were significant differences in the value of ABI in both groups. Negative t value in the intervention group showed an increase in the value of ABI after exercise. While, positive t value in the control group showed a decrease of ABI value at the post test. According to table 5, there were significant differences of ABI value in the intervention group and control group. It was known from the results of independent t test with t value = -5.694; p = 0.000 <α = 0.05.

According to table 5, it can be known the result of dependent t test on Risk of DFU. The intervention group had t value = 4.641; p = 0.000 <α = 0.05 and the control group had t value = 2.432 and p = 0.029 <0.05. It means there was a significant difference in the risk of DFU before and after intervention. Positive t value indicates both intervention and control group have the decrease of DFU risk. However, based on results of independent t test, the t value is 2,085 with p = 0.047 < 0.05. It means although the two groups had a decreased risk of DFU, but there was significant difference in the risk of DFU. The decrease of DFU risk in the intervention group was significantly higher than in control group.

Table 5

Result of dependent and independent t test on Systolic Blood Pressure, Ankle Brachial Index and Risk of DFU in Intervention Group and Control Group (n = 30)

Independent variable	**Dependent variables**	**Test**	**Group**	**t value**	**p value**
Diabetes Gymnastic Exercise	Systolic Blood Pressure	Dependent t	Intervention (pre-post)	3.378	0.005
			Control (pre-post)	2.283	0.039
		Independent t	Intervention – Control group	3,617	0.001
	Ankle Brachial Index	Dependent t	Intervention (pre-post)	- 5.267	0.000
			Control (pre-post)	3.422	0.004
		Independent t	Intervention – Control group	-5.694	0.000
	Risk of DFU	Dependent t	Intervention (pre-post)	4.641	0.000
			Control (pre-post)	2.432	0.029
		Independent t	Intervention – Control group	2.085	0.047

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The Effect of Diabetes Gymnastic Exercise on Systemic Blood Pressure

People who have diabetes often have hypertension which is associated with the insulin resistance and abnormalities in the renin-angiotensin system and metabolic consequences. Metabolic abnormalities are associated with increased dysfunction and endothelial dysfunction. Endothelial cells can synthesize several bioactive substances that regulate the structure of blood vessel function (Guyton, 2007).

Chronic hyperglycemia causes endothelial dysfunction, so that the bioactive production such as nitric oxide, prostaglandins, endothelial and angiotensin II are disrupted. These conditions cause abnormalities in the regulation of blood vessel structure (Price and Wilson, 2005). Hyperglycemia will increase the production of superoxide anion (ROS) which damage the formation of nitric oxide. Furthermore, nitric oxide production is also inhibited by insulin resistance which causes the release of excess fatty acids from adipose tissue. Those fatty acids are broken into cholesterol, triglycerides, and LDL which circulates in the blood, causing a buildup on artery walls which can lead to atherosclerosis (Price and Wilson, 2005; Guyton, 2007; Ganong, 2008).

Atherosclerosis causes a decrease in the elasticity of the connective tissues and the ability of smooth muscle of blood vessels to relax (Price and Wilson, 2005). A decrease in the elasticity of the aorta and large arteries resulting in decreased ability to accommodate the volume of blood pumped by the heart (stroke volume), resulting in a decrease in heart strength and increased peripheral resistance (Smeltzer and Bare, 2002). The peripheral resistance causes the increase of blood pressure (Price and Wilson, 2005).

The benefits of exercise for patients with T2DM is strengthening blood vessel walls, maintaining blood vessels elasticity, and stimulating arteriolar vasodilation. In addition, exercise can control blood sugar levels, especially in patients with T2DM who follow regular exercise. HbA1C is improved because the blood glucose is changed into energy so that the cells become more sensitive to insulin (Misnadiarly, 2006; Giriwijoyo and Sidik, 2012). With gymnastic, muscle cell membrane becomes more permeable to glucose, so that the blood glucose can enter the cells and processed into ATP through glycolysis even without insulin due to the contraction process itself (Guyton, 2007; Misnadiarly, 2006; Giriwijoyo and Sidik, 2012).

Researcher concluded that the decrease in blood pressure that occurs in the treatment group was due to gymnastic intervention which was conducted 12 times. Previous studies showed that hypertension can be reduced by using physical exercises which was done continuously and with a frequency that is manageable and light weight training. Aerobic exercise can lower systolic blood pressure and diastolic blood pressure with a frequency of 3 times a week and the intensity of 30 minutes each time (Mughal, et al., 2013).

Normally, muscles required energy when contraction. The energy produced by oxidation of glucose, that entry into cells with the help of insulin. In the active muscle contraction, despite an increase in

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glucose demand, this is not always associated with increased levels of insulin. The muscles contraction causes an increase in blood flow, which will lead to the increasing number of capillary blood vessels opening, so that glucose can enter the cells without any increase in insulin. In addition, during physical exercise causes an increase in insulin sensitivity to the cells and increase amount and activate of insulin receptor (Sudoyo, et al., 2006).

The effect of Diabetes Gymnastic Exercise on Ankle Brachial Index

PAD is commonly evaluated by ankle-brachial index (ABI), which reflects blood flow in the legs. ABI<0.9 is the diagnostic cut-point for PAD, risk of cardiovascular mortality begins to increase at ABI <1.0 (O Hare, et al., 2006). Physical activity is associated with a decreased risk of cardiovascular disease in populations with and without T2DM. This risk reduction likely occurs through several pathways, including improved vascular function, lipid profile, and glycemic control (Colberg, et al., 2010).

ABI values in the T2DM patient can be influenced by the levels of blood sugar, daily activities, and levels of triglycerides. These factors may cause the thickening of the walls of arteries, causing an increase in blood pressure. Another factor is uncontrolled hyperglycemia condition that causes increased blood viscosity. Physical exercise such as gymnastics is able to expedite blood flow in the peripheral circulation (Allison, et al., 2007).

Non-optimal activity may accelerate atherosclerosis. In type 2 diabetes condition, the response of receptors on the cells is not adequate, so it cannot help the insulin to transfer glucose into the cells. By doing exercise, it increases membrane permeability to glucose during muscle contraction, and thus reduces insulin resistance, in other words, increases insulin sensitivity. Exercise not only lowers the body's need for insulin but also improve blood circulation especially in the legs (Mughal, et al., 2013).

The Effect of Diabetes Gymnastic Exercise on Risk of DFU

Gymnastics performed using aerobic system increases the oxidative capacity of skeletal muscle through increased use and increased plasma fatty acid carrier protein. Furthermore, gymnastics increase the volume of mitochondria and improve the work of lipoprotein lipase that is responsible for causing an increase of the lipid catabolism during exercise (Mughal et al., 2013). If blood flows smoothly, the blood circulation to the legs is also good and it can prevent numbness in the feet disorder (Giriwijoyo and Sidik, 2012).

Activities such as diabetes gymnastic require quite a lot of energy. At the time of exercise, increased muscle activity needs energy more than usual. This condition improves and enhances glycogenolysis in muscle glucose uptake (Ganong, 2008). Long term gymnastics lead to an increase in fat oxidation and decrease triglyceride levels in patients with type 2 diabetes, because the exercise will increase activity of lipoprotein lipase. Enhanced activity of lipoprotein lipase in the blood can increase absorption of triglycerides, so the level of blood triglycerides will decrease (Mughal, et al., 2013). Exercise can mobilize amount

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of blood from the splanchnic and other reserves and increases the amount of blood in the arteries by as much as 30% [Guyton, 2007; Ganong, 2008). From these results, it can be concluded that structured physical activity with proper duration can decrease the risk of DFU in diabetes mellitus patients.

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CORRELATION BETWEEN KNOWLEDGE LEVELS ABOUT PERIOPERATIVE CARE OF CATARACT AND ANXIETY LEVELS OF CLIENTS WITH CATARACT

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ABSTRACT

Background: Cataract is one of eye diseases due to many cases of blindness in Indonesia. One of treatment managements for cataract is surgery. Perioperative phase didived into pre, intra, and post operatif. Surgery process may cause anxiety to a client. This research analyzed the correlation between knowledge levels about perioperative care of cataract and anxiety levels of clients with cataract in pre-surgery phase at RSD dr. Soebandi Jember. **Methods:** This study was a cross sectional with 32 cataract clients as sample. Sampling collection technique used non probability sampling technique with accidental sampling methods. Data were analyzed using chi square test with 95% CI ($\alpha = 0{,}05$). **Results**: Most of cataract clients at RSD dr. Soebandi Jember had good level of knowledge about perioperative cataract and had mild anxiety levels during the preoperative phase. Moreover, based on the analysis, the p value was 0,047 ($< \alpha = 0{,}05$). **Conclusion**: There is a relationship between the level of knowledge about perioperative cataract with the level of anxiety on the client pre cataract surgery in RSD dr. Soebandi Jember. The Correlation between the knowledge level about perioperative of cataract disease and the anxiety level of clients of cataract pre-surgery in RSD dr. Soebandi Jember exists, respectively.

Keywords : cataract, knowledge level, anxiety level, perioperative cataract care

Introduction

Sense of sight has an important role for the realization of Indonesian human resources quality. Most of informations (83 %) come from our eyes (Wahyu, 2007).

World Health Organization (WHO) launched a global commitment of Vision 2020: the right to sight to address visual impairment and blindness in the community. Policies of Indonesian Ministry of Health (MOH) in achieving the global vision is to issue a decree of the Minister of Health (Kepmenkes) No. 1473 /Menkes/SK/2005 concerning the National Strategy Plan Vision Impaired and Figures Blindness. There are four priorities, i.e cataract, glaucoma, refractive, and xeroftalmia (MOH, 2008).

The estimated prevalence of cataract increase every year, reaching 200,000 people per year. The number of clients handled through cataract surgery range around 80,000 per year, resulting in the accumulation of approximately 120,000 people per year. The high incidence of cataract caused by the limitation range of surgery services, the high cost of cataract surgery and the availability of ophthalmologists and eye care facilities that are still limited (Fadi, 2007). Reduction target of blindness in Indonesia is expected at 0.5% in 2020 (Renstranas PGPK, 2008).

The most effective cure of cataract is surgery. Cataract surgery is the most surgery performed in people over 65 years

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old. Currently, cataract surgery using local anesthesia. Surgery is a treatment that uses the action invasive way to open and display the body part to be handled. The opening of this body part is generally done by making an incision. After the parts to be handled visible, be further improvements, which ended with the closure and suturing wounds (Sjamsuhidajat and Jong, 2005). The success of the return of vision can be achieved in 95% of clients (Smeltzer, 2002).

Surgery is an experience that can cause anxiety. Stuart (2009) explains that anxiety is an emotional state that does not have a specific object, and the condition is experienced subjectively. According to Wilkinson (2007), anxiety is a feeling of discomfort accompanied autonomies individual response, also concern caused by the anticipation of danger or threat. Smeltzer (2002) explains that the decision to undergo surgery is individualized. Financial support, psychology, and the consequences of surgery should be evaluated for effective management for clients. Painkillers anxiety can be given to overcome feelings of anxiety before surgery.

Anxiety caused by predisposing and precipitation factors. One of anxiety precipitation factors is the level of knowledge. The knowledge gained can reduce feelings of anxiety experienced by clients. The knowledge received from the information obtained and the experiences (Stuart, 2009).

Preliminary studies conducted in outpatient ward of RSD dr. Soebandi Jember in 2012 found that there were 8033 patients treated because of eye diseases. Based on data, the total cataract clients was 1,368 people (17.03%). The data from surgery center unit of dr. Subandi hospital stated that there werer 277 cases (20.24%) of cataract and became the 3rd rank after astigmatism and myopia. The surgical management was 294 cases (19.84%) and it was second ranks after astigmatism. In 2014 there were 8646 clients, with cataract clients as 1697 people (19.63%) and surgical management of as many as 434 cases (25.57%). Therefore, the number of cataract disease among cases is higher than other eye disorders in RSD dr. Soebandi Jember and number of clients increase every year (eyes outpatient unit dr. Soebandi Jember, 2014).

The purpose of this study was to analyze the relationship between the level of knowledge about perioperative cataract with anxiety levels of cataract clients in pre cataract surgery at RSD dr. Soebandi Jember.

Methods

The design of this research was descriptive analytic research using cross sectional method. The independent variable of this study is the level of knowledge about perioperative cataract and the dependent variable is the level of client anxiety pre-surgery. Alternative hypothesis (Ha) in this study is there is a relationship between the level of knowledge about perioperative cataract with the level of anxiety on the client pre cataract surgery in RSD dr. Soebandi Jember. Ha accepted if p value $<\alpha = 0,05$.

The study population was all clients who will perform cataract surgery at RSD dr. Soebandi Jember as many as 384 clients. The research sample used 32 clients. The

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sampling technique in this study used non-probability sampling with accidental sampling method.

Inclusion criterias were clients who will do cataract surgery in dr. Soebandi Jember; clients have never experienced before surgery; and willing to become respondents. While the exclusion criteriaa were clients experience situational conditions such as the operation was canceled due to delayed; clients experiencing complications of glaucoma.

This research was an analytical study to analyzed the relationship between two categorical variables, by comparing the results of the questionnaire level of knowledge about perioperative cataract (ordinal scale) and anxiety level of client pre cataract surgery (ordinal scale). The statistical test used is Chi square (Machfoedz, 2008). The conclusion of the analysis was by looking the p value on the value of $\alpha = 0.05$ with 95% CI.

Results and Discussion

Characteristics of Respondents

Table 1 below figures caracteristics of clients based on age.

Table 1
Characteristics of clients age at RSD dr. Soebandi Jember May-June 2015 (n = 32)

Client characteristics	Mean	SD	Min - Max
Age	49,00	8,576	35- 65

Table 1 shows the average age of clients is 49 years old, with minimum age is 35 years and maximum of 65 years.. Classification of cataract by age, in a theoretical overview of cataract are categories into congenital cataract (cataract that occur in men aged less than 1 year), cataract juvenile that occurre at the age of thirty years, cataract presenil occur at the age of thirty to forty years and cataract senil that occurred at the age of more than forty years (Elias, 2003). This study, most clients are clients with senil cataract that occurs in the age of more than forty years.

This is supported also by the Ilyas statement (2003) that one of the predisposing of cataract is aging or degenerative process. Aging or degenerative processes are characterized by the decline of the lens fibers that make a decrease in vision. In addition, the concept of aging of the lens at the age of further changes that occur in the capsule, epithelial thinner and more irregular lens fibers.

Table 2
Characteristics of cataract clients gender and level of education at RSD dr. Soebandi Jember May-June 2015 (n = 32)

No	Client characteristics	*f*	%
1.	Gender		
	a. male	21	65,6
	b. female	11	34,4
	Total	32	100
2.	Education levels		
	a. Not School / Elementary / Junior high school	9	28,1
	b. High School	14	43,8
	c. Diploma / Bachelor	9	28,1
	Total	32	100

Table 2 illustrates that the majority of clients are men by 65.6%, while the level of clients mostly is high school education (43.8%). Ingga research citations (2010), explained that there was no significant association between sex and community knowledge about eyes health care, especially cataract. Research conducted in Ingga Seva Canada Society (2010) stated

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that women, especially in developing countries had low knowledge about eye health services because of the many obstacles in accessing resources.

The level of education obtained was mostly high school 43.8%. Meliono (2007) stated that education is a process of changing attitudes and code of conduct of a person or group of mature business man and also through teaching and training efforts. Mantra (in Bayora, 2005) stated that the higher a person's education level, the more easily a person receives information both from others and from the mass media.

Cataract Client Knowledge levels about Cataract Perioperative at RSD dr. Soebandi Jember

Table 3
Distribution of client's level of knowledge about perioperative cataract (n = 32)

Knowledge levels	*f*	%
Good	24	75
enough	6	18,75
less	2	6,25
Total	32	100

Table 3 shows the distribution of client's level of knowledge about the disease of cataract by 75% had good knowledge level. Notoatmodjo (2007) states that knowledge has 6 levels of cognitive domain, among others: know (know), understanding (comprehension), application (user application), analysis (analysis), synthesis (synthesis), and evaluation (evaluation).

The study states that the distribution of client's level of knowledge about cataract disease mostly at good level (24 clients or 75%). Meliono (2007) stated that the factors that can affect a person's level of knowledge is education, media, exposure of information and experience, as well as the environment.

WHO explained the determinants of behavior analyzes that causes a person it behaves one of them due to the thoughts and feelings in a person who is formed in the knowledge, perceptions, beliefs, and assessment of a particular object, a person can gain knowledge from both personal experience and the experience of people another.

The level of anxiety in the client pre cataract surgery in RSD dr. Soebandi Jember

Table 4
Distribution of Anxiety Level of Clients in Pre Cataract Surgery (n = 32)

Anxiety levels	f	%
No anxiety	6	18,8
mild anxiety	19	59,4
moderate anxiety	7	21,8
Total	32	100

Table 4 shows the distribution of the level of anxiety in the client pre cataract surgery 59.4% had mild anxiety levels. Stuart (2009) explained that anxiety is an emotional state that does not have a specific object, and the condition is experienced subjectively. The signs and symptoms of anxiety for each person are varies, depend on the the level perceived by individual (Hawari, 2009).

Factors causing anxiety according to Stuart (2009) are predisposing factors and the

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precipitation factors. Predisposing factors described through some theory such as psychoanalytic theory, the theory of interpersonal, behavioral theory, family studies, and biological studies. While the precipitation factors are external and internal factors.

Table 4 describes that 59.4% of clients were in mild anxiety level. Stuart (2009) explained that mild anxiety associated with stress experienced daily. People are still alert and able to motivate individuals to learn and be able to solve problems effectively.

Kaplan and Sadock (2005) stated that the anxiety of preoperative clients are influenced by several factors such as age, experience of clients undergoing surgery, self-concept and role, levels of education, socioeconomic levels, medical conditions, access to information process of adaptation, type of medical treatment and communication therapeutic. Potter and Perry (2005) said that the nurses actions during pre operative phase are conducting initial operation assessments, planning extension to the method according to the client's needs, involving family or significant others in the interview, ensuring the completeness of investigation and examining other purpose of surgery, assessing client's needs in post-operative care.

The correlation between knowledge levels of perioperative cataract and anxiety levels of pre operative cataract clients RSD dr. Soebandi Jember

Based on table 5 below, it is clear that 24 clients (75%) at good level of knowledge, 21 clients (65.6%) were feel mild anxiety and the remaining three clients (9.4%) had moderate anxiety. Meanwhile, 8 clients (25%) with less knowledge level, 4 clients (12.5%) had mild and moderate levels of anxiety.

Table 5
Correlation between knowledge levels and anxiety levels of pre operative cataract clients (n = 32)

Know-ledge level	Anxiety levels				Total		*p*
	Mild		moderate				
	n	%	n	%	N	%	
Good	21	65,6	3	9,4	24	75	0,0
less	4	12,5	4	12,5	8	25	47
Total	25	78,1	7	21,9	32	100	

Results of statistical test used chi square analysis with 95% CI (α = 0.05), obtained p value = 0.047 which means Ha was fail rejected. It can be interpreted that there is a relationship between of knowledge levels about perioperative cataract with anxiety levels of the client in cataract pre surgery phase at RSD dr. Soebandi Jember.

Asmadi (2009) explained that the individual's ability to respond to threat are may different from others. The differences in this ability correlates with the levels of anxiety experienced. Individual response to anxiety are varies from no anxiety to panic. Every stressor anxious, it will automatically appear an attempt to cope with various coping mechanisms. The use of coping mechanisms become effective when supported by other forces and their belief that the individual concerned shall coping mechanisms used to overcome anxiety. Coping mechanism is the individual's ability to cope with anxiety. Anxiety is needed as to achieve a state of homeostasis within the individual, both physiological and psychological. If

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individual is not able to cope with the anxiety constructively, then that inability become the main cause of pathological behavior.

Baradero (2008) stated that the requirements during surgical procedure are doing perioperative care in pre, intra, and postoperative phase, giving comfort to clients and preventing nosocomial infections. Potter and Perry (2005) explained that perioperative nursing in the preoperative phase of surgery begins when a decision is taken and ends when the client was transferred to operating room.

During preoperative phase, nurses must do assessments performed the initial operation, plan extension to the method according to the client's needs, involve family or significant others, ensure complete preoperative examination, and assess the client's needs in postoperative care. Assessments cope all clients condition clients including physical function, biological, and psychological aspects (Smeltzer, 2001).

Conclusions

The average age of cataract clients at dr. Jember Soebandi was 49 years old, most of clients was male, and pursued high school education. Clients with cataract at RSD dr. Soebandi Jember most have good level of knowledge about perioperative cataract and performed mild anxiety levels during preoperative phase. Therefore, there is a relationship between the level of knowledge about perioperative cataract with the level of anxiety of cataract clients in pre operative phase at RSD dr. Soebandi Jember.

Furthermore, clients are expected to increase the knowledge of the cataract perioperative process to minimize the anxiety, thus the surgery can be give the best result. Besides, it is important for hospital to facilitate a consultation room or health education during pre operative phase.

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LIFESTYLE AND WORK SITUATION TO JOINT/BONE PAIN AND HEALTH STATUS OF NON COMMUNICABLE DISEASES AMONG TOBBACOS' FARMERS AT THE RURAL AREA OF JEMBER REGENCY, EAST JAVA PROVINCE, INDONESIA

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ABSTRACT

Background: Agriculture needs to apply a safety-healthy management system in the form of health hazard risks. Farming position, workload, and the use of Personal Protective Equipment become important things to note. Jember is an agricultural area producing tobacco. Elderly farmers in Jember showed 56.8% working is not ergonomic; this causes the risk of back pain. Occupational health and safety have not been good considered yet. Then, occupational diseases such as musculoskeletal disorder appeared widely and caused a decrease in work productivity. **Methods:** Quantitative research with cross sectional approach. The number of samples was 179 farmers. Data were collected using questionnaires and analyzed using chi square. **Results:** The health condition was 60.3% sick farmers, 50.3% had joints pain. The test results showed relationship between the workloads and the joint pain with p value 0.036 and the use of PPE and the current health with p value 0.032. **Conclusion:** Farmers are at risk of their work related with the working position and the use of heavy equipment. The use of PPE and ergonomic position of farmers are still neglected by farmers. The role of nurses in performing the function of promotion and prevention is very important, that it can minimize the risk of health problems.

Keywords: Farmers, health status, Personal Protective Equipment

Introduction

Agriculture plays an important role in Indonesian economy. Survey of the Central Bureau of Statistics (BPS) in February 2012 illustrated that the structure of employment until February 2012 did not change, where the agricultural sector, trade, social services, and industrial sectors in sequence remains the largest contributor of Indonesian workers. People who work in finance as much as 2.78%, transport and communications5.20%, construction 6.10%, industry 14.21%, trading 24.02%, and agriculture41.20%. Agriculture as an informal sector is at the first rank.

Labor in agricultural sector reached 41.20 million people or approximately 43.4% of the total population in Indonesia. The number increased by 4.76% or 1.9 million compared to August 2011. Indonesian is the third rank after China (66%) and India (53.2%). It shows that the average of Indonesian people's livelihood is farming (Central Bureau of Statistics, 2012). The informal worker requires our attention more than as usual because the result of production depends on the state of their health. Markkanen (2004), accidents and occupational diseases still happen in agriculture, fishing, logging, mining and

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construction especially in developing countries.

Informal worker in Indonesia are reported to suffer from malnutrition, diseases caused by parasites (e.g. worms), asthma, skin allergies, cancer, chemical poisoning, food poisoning, disorders of muscle and bone, respiratory disorders, diseases of the lymph nodes, and blood diseases. Hazard encountered in the workplace, include noise, vibration, heat radiation, lack of lighting, the installation of dangerous devices without the use of personal protective equipment (PPE) for safety aspects, inhalation of dust and exposed to chemicals hazardous, as well as the ergonomics are poor (Joedoatmodjo, 1999; in Markkanen, 2004).

The problem that often arises is a disorder of the muscles because of unergonomic working position that may impact their quality of life and workers' productivity. Mayrika, et al (2009), says about 90% of all lower back pain is not caused by organic disorders, but by mistake of body position at work. The data said that on average 23% workers do not work properly in a month, and absence from work for eight days caused by back pain. Based on the results of a survey, work productivity can be decreased to 60% due to neck pain and back pain. Occupational Disease is a disease caused by work, work tools, materials, processes and work environment, so the occupational disease is a disease that artificial or man-made disease is defined as a disease created by man himself in the process of work (Silalahi 2006). Occupational disease most often occurs based on the Labour Force Survey (LFS) UK (2003-2004) is a musculoskeletal disorder. According to the MOH in 2005, 40.5% of workers in Indonesia have complaints of health problems related to work and musculoskeletal disorders which are as much as 16% (MOH, 2007).

Occupational factors that plays an important role in skeletal muscle is a repetitive movement, a movement with a strong force, suppression, the same position or not ergonomic and vibration (Tana, Pomegranate & Tuminah, 2009). Agriculture needs to apply a safety-healthy management system in the form of health hazard risks. Heavy equipment used for agriculture is a source of danger that may cause injuries and accidents (Markkanen, 2004). Occupational Health and Safety (OHS) is an attempt to create a working atmosphere that is safe, comfortable, and the goal is to achieve the highest productivity. The OHS must be implemented absolutely on any type of work without exception. OHS effort is expected to prevent and reduce the risk of accidents or illness as a result of doing the job (Abidin, Tjiptono, Dahlan, 2008).

Base on the background, this study aimed to examine the relationship between sociodemographic, lifestyle, work positions, the joints/bones pain and the health status of farmers in Jember district.

Methods

This study used quantitative research with cross sectional approach. The population in this study was farmers who lived in Jember.

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Nationally, the proportion of people working in the agricultural sector is about 41.20% of the population. Population will be concentrated in Sumberjambe and Sukowono the primary agricultural sector with an estimated population of 18,500 farmers. Quantitative methods focused on surveying by spreading the questionnaire.

Samples in this study were two districts in Jember that advance in agricultural sector; Sukowono and Sumberjambe. Sampling was using multistage random. The number of samples was 179 farmers. Data collection tool used is a questionnaire. Data were analyzed using chi square.

Results and Discussion

Results of the study are presented in Table 1

Table 1

Comparison between sociodemographic, lifestyle, and work situation to joint/bone pain and health status (N=179) n (%)

Variable		Total	Joint/bone pain			Health status		
			Pain 90 (50.3)	No pain 89 (49.7)	p-value	Health 71 (39.7)	Sick 108 (60.3)	p-value
Sociodemographic								
Age								
	< 40 year	50 (28.2)	23 (25.6)	28 (31.5)	**0.045**	16 (22.5)	35 (32.4)	0.062
	41 -59 year	87 (49.2)	40 (44.4)	48 (53.9)		33 (46.5)	55 (50.9)	
	>60 year	40 (22.6)	27 (30.0)	13 (14.6)		22 (31.0)	18 (16.7)	
Sex								
	Female	22 (12.4)	8 (8.9)	15 (16.9)	0.171	12 (16.9)	11 (10.2)	0.278
	Male	155 (87.6)	82 (91.1)	74 (83.1)		59 (83.1)	97 (89.8)	
Education								
	No school	41 (23.2)	22 (24.4)	19 (21.3)	0.877	19 (26.8)	22 (20.4)	**0.015**
	Primary school	78 (44.1)	41 (45.6)	39 (43.8)		38 (53.5)	42 (38.9)	
	Junior high	35 (19.8)	17 (18.9)	18 (20.2)		6 (8.5)	29 (26.9)	
	Senior high	23 (13.0)	10 (11.1)	13 (14.6)		8 (11.3)	15 (13.9)	
Lifestyle								
Smoking								
	Yes	96 (54.5)	53 (58.9)	43 (48.9)	0.234	40 (56.3)	56 (52.3)	0.711
	No	80 (45.5)	37 (41.1)	45 (51.1)		31 (43.7)	51 (47.7)	
Drinking coffee								
	Yes	121 (68.4)	64 (71.1)	57.64.0)	0.395	45 (63.4)	76 (70.4)	0.415

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No	56 (31.6)	26 (28.9)	32 (36.0)		26 (36.6)	32 (29.6)	
Fatty foods							
Yes	79 (44.6)	47 (52.2)	34 (38.2)	0.083	30 (42.3)	51 (47.2)	0.617
No	98 (55.4)	43 (47.8)	55 (61.8)		41 (57.7)	57 (52.8)	
Food high in salt							
Yes	101 (57.1)	56 (62.2)	46 (51.7)	0.203	35 (49.3)	67 (62.0)	0.126
No	76 (42.9)	34 (37.8)	43 (48.3)		36 (50.7)	41 (38.0)	
The level of employment							
Working hour/weeks							
> 40 hours	75 (42.4)	39 (43.3)	36 (40.4)	0.811	25 (35.2)	50 (46.3)	0.188
< 40hours	102 (57.6)	51 (56.7)	53 (59.6)		46 (64.8)	58 (53.7)	
Break from job							
< 30 minute	40 (22.6)	27 (30.0)	13 (14.6)	**0.022**	13 (18.3)	27 (25.0)	0.386
> 30 minute	137 (77.4)	63 (70.0)	76 (85.4)		58 (81.7)	81 (75.0)	
Working days/week							
> 5 days	107 (60.5)	51 (56.7)	57 (64.0)	0.392	41 (57.7)	67 (62.0)	0.676
< 5 days	70 (39.5)	39 (43.3)	32 (36.0)		30 (42.3)	41 (38.0)	
Workload							
No stress	92 (51.7)	53 (59.6)	39 (43.8)	**0.036**	30 (42.3)	62 (57.9)	**0.040**
Work stress	86 (48.3)	36 (40.4)	50 (56.2)		41 (57.7)	45 (42.1)	
PPE							
Safety	87 (49.2)	45 (50.0)	42 (47.2)	0.821	27 (38.0)	60 (55.6)	**0.032**
Unsafety	90 (50.8)	45 (50.0)	47 (52.8)		44 (62.0)	48 (44.4)	
Working Position							
Ergonomic	85 (48.0)	41 (45.6)	46 (51.7)	0.502	39 (54.9)	48 (44.4)	0.222
Unergonomic	92 (52.0)	49 (54.4)	43 (48.3)		32 (45.1)	60 (55.6)	

Note. Chi-square test. Significant findings are in bold

Based on the table, it shows that 60.3% of farmers are currently in healthy condition; 49.2% were in the age range 41-59 years; farmers with joint pain as much as 50.3%; level of education at the graduate primary school 44.1%. Chi-square test results showed the relationship between age of farmers and joint pain and there is a correlation between the levels of education of farmers with the current state of health. Lifestyle farmers showed 54.5% had a habit of smoking; 68.4% drink coffee; 55.4% did not consume fatty foods and 57.1% had the habit of eating foods high in salt. Statistical analysis showed no relationship between lifestyle farmers with joint pain and lifestyle farmers with the current state of health.

The level of work showed 57.6% had work <40 hours/week; 77.4% did break every labor> 30 min; 60.5% had a working day> 5 working days/ week. Statistical analysis showed the relationship between breaks each work with of joint pain. The workload of farmers showed that 51.7% do not stress, statistical test results showed relationship between workload with joint pain and there is a relationship between workload with the current health condition. The use of PPE showed 50.8% of the farmers have not the aspect of security. The test results showed relationship between the uses of PPE with the current health condition. Ergonomic

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position of farmers showed 52% of farmers have not ergonomic at work.

Agriculture can induce aspects of occupational safety and occupational risk compared with other occupations. The risk of the most common work is types of muscle pain due to sprains or sprains due to lifting and carrying, doing the same work repeatedly, and working with the wrong posture, and various psychosocial problems (Markkanen, 2004). The results showed more than 50% of farmers do not pay attention to the ergonomic aspects and had joint pain. Health and Safety Authority / HSA (2013), said that agriculture is a job that has a lot of risk of health problems. Health problems that occur are musculoskeletal disorders, skin and respiratory and hearing loss. The condition indicates one of 10 farmers who suffer from musculoskeletal injury usually unable to work 3 days or more.

The results showed joint pain and painful conditions widely available to farmers productive age (41 -59 years), where the age of most farmers in the productive age range. This relates to the working day farmer almost without holidays (over 50% of farmers worked> 5 days a week). When viewed from the hours of work per week, 102 farmers working <40 hours / week (per day farmers working approximately 5 hours). These results are not in accordance with research conducted by Lizer and Petrea (2007), who said that farmers in Illinois work in a long time 10-12 hours / day. Working for a long period requires physical ability, stamina and mental conditions are not compromised. The potential may change with age and fatigue.

Capacity, workload and working environment are three essential components in safety. All these components are mutually interact. Good working capacity, such as the health status of workers, as well as physical capabilities that can guarantee that workers can carry out his job properly. It can also minimize the excessive workload on workers (Winarsunu, 2008). This study also showed relationship between the work load and farmers joint pain and there is a relationship between the workload of farmers with health status today. This suggests that work stress experienced will have an impact on health conditions.

Based on the results of research, the lifestyle of farmers is potential for health problems, i.e. more than 50% of farmers as smoking, drinking coffee and eating high-salt. Lifestyle will be at risk for hypertension. Based on research conducted by Lizer and Petrea (2007), farmers who have hypertension were 34.7%. The role of nurses in performing the function of promotion action is very important, so that it can minimize the risk of health problems.

Another problem that arises at the farmer is the use of Personal Protective Equipment (PPE) and ergonomic position. The use of PPE is a behavior that is often neglected by the farmers, the results of this study according to research conducted by Afrianto (2013), showed that the use of PPE increased after health education of the Occupational Health and Safety (OHS).

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Issues concerning the lack of awareness of the OHS are not just labor issues, because in fact, the data obtained that the whole society in general have a low awareness of the occupational safety and health. The results of research showed 50.8% of farmers do not pay attention to PPE.

Matters affecting the high occupational accidents in developing countries (including Indonesia) compared with developed countries are a community perspective on the importance of health and safety, the system is running and adequate legal tools (Haerani, 2010). Occupational safety and health is an important aspect as supporting welfare and increased workers' productivity or the public. Health and safety are considered to reduce the risk of the emergence of Occupational Diseases. Occupational Safety and Health applied in the form of the Occupational Health Unit (UKK) at each clinic.

Conclusion

Farmer is a profession at risk of health problems. Occupational health safety has been overlook by farmers, thus increasing the risk of occupational disease. The role of nurses in promotion and preventive actions need to be improved, and then farmers realize the importance of health in supporting the work productivity. It is needed cross-sector cooperation to realize the implementation of occupational safety and health.

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THE EFFECT OF RHEUMATIC EXERCISE ON REDUCING JOINT PAIN AMONG ELDERLY PEOPLE IN SUDIMORO VILLAGE , TULANGAN-SIDOARJO

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ABSTRACT

Background: Aging process causes decreasing musculoskeletal function such as degeneration, erosion, and calcification of cartilage and joint capsule that manifest in decreasing joint movement width. Aging process also causes decreasing cellular immune function such as increasing inflammation activity in joint. The causes are contributed to joint pain among elderly. **Methods:** This study was aimed to identify the effect of rheumatic exercise on decreasing joint pain among elderly. Design used in this study was quasi experimental with pre post design. The population was elderly whose age were 65-70 years old in Sudimoro Village Tulangan-Sidoarjo in June-July 2010. Total sample were 18 respondents in experiment group and 18 respondents in control group taken according to inclusion criteria. Rheumatic Exercise was given twelve times during a month to experiment group. The dependent variable was joint pain which was measured by Burbonais pain scale. Data were then analyzed using Wilcoxon Sign Rank Test and Mann Whitney Test with level of significance is ≤0,05. **Results:** Result showed that there was effect of rheumatic exercise on decreasing joint pain among elderly after intervention in experiment group (p=0,008 Wilcoxon Sign Rank Test). But, there was no difference between experiment group and control group after Rheumatic Exercise (p= 0,125 Mann Whitney Test). **Conclusion:** Further studies should more control respondent's dietary pattern, activity pattern, quantity and quality of the rheumatic exercise by respondents to obtain more accurate results.

Keywords: rheumatic exercise, joint pain

Introduction

Musculoskeletal disorder on the elders is one of many geriatric cases encountered in everyday practices (Taslim, 2009). All disturbances in the joints, muscles, and tendons are called rheumatics (Isbagio, 2004). Nowadays, it has been recognized for more than 110 types of rheumatic disease that often show a similarly clinical manifestation. These complaints are usually a symptom of stiffness, pains, swellings, and the limitation of movement. Rheumatic disease is one of the main causes of disability on the elderly people, instead of stroke and cardiovascular diseases (Darmojo & Martono, 2006). Painful joint that is uncontrolled can be severer and often affects the daily activities, such as walking and working (Liana, 2008).

Thus, there is a need of handling the pain caused musculoskeletal disorders which is done by giving much attention on the condition of elders' body, so that they are able to get their life quality even though suffering from deprivation and pain. The impact of rheumatics or joint pain symptoms on the elders can be reduced by exercising the joint in the right way and intensively focused, namely physical rheumatics exercise (Nuhonni, 2008). However, the effect of this physical exercise on the decrease of joint pain cannot be explained.

The incidence of pain on the elders is quite high, around 25-50% of the total elders

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(Widyatmoko, 2008). Data reported by World Health Organization (WHO), said that there are 40% of the world populations suffering from the joint pain. Approximately 80% of them have an impact on the limited movement (Setiyohadi, et al, 2007). In the preliminary study conducted by a researcher at the village of Sudimoro, Sidoarjo, there were 48% of elders or 60 of 125 elders at the age of 55-70 years old suffering from joint disturbances. The number of elders who suffer from this joint disturbance can be greater than the above total numbers, but then not all elderly people living at this village, Sudimoro, actively went to the integrated health service in which only some cases were reported.

Some elders complained having aches on the feet and hands, stiffness on joints as getting up and walking as well as painful knees while worshipping. There were 40 elders whom the researcher interviewed that entirely they consumed medicines or herbs that they believed to reduce the pains. An elderly even took the pills twice a day in the morning and afternoon. The other 15 elders did not take the pills or herbs regularly to reduce the pains and stiff joints. However, within a week, these 15 elders certainly took the pills or herbs, reducing the pains and stiff joints.

The pain on the elderly is very different as that in the young adults. Therefore the main goal in handling the pain on the elderly people is to relieve the pain, to optimize daily activities, and to take the lowest dosage of used pills or herbs (Davis and Srivastava, 2003 in Aznan 2004). Medicines that are beneficially used to reduce joint pains and also slightly reduce the inflammation that occurs in the joints are such as drugs from the type of non-steroidal anti-inflammatory (NSAID). However, the use of these drugs can cause many serious side effects such as gastric bleeding and until the risk of heart attack and stroke. Several studies have proven that nonpharmacological techniques can reduce the joint pains. Clinical experience shows that active exercise program is important to develop and maintain normal function and induce a sense of comfortable joints and muscles (Haq, et al, 2008).

Doing physical exercise when suffering from joint pain seems contradictory, but physical exercise is actually a natural pain reliever for some people who suffer from arthritis or rheumatism by maintaining joint flexibility and muscle strength (Proquets.com, 2008). Some other physical exercises such as walking and ROM (Range of Motion) joint exercise have been proven to reduce joint pain on the elderly people. Researchers tried to examine the effects of exercise of arthritic joint pain on the elders to obtain the alternative solution to this problem in hopes of rheumatics exercise can give better and maximum results than physical exercise walk and ROM joint movement.

Rheumatic exercise which has an influence in reducing joint pain is mainly on main training 1 and main training 2. The movements of main training 1 include *strengthening and balancing* movements that can give the strength and flexibility of muscles (*quadriceps* and *hamstring*) and lower extremity joints. The main training 2 includes grasping, repeated pulling hands, and bending the palm of the hand using small balls to train the fingers and wrist joints as well as big balls used for rotating the body to train the muscles of the chest, back and abdomen, and arms. However, the movement of this training 2 still includes several movements that aimed to train the *quadriceps* and *hamstring muscles*.

Various rheumatic exercises cause the joint can move freely because they release the pain or stiffness, prevent damage to the joint cartilage, and strengthen the muscles around the joint. From this process, rheumatic exercise can reduce the joint pain on the elders through the increase of musculoskeletal functions. The second mechanism of rheumatic exercise in reducing joint pain in the elderly is increasing

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the cellular immune's functions. Rheumatic exercises done regularly, continuously, and completely can reduce the symptoms of rheumatic diseases such as joint stiffness and pain on the patients (Nuhonni, 2008).

Methods

The study on "The Effect of Rheumatic Exercise on Reducing Joint Pain Among Elderly People in Sudimoro Village , Tulangan, Sidoarjo" uses *Quasy Experiment design*. The study is begun by assessing the level of the joint pain in the control group and the experiment group by using Burbonais pain scale with level of pain: 0=no pain, 1-3: mild, 4-6: moderate, 7-9: severe, 10: worst. The treatment group will be given treatment in the form of rheumatism exercise with the frequency of 3 times in a week, and it will last for 4 weeks with the duration of 45 minutes in each exercise. The treatment group is going to re-assess with questionnaire and observation to determine the differences of the joint pain level at the end of the rheumatic exercises. The level of join pain in the control group is also re-assessed at the end of the research to determine differences of the joint pain levels between both the control group and the treatment group given rheumatic exercises.

This study uses one of the techniques *Non-Probability Sampling*, *purposive sampling*. The sampling is taken purposively under the considerations of: the respondents at the village of Sudimoro, Tulangan Sidoarjo who have strong interests to participate the rheumatic exercises, respondents lived relatively close to where the rheumatic exercise will be held for a month, and mostly the respondent has no other activities at the same as it takes place.

Total sample in this study were 18 respondents in experiment group and 18 respondents in control group taken according to inclusion criteria. Data were then analyzed using Wilcoxon Sign Rank Test and Mann Whitney Test with level of significance is ≤0,05.

Result and discussion

General Data

That are about respondents characteristics including sex, age, work, and history of diet. Based on table 2, in intervention group, there were 11 respondents (61%) with moderate pain, 4 respondents (22%) with severe pain and others (17%) were mild pain. In control group, there were 8 respondents (44%) with moderate pain, 8 respondents (44%) with mild pain and 2 respondents (12%) with severe pain. Majority of respondents had moderate joint pain both in intervention group and control group before Rheumatic Exercise given.

After conducting Rheumatic Exercise in intervention group, all respondents experienced the reducing of pain scale from 1 till 3 points. Four respondents with severe pain were in moderate pain and 10 respondents with moderate pain were in mild pain after Rheumatic Exercise. But, four respondents had a same scale both before and after Rheumatic Exercise. Mean of decreasing join pain score in intervention group was 2 points.

Table 2 showed that there were 2 respondents of the control group who experienced change of the pain level after the post-test. One respondent experienced the decrease in pain level from moderate to mild, while another respondent has increased the pain level from mild to moderate. However, when measured in score, there were nine respondents of control group experienced a change of score intensity of joint pain. Three respondents experienced the increase of joint pain intensity scores in the point 1 to 2. Six other respondents experienced the decrease of joint pain score intensity in the point 1 to 2. Mean of decreasing join pain score in control group was 0 point.

There were different results in the group of respondents after having been given rheumatic exercise treatment for 4 weeks influenced by several factors such as consumed food, daily

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work, as well as the appropriateness of the proper movement done by elderly people during rheumatism exercise. From demographic data, it can be known about treatment group that 17% of respondents (3 respondents) had a record of consuming nuts and 11% of respondents (2 respondents) had a record of eating nuts and coconut milk.

Consuming nuts and coconut milk can aggravate the joint pain felt by the respondents. This is because nuts are considered as food which contains high levels of Purine, the basic ingredient of uric acid. Meanwhile, coconut milk is food that contains high fat which can inhibit the excretion of uric acid in the urine (new era, 2010). The flock of uric acids in the joints causes arthritis and pain (Health News, 2007).

The respondents' activities also could affect the severity of joint pain. Most of them were indeed housewives, 83% of the treatment group at and 72% of the control group. However, two respondents of the treatment group and one respondents of the control group had a job like making bed mattress at home. This job of making this mattress involved the hands' muscles and joints monotonously and already done in years. Two respondents complained that the joint pain occurred because of this activity of making the mattress.

The monotonous movements which involved the muscles and joints caused a certain fatigue, which finally caused the pain or aggravate on the existing joint pains. Respondents also claimed that joint pain was reduced when the work was also reduced. The position of the body when making the mattress was not ergonomic, just sitting down with cross-legged position. Making a bed mattress could take approximately 45 minutes. Thus, the spine has against the weight for hours because the respondents were usually able to make the mattress 3 to 5 pieces in a day. This condition affected the health of the respondents' spine, in which the spine was the center of nerves of human body.

Most respondents of the treatment group were (83%) women and (78%) of the control group. The joint pain on elderly women was exacerbated by gender. The gender could affect a person's level of joint pain, based on the theory that the decline of estrogen might affect the severity of joint pain. Estrogen is a hormone that serves to maintain the balance between forming bone process by osteoclast cells and the absorption process of calcium from bone by *osteoclast* cells. The decrease of estrogen production would lead to *Osteoclast* cell activity in absorbing calcium from the bones increased, while the *Osteoclast* cells function as a tool to decrease bone formation so that the bone would undergo calcium hardness and be increasingly porous. These impacts also occurred in cartilage, which the cartilage also became porous when fractioning would cause the pain (Hartono M, 2000).

Table 2 showed the comparison of the post test results between the treatment group and control group, virtually there was a change in the pain level in the treatment group. Although there was most of decrease of pain intensity scores in treatment group, the changes of pain groups more precisely occurred in the control group. One respondent of the control group experienced a reduction in pain during the post-test group, such as from moderate to mild. Six other respondents experienced the decrease of joint pain score intensity.

The decrease of joint pain in the control group was probably caused by the consumption of drugs and herbs to reduce joint pain in which the researcher did not know such as herbs stiff, uric acid pills, pills bone flu, *lynucid* pills, and other drugs. Meanwhile, the increasing in pain intensity scores in the groups described above can be affected by excessive activity which may aggravate the joint pain. Two respondents of the control groups admitted that the pain was

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getting worse after doing hard activities. Excessive activity caused contractions of severe muscle and contacted between the bones that often caused crackles when the joint was moved with the cartilage which was about to be damaged (Soejono, 2000).

To test whether there was a difference between the treatment groups given rheumatism exercise and the control group without rheumatism exercise, test statistical analysis, *Mann Whitney Test*, was done with significance $\alpha \leq 0.05$ p value = 0.125. Thus, It could be concluded there was no difference between the treatment groups given rheumatism exercise and the control group with no rheumatic exercise.

Rheumatism exercise consisted of several stages, started from the warming up, the main 1, main 2, and ended with refreshing. Rheumatism exercise movements had an influence in decreasing the complaints of joint pain training the core 1 and core 2. Movement included exercises core 1 *strengthening and balancing* movements that can give strength and flexibility of muscles (*quadriceps* and *hamstring*) and lower extremity joints.

Exercises core 2 included grasping, stretching, and bending the palm of the hand using small balls to train joints of the fingers and wrists, and using large balls for rotating movement of the body to train the muscles of the chest, back and abdomen, and arms. The mechanism of decreasing the joint pain caused physically rheumatic exercise demonstrated through two mechanisms: improvement of the musculoskeletal system and cellular immune function.

Elders underwent the decreasing of the musculoskeletal systems; one of them was the decrease of joint's function, degeneration, erosion, and calcification of cartilage and joint capsule. This caused that the joints lost the flexibility resulting the reduction of the movement. Calcification of cartilage caused the function as shock absorbers no longer effective, so the joints became vulnerable to the friction, and caused the pain in the joints. With rheumatism exercise, bone density would be maintained because the bone density of elderly people could not grow anymore and the strength of skeletal muscle would be increased caused the increase of the joints flexibility. This increase of joint flexibility caused mechanical stimuli on the joint nociceptors so that the stimulus to the delta A and C were inadequate, while stimulation to nerve fibers beta A was adequate.

Transmission of nerve impulses from afferent fibers to the cells of transmission (T) in the dorsal horn of the spinal cord was modified by a gate mechanism in the cells of the gelatinous substantia (Price & Wilson, 2006). The stimulation to the nerve fibers beta A which was adequate stimulated neurons of the inhibitory gelatinous substantia so that the input to T cells (cell transmission) decreased, and it caused pain impulse barrier to the brain. Pain impulses block to the brain caused the decrease of the pain perception.

Human immune function underwent along with the aging. Aging also caused a decrease of cellular immune function in the elderly people, which caused the increase of inflammatory activity (Helle & Bente, 2000). The underlying mechanism was actually not widely understood, but it was possible the increase of the inflammatory activity of the thymus involution, cytokine dysregulation, dysregulation of apoptosis, and DNA damage caused by free radicals. Auto-reaction of proinflammatory cytokine dysregulation caused immune cells TNF α, IL-6, NK cells, and CRP, one of them was on the musculoskeletal system, therefore it increased the inflammatory response in the joints. In diseases such as arthritis, the joint pain occurred because the stimulus nociceptors due to the release of various biochemical mediators during inflammatory processes (Handono, et al, 2006). Physical exercise that

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involves muscle contraction by Helle Bruunsgaard 2005 can reduce inflammatory activity. A decrease in inflammatory activity is due to the regulation of proinflammatory cytokines.

The quality and quantity of the rheumatic exercise movements to the respondents in the treatment group also affected the results of this rheumatic exercise to decrease the joint pain. Rheumatic exercise activity lasted 12x meetings. There were 5 respondents who once skipped the exercise because of absence. The fourth respondent did not feel the joint pain during the post test, but one of the respondents experienced the decrease of pain intensity respectively 2 levels (from moderate pain to mild pain). It was explained earlier that during the exercise activity, there were some respondents who were not able to perform the rheumatism exercise movements correctly or improperly exemplified by researcher with a variety of factors. These factors such as: limited movements caused by lack of the respondents' motoric coordination, joint pain felt by respondents (especially the respondents who had joint pain severe or very severe) and can be caused by jarik (traditional woman's blouse) worn by respondents that could reduce the flexibility as moving. In addition, there were still some respondents joking or nor really focused during the process of the exercises that caused them lose their concentration in participating the rheumatic exercise, and degraded the quality of rheumatic movements they did. Various factors that caused rheumatic exercise training having no significant effect in reducing the joint pain in the elders of this study could be summarized as follows: the respondents of the treatment group did their activities which were classified as heavy/hard activity and probably still ate nuts or food containing coconut milk during the study that could aggravate the joint pain. The respondents of the control group performed the strenuous activities during the study which led to the increase of the intensity/joint pain level and had the possibility of taking herbs or medicines to reduce joint pain during the study without researcher's knowing, the quantity and quality of the treatment group during the activity of rheumatic exercise which was still not optimally maximum, so that the exercise gave no significant impact on the reduction of the joint pain.

Table 1
General Data of Elderly People at Village of Sudimoro, Tulangan, Sidoarjo

	Characteristic	Experiment Group		Control Group	
		Frequency	Percentage (%)	Frequency	Percentage (%)
	Sex				
1.	Male	3	17	4	22
2.	Female	15	83	14	78
	Total	18	100	18	100
	Age				
1.	55-59	12	67	9	50
2.	60-64	2	11	3	17
3.	65-69	2	11	3	17
4.	70-74	2	11	3	17
	Total	18	100	18	100
	Work				
1.	Housewife	15	83	13	72
2.	Other	3	17	5	28
	Total	18	100	18	100

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	History of Diet				
1.	Nuts and coconut milk	2	11	1	5
2.	Nuts	3	17	3	17
3.	None	13	72	14	78
	Total	18	100	18	100
	Exercise Activity				
1.	Walking	2	11	0	0
2.	None	16	89	18	100
	Total	18	100	18	100
	History of Taking Medicine				
1.	Yes	18	100	16	89
2.	No	0	0	2	11
	Total	18	100	18	100

Table 2

Measurement of joint pain in experiment group and control group pre and post intervention

Code	Experiment Group					Control Group				
	Pre	Level	Post	Level	Δ	Pre	Level	Post	Level	Δ
1.	8	Severe	6	Moderate	-2	3	Mild	5	Moderate	+2
2.	8	Severe	6	Moderate	-2	4	Moderate	2	Mild	-2
3.	8	Severe	6	Moderate	-2	5	Moderate	4	Moderate	-1
4.	6	Moderate	3	Mild	-3	3	Mild	3	Mild	0
5.	6	Moderate	4	Moderate	-2	8	Severe	8	Severe	0
6.	6	Moderate	3	Mild	-3	6	Moderate	6	Moderate	0
7.	5	Moderate	3	Mild	-2	2	Mild	2	Mild	0
8.	5	Moderate	3	Mild	-2	3	Mild	3	Mild	0
9.	2	Mild	1	Mild	-1	5	Moderate	6	Moderate	+1
10.	6	Moderate	3	Mild	-3	8	Severe	6	Moderate	-2
11.	2	Mild	1	Mild	-1	6	Moderate	6	Moderate	0
12.	3	Mild	1	Mild	-2	5	Moderate	4	Moderate	-1
13.	5	Moderate	2	Mild	-3	5	Moderate	6	Moderate	+1
14.	4	Moderate	2	Mild	-2	3	Mild	3	Mild	0
15.	8	Severe	5	Moderate	-3	3	Mild	3	Mild	0
16.	6	Moderate	3	Mild	-3	4	Moderate	3	Mild	-1
17.	4	Moderate	2	Mild	-2	2	Mild	2	Mild	0
18.	4	Moderate	2	Mild	-2	3	Mild	2	Mild	-1
Mean	5,6	Moderate	3,1	Mild	- 2.3	4,3	Moderate	4,5	Moderate	-0,2
Wilcoxon Sign Rank Test p=0,008						Wilcoxon Sign Rank Test p=0,480				
Mann Whitney Test p=0,125										

Conclusion

1. There was decreasing in joint pain level in treatment group after Rheumatic Exercise given.
2. There was effect of Rheumatic Exercise on reducing joint pain in treatment group.
3. There was no difference between treatment group and control group after Rheumatic Exercise.

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RELATIONSHIP BETWEEN STUDENTS' PERCEPTION ABOUT HIV/AIDS WITH THE STIGMATIZATION OF PEOPLE LIVING WITH HIV/AIDS

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ABSTRACT

Background: The disease of HIV / AIDS is increasing and it has not found a cure. The disease because of negative sexual behavior, drug users using needles infected with HIV, blood transfusions, babies born to positive mothers infected with HIV / AIDS. Many people who have negative perception will give a stigma for people living with HIV/AIDS (PLWHA). It also extended to the college community. This study aimed to identify the relationship between the students' perception about HIV/AIDS with the stigmatization of PLWHA. **Methods:** The total sample was 236 students with cross sectional study design and used chi square analysis. **Results:** analysis statistical value of p = 0.000 (α =0.05), which meant there was a correlation between students' perceptions about HIV / AIDS with the stigmatization of PLWHA. Further analysis found the value of OR = 5.844, which means that students who have positive perceptions about HIV / AIDS have the opportunity to give 5.844 times stigmatization for people living with HIV than students who have a negative perception. **Conclusion:** conduct advanced research with varying variables to explore the extent to which students have a good perception of HIV-AIDS sufferers will give stigmatization against PLWHA.

Keywords: Perception, students, HIV / AIDS, stigmatization, PLWHA

Introduction

Along with the development of science and technology are increasingly modern, people's living conditions are more difficult and complex. One recent problem is that the health impact, social, economic and political, namely HIV / AIDS (Human Immunodeficiency Virus - Acquired immunodeficiency syndrome). HIV is a virus that can spread from one person to another in a specific way and can affect and weaken a person's immune system AIDS is a collection of symptoms of diseases caused by the immune system (Djausi et al, in Padila).

The problem of HIV / AIDS is not only a national problem, but has also become a global problem. It is worthy of serious attention by each individual. In everyday life, social interaction within the community is very complex. We can see from people with HIV / AIDS who have different treatment, such as shunned, ostracized, discrimination (Hutapea, in Hermawati, 2011). All of these are related to one's perception of a problem, including the problem of HIV AIDS. According to Walgito (in Hermawati 2011) perception is a process that takes precedence by sensing. Sensing is a process of receipt of stimulus by the individual through the receiver i.e. sensory organs.

Individual circumstances may affect the results of one's perception. There are two sources that affect; physically and

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psychologically. If the psychological system is compromised, it will affect person's perception. While the psychological aspect is about the experience, feeling, thinking, motivation, it will affect one's perception. This phenomenon that stimulates and motivates the writers to understand and deeper examine the relationship between students' perceptions about HIV / AIDS and stigma for people living with HIV AIDS.

Methods

Data analysis was performed with univariate and bivariate analyzes. Univariate analysis was conducted to determine the characteristics of respondents included; age, gender, students' perceptions about HIV / AIDS and the stigmatization of PLWHA.

Results and Discussion

Univariate Analysis

Characteristics of respondents by age distribution of the average age of respondents in this study can be seen in Table below

Table 1
The average distribution of Respondents by Age in Atambua
March, 2015 (N = 236)

Variable	Mean	SD	Min-Max	95% CI
Age	20.98	2.854	17-34	20.62

Results of analysis showed that the age average of respondents was 20.98 year old (95% CI 20.62 – 21.35), with a standard deviation of 2.854. The youngest age was 17 year old and the oldest was 34 year old.

The average distribution by gender in this study can be seen in the following table.

Table 2
Frequency Distribution of Respondents by Gender in Atambua
March, 2015 (N = 236)

Sex	f	Percentage (%)
Male	55	23.3
Female	181	76.7
Total	236	100

Results of analysis showed that the proportion of respondents who are female was 76.7% (181 people) and male was 23.3% (55 people).

Perceptions about HIV / AIDS

Respondents' perceptions about HIV/ AIDS in this study can be seen in the following table.

Table 3
Respondents' perceptions about HIV/ AIDS in Atambua
March, 2015 (N = 236)

Variable	Category	f	Percentage (%)
Perception	Positive	129	54.7
	Negative	107	45.3
	Total	236	100

Based on the table 3 above, it can be seen that there was a variation in the perceptions of respondents about HIV AIDS, that is; 54.7% (129 people) of positive perception and 45.3% (107 people) of negative perception.

Stigmatization to people living with HIV

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Stigmatization against PLWHA by respondents in this study can be seen in Table 4 below

Table 4
Stigmatization to PLWHA in Atambua, March, 2015 (N = 236)

Variable Stigmatization	Category	f	Percentage (%)
	Yes	115	48.7
	No	121	51.3
	Total	236	100

Based on the above table it can be seen that 48.7% (115 people) gave stigmatization of people living with HIV, and 51.3% (121 people) did not give stigmatization against PLWHA.

Bivariate Analysis

Bivariate analysis aimed to determine the relationship between students' perceptions about HIV AIDS and the stigmatization of PLWHA. This analysis used chi square test for both the data has been categorized. The analysis of these two variables can be seen in Table 5.

Results of the analysis of the relationship between students' perceptions about HIV / AIDS and the stigmatization of PLWHA known that there were 79 people (73.8%) of respondents who had a negative perception, did not provide with the stigmatization of people living with HIV, and there were 87 people (67.4%) of respondents who have a positive perception gave bad stigmatization to PLWHA. Statistical test results obtained value of $p = 0.000$ ($\alpha = 0.05$), it can be concluded that there was a significant relationship between students' perceptions about HIV / AIDS and the stigmatization of PLWHA. Further analysis of the results obtained by the value OR = 5.844, which means that students who had positive perceptions about HIV / AIDS had the opportunity to give 5.844 times stigmatization for people living with HIV than students who had a negative perception.

Perception is a process that takes precedence by sense. Sensing is a process of receipt of stimulus by the individual through the receiver, i.e., sensory organs. Individual condition can influence the outcome of perception. There are two sources that influence a person's perception is related to the terms of a body / physical and psychological aspects. If the physiological system is compromised, it will affect a person's perception, while the psychological aspect is about experience, feelings, ability, thought, reference, and motivation which will affect a person’s perception (Walgito in Hermawati, 2011). Based on the results of a study of 236 respondents, respondents' perceptions about HIV AIDS were vary, 54.7% (129 people) of positive perception and respondents who have a negative perception about HIV AIDS are 45.3% (107 people).

Stigma is a defect or blemish on the character of someone. According to Merati in Hermawati, 2011, major societal stigma against people living with HIV / AIDS is due to HIV / AIDS infection "negative" connotes. An opinion states that 80% of the disease is transmitted through sexual intercourse, the rest are intravenous drug

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addicts, sex workers (prostitutes), wives who are contracted with the disease from her husband and mother who gave birth to HIV positive children. In short, people with HIV / AIDS is the interaction of people who have free sex, drug addicts, and violate the norms of religious and social.

Table 5

Relationship between student perceptions about HIV / AIDS with stigmatization of PLWHA March, 2015 (N = 236)

Variabel	Stigmatization to PLWH				Total	%	OR (95% CI)	P Value
	Yes	%	No	%				
Perception:								
Negative	28	26.2	79	73.8	107	45.3	5.844 (3.315 – 10.303)	0.000
Positive	87	67.4	42	32.6	129	54.7		
Total	**115**	**48.7**	**121**	**51.3**	**236**	**100**		

Based on the results of a study of 236 respondents showed that there were 48.7% (115 people) give stigmatization of people living with HIV, and 51.3% (121 people) do not give stigmatization against PLWHA. Results of the analysis of the relationship between students' perceptions about HIV / AIDS and the stigmatization of PLWHA known that there are 79 people (73.8%) of respondents who have a negative perception did not provide with the stigmatization of people living with HIV, and there are 87 people (67.4%) of respondents who have a positive perception give bad stigmatization to PLWHA. Further analysis of the results obtained by the value OR = 5.844, which means that students who have positive perceptions about HIV / AIDS have the opportunity to give 5.844 times stigmatization for people living with HIV than students who have a negative perception.

Researchers thought this is very unfortunate because those who have a positive perception are precisely to know and want to give stigmatism for PLWHA. Poor understanding of HIV / AIDS in the community needs to be minimized. When people, especially students give a negative stigma, then the burden will be even greater suffering. The people living with HIV should get serious attention and avoid from possibility to despair. Because the desperate that PLWHA could perform actions such as ending the life by suicide or other things that are not expected. Indeed discrimination against persons with HIV / AIDS not only violates human rights, but also did not prevent the spread of the HIV virus. Stigma and discrimination are both incarnated as a barrier handling the spread of HIV / AIDS. Many people think that HIV / AIDS should be shunned and unwanted presence anywhere.

Students who have a negative perception of the HIV AIDS will tend to give to the stigmatization of people living with HIV, but just the opposite. This has become a very contradictory finding. This finding becomes interesting, because it is precisely

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the group of students who have a positive perception of HIV-AIDS will increasingly provide the stigmatization of people living with HIV. Investigators assumed a group of students in this study represent a group of people. Although the findings in this study are very contradiction between perception and stigmatization, but investigators found information related to HIV-AIDS and stigmatization should be disseminated continuously to all walks of life so as more information is received, the campus community will be more 'understanding of the disease and its spread, and groups have a positive perception of HIV-AIDS patients will increasingly have a non-judgmental attitude to people living with HIV.

Results of this research were also in contradiction with some other researches. Ahwan (2012) in his research analyzed qualitatively to the Bangil community found that people tend to give stigmatization and discrimination against people living with HIV. This is because some of the things of which the first is the lack of public knowledge of the problem of HIV and AIDS, the second is: myths about HIV AIDS where it becomes a belief that hereditary growing community to stay away from people living with HIV for many reasons, and the third is: religious views, It is said that religion has a strong role against the views and patterns of human behavior.

Public perception of HIV AIDS including campus community should be changed. Referring to the results of Ahwan (2012), then the knowledge society should be improved in order to have good perception it would be a group of people who do not give stigmatization and discrimination against people living with HIV.

Conclusion

Based on the results of this study, it can be summarized as follows: (1) Respondents' perceptions about HIV AIDS are varied, that is 54.7% of respondents who have positive perception and 45.3% had negative perception about HIV AIDS. (2) A total of 48.7% of respondents gives stigmatization of people living with HIV, and 51.3% did not give stigmatization against PLWHA. (3) A total of 73.8% of respondents who have a negative perception did not provide to the stigmatization of people living with HIV, and there were 67.4% of respondents who have a positive perception give a bad stigma to PLHA. Statistical test results obtained by value p = 0.000 It can be concluded that there is a correlation between students' perceptions about HIV / AIDS with the stigmatization of PLWHA. From the results obtained by analysis of the value OR = 5.844, which means that students who have positive perceptions about HIV / AIDS have the opportunity to give 5.844 times stigmatization for people living with HIV than students who have a negative perception.

For further research, it is recommended to increase the number of samples to be more varied with emphasis on the category of adolescence.

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CLINICAL LEARNING METHOD, CARING BEHAVIOUR AND MOTIVATION AMONG NURSING STUDENTS

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ABSTRACT

Introduction: Caring behavior while conducting a holistic nursing care in clinical setting is important in nursing education, as it is the first place for nursing students to learn about the most significant values and essence of their profession. Motivation and clinical learning method are two factor driving prior to the caring behavior. This study was aimed to determine the correlation between clinical learning method conference with motivation and caring behaviour of nursing students in clinical practice. **Methods:** This was a cross sectional research. The population was nursing student on 3rd year. The sample were 25 nursing students who was in third year, taken by simple random sampling. The independent variable was a clinical learning method conference. The dependent variable were motivation and caring behavior. Datas were collected by using questionnaires and observation. Analysis of datas used Spearman rho tests at significance level of $p < 0.05$. **Results:** Interestingly, the results showed that there were a positive correlation between clinical learning method conference with motivation (p=0.020, r=0.462), and also for motivation with caring behavior (p=0.030 and r=0.434), while in other hand clinical learning method conference with caring behavior was negative (p=0,062). **Conclusion:** In conclusion, there is a relationship between clinical learning conference method with the motivation and the relationship between motivation and caring behavior of students. Future research are expected to be able to examine other factors that could affect the motivation and caring behavior in students.

Keywords: clinical learning method, conference, motivation, caring behavior, nursing students

Introduction

The needs of health care services including nursing care will continue to increase both in quality and quantity. Nurses in carrying out their roles and responsibilities are required to have the knowledge, skills, and also a good attitude to be able to support acts of professional behavior (Irawaty, 2009). A nurse in performing the nursing care have to conduct a holistic nursing care services. Caring is an important element in conduct a holistic nursing care. Caring is an ability to dedicated for others, be alert observation and monitoring, demonstrate a attention, feelings of empathy for others and feelings of cherish that is all the essence of nursing (Potter & Perry, 2005).

Faculty of nursing Universitas Airlangga (in Surabaya-Indonesia) introduce caring by entering a practical learning experience program that called PBP (*Pengalaman Belajar Praktika*) in the curriculum as an initial experience for nursing student in clinical practice. Caring behavior in clinical practice and in nursing education

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generally is a crucial to be introduced to nursing student as it is the first place for students to learn about the essence of their profession (Begum & Slavin, 2012).

Learning methods in clinical settings aims to introduce nursing students to what would be their job in facts, and also to develop the skills that they've learned at academic level to be practiced in the clinic. Initial studies were conducted on December 6, 2014 to 10 nursing students by interview. 4 students said that they are motivated to become a nurse because they have a perception that nursing is a noble profession so that after graduating from high school they get into the nursing school and while PBP (*pengalaman belajar praktika*) they can provide the sense of caring for the patient; while 6 other students are motivated to become a nurse because of their parent want they do, and they do caring for a complete record of nursing care when PBP. For learning motivation, 7 students said that they were motivated to learn only when facing examination, while 3 other students said that they were motivated to learn every day as if studying hard will eventually make a professional nurse.

Griffin divide the concept of caring into two main domains. One is related to the nurse's attitudes and emotion, while the others focused on nurse activities while carrying out nursing roles. Griffin describe caring in nursing as an essential interpersonal process that requires spesific nursing role activities in a way to convey expressions of specific emotions to recipients, such as helping and serving people who have special needs. This process is influenced by nurse-patient relationship (Nindya, 2014). Moreover, Gibson (1987) explains there are three factors will influence the behavior and personal performance, are individual factors, psychological factors, and organizational factors. In this case, motivation is a part of psychological factor that affects a person's behavior.

Wolf, et al, (2003 in Simarmata, 2010) states in his research that patients expect nurses provide an excellent nursing care with caring behavior. Felgen (2003 in Simarmata, 2010) also states that the patient or consumers of health care center expects that nurses have caring behavior in providing health services. Caring is an element that must be shown by nurses and is one indicator of patient satisfaction.

Nurses must be able to serve patients with heart and requires a willingness to care for others, intellectual ability, emotional, technical and interpersonal skills that are all reflected in the caring behavior, so that nurses are able to act proactively, assertive, able to communicate effectively, not emotional and be patient when facing patients (Princess, 2013). Nursing care activities influenced by external and internal factors. Internal factors consist of personal physical and psychological condition, for example is individual health states; while psychological conditions are motivation and interests. In addition, external factors are the work environment, salary, and leadership (Harahap, 2010). This research was aimed to identify correlation between clinical learning method wit motivation and caring behaviour among nursing students in Faculty of Nursing Universitas Airlangga.

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Methods

This research was a correlational design with cross sectional approach. It was conducted on May - June 2015. The population in this study is regular nursing student on 3rd year. The number of samples was 25 respondents, taken using simple random sampling. The independent variable is the clinical learning method conference. The dependent variable is motivation and caring behavior. Data were collected through questionnaires and observation. The collected data were analyzed using the Spearman rho test at significance level $p \leq 0.05$.

Results and Discussion

Analysis of research datas and statistical tests Spearman rho showed the results as follows:

Table 1

Distribution Frequency of Clinical Learning Method Conference and Learning Motivation Among Nursing Student

Motivation	Clinical Learning Method Conference	
	Yes	No
Low	0 (0%)	0 (0%)
Moderate	7 (28%)	3 (12%)
High	15 (60%)	0 (0%)

According to table 1, more than half of respondents (60%) were followed a clinical learning method conference and had a high motivation on practical learning. Interestingly, there were also 3 respondents (12%) didn't followed conference and showed motivation in moderate level. So that, statistical test showed there was a positive correlation between clinical learning method conference with students motivation.

Thornburg learning theory (1984) says that there are four components that would affect a personal performance and output, (1) the expected output, (2) raw input, (3) instrument input, and (4) environmental input. In this situation, clinical learning method conference as a part of instrument input. Moreover, according to the theory, raw inputs (nursing students) and environmental inputs (clinical instructors both clinical nurses and academic educator) play a role as facility provider and also to determine the attitude of students. According to Chapman and Orb (2000) clinical education is an activity about consolidating learning experience that is really crucial and so that need a support and facilities. Support and guidance from clinical instructors will allow students to integrate all the knowledge that has been gained in the class into real experience of nursing care in the clinical setting. Researcher has identified that the learning method was one of key of success to gained the expected output. In fact, there is no single learning method really fit and perfect for nursing student than others. Each clinical learning method has advantages and weakness itself. Learning method

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conference in Faculty of Nursing Universitas Airlangga has 3 components, are pre-conferences, reviews, and post-conference that conducted at the beginning, in the middle, and at the end of clinical practical session. In this process, conference also discussed about the difficulties during practices and also the solutions. Interestingly, along with the conference process, students would be motivated to learn and find others learning resources or references that can enhance their knowledge and experience, so that they would able to solve patient health related-problems.

Table 2

Distribution Frequency of Clinical Learning Method Conference and Caring Behaviour Among Nursing Students

Caring Behaviour	Clinical Learning Method Conference	
	Yes	No
Less	4 (16%)	0 (0%)
Fair	19 (76%)	3 (12%)
Good	2 (8%)	0 (0%)
p=0,062		

Based on table 2, most respondents (22 students) had caring behaviourat at fair level and 19 of them have attended conference. There were only 2 students that had good caring behaviour. In addition, statistical test showed there was a negative correlation between clinical learning method conference with caring behaviour among students.

According to the researcher's observation, there were internal and external factor that could affected caring behavior and student's performance during clinical practice (PBP). The internal factor were (1)student's experience met the patient as it is first time for student, (2) understanding of the case, task and assignment, (3) responsibility and also a will that doesn't want to do further harm on patient, (4) a desire to help the patient, and (5) a desire to be a good nurse. While the external factor were (1) unexpected patient's response, (2) the gap between theory and practice, (3) the new environment of clinical practice, (4) limited resources and facilities, (5) the specific competencies that must be achieved, and (6) clinical learning methods that was used.

In fact, most students who did not read the clinical learning proposal carefully could not performed caring behavior, because they did not understand the competencies which should be gained. In addition, clinical learning method conference could not be implemented completely in clinical. Hospital has regulations that had affected the student's performance and behavior. For example, hospitals had the authority to restrict academic supervisor for not always accompany the student when clinical practice neither clinical supervisor could do, so that the conference process in the middle of clinical practice couldn't be

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runned by academic supervisor. This situation brought student to the more stress learning situation, which they must faced the patient and family by themself while in the other hand they were feel still nervous, didn't sure on their skill and knowledge, and unconfident on their performance.

Table 3
Distribution Frequency of Learning Motivation and Caring Behaviour Among Nursing Students

Caring Behaviour	Motivation		
	Low	Moderate	High
Less	0 (0%)	4 (12%)	1 (4%)
Fair	0 (0%)	7 (28%)	11 (44%)
Good	0 (0%)	0 (0%)	2 (8%)
	p=0,030 r=0,434		

Based on table 3, there were only 2 students had high motivation and also performed good caring behaviour. Otherwise there was 1 student had high motivation but performed less caring behaviour. In addition, statistical test result showed that there was a postive correlation between caring behaviour and students motivation. According to this result, a previous research conducted by Wijaya (2014) also showed that motivation influence caring behavior among nursing students in their last year.

Irwanto (2004) stated motivation as the energizer of behavior and as determinants of behavior. In addition, theory of motivation McClelland state that motivation itself consists of three sections, (1) need for achievement, (2) need for power, and (3) need for affiliation. In the other hand, theory of caring Swanson stated that caring consist of five components: (1) maintaining belief, (2) knowing, (3) being with, (4) doing for, and (5) enabling.

According to the datas, it was found that the 3 sections of motivation have correlation with caring behaviour based on Sawanson theory. Students who have a high need for achievement (2 respondent) had performed a good caring in up to 4 components (maintaining believe, knowing, being with patient, and doing for) while 5 other students who had high need for power had performed a better caring behaviour in up to 2 components (maintaining belief and being with). In addition, 7 students who had a high need for affiliation had performed a better caring behaviour in up to 2 components (maintaining belief and knowing).

In fact, there was only 1 student (respondent 8) who has a high motivation but performed less in caring behaviour. Based on data, this respondent had high motivation in only in 2 sections (need for power and need for affiliation) but had lower need for achievement, as it was his performance not good. High need for achievement, need for power, and also need for affiliation, makes students do

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more effort in order to gain success in clinical practice, such as prepare well in knowledge, attitude, and skill before meet the patient; tends to relate well each other as a colleague; and respect to the patient and others. So that they tend to be able to maintain patient's trust and more readily to attend for the patient.

Conclusion

There were a positive correlation between (1) clinical learning method conference with nursing student's motivation; and (2) caring behavior and nursing student's motivation in clinical practice. However, clinical learning method conference had no relationship with caring behavior of nursing students in clinical practice.

It is important for nursing students to get a well preparation before entering the clinical practice, so that it can improve their learning motivation and will lead to a good caring behaviour. In addition, it is needed a further research to investigate more about caring behaviour, such as a descriptive explorative study about caring behaviour including all factors that can affect it, and also an experimental study to find out how to improve caring behaviour, especially for nursing students.

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THE INFLUENCE OF PREDISPOSING FACTORS, ENABLING AND NEED TO THE UTILIZATION OF THE NATIONAL HEALTH INSURANCE WORKERS AT PT MAJU JAYA POHON PINANG 2014

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ABSTRACT

Background: The national health insurance is an insurance in the form of health protection in order for help participants to benefit health care and protection in the basic needs of health that given to any person who has paid dues or contributions paid by the Government. PT Maju Jaya Pohon Pinang is company that is in between participant the health maintenance insurance (JPK) PT.Jamsostek has now became participants of the national health insurance (JKN). **Methods:** This is explanatory research which aimed to explain the influence of predisposing factors (knowledge, attitute, perception) enabling (distance/location primary health facilities) and the needs (health condition) of National Health insurance utilization at PT Maju Jaya Pohon Pinang 2014. The population was workers who are participant of JKN at PT Maju Jaya Pohon Pinang sample of 67 people were taken with the total sampling techniques (the whole population). The Data were analyzed by using multiple logistic regression test at $\alpha = 0.05$. **Results:** The results showed that the variables which affect the utilization of national health insurance were health condition and attitude. Knowledge, perception, and distance/location primary health facilities variables did not have influence on the utilization of national health insurance PT Maju Jaya Pohon Pinang. **Conclusion:** Expected to Health as the organizer of the BPJS health insurance to provide socialization about JKN to all workers who are participants. The company has expected to participate in providing information to workers so as to increase knowledge and utilization of JKN by workers.

Keywords: Predisposing Factors, Enabling, Need, National Health Insurance

Introduction

Health is human right and one of the elements of well-being that should be realized in accordance with the ideals of the nation of Indonesia as stipulated in the Pancasila and the Constitution of the Republic of Indonesia 1945. Health development aimed to raise awareness, willingness, and ability to live a healthy life for every the degree of public health in order to realize the highest, as an investment for the development of human resources socially and economically productive (UU 36 of 2009).

Health maintenance insurance (JPK) is one of the social security program organized by PT Jamsostek that help workers and their families coped health problems. Started of services in prevention, health clinics, hospitals, the need for knowledge enhancement tools, and treatment effectively and efficiently (UU 3 of 1992 about Jamsostek).

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Less availability of social insurance for the majority of workers in Indonesia is one of the biggest challenges that faced in this country. It is important that faced by most workers in Indonesia is the lack of protection, either in the form of social insurance employment, pension, included allowances to various risks, such as illness, accidents, and death (Agusmidah, 2010).

The Government of Republic of Indonesia had committed to provide complete protection for the people of Indonesia who have poured in UU No. 40 of 2004 on National Social Insurance System (SJSN). The mandate to implement the law, particularly health insurance had been given to PT.ASKES (Persero) which is then designated as the Social Insurance Agency (BPJS) Health as of January 1, 2014, as stated in UU No. 24 of 2011.

Health insurance is insurance in the form of health protection for participants to benefit health care and protection to meet basic health needs are given to every person who has paid dues or dues paid by the government. This insurance was called the National Health Insurance for all residents of Indonesia must became the participant of health insurance managed by BPJS including foreigners who have worked a minimum of six months in Indonesia and has paid their dues (Ministry of Health, 2013)

PT Maju Jaya Pohon Pinang is one company that lists its workers following the JPK program organized by PT Jamsostek. With UUD 1945 24 Year 2011 on BPJS, the JPK PT Maju Jaya Pohon Pinang directly had been a participant JKN. PT Maju Jaya Pohon Pinang registered as many as 67 workers as participants JKN.

Based on a preliminary survey that researchers did to the five workers of PT Maju Jaya Pohon Pinang, it is known that: (1) Workers who had obtained a card JKN not get the socialization of the health insurance providers; (2) Three of the five workers had been utilizing the national health insurance. Two workers have still not satisfied will utilize health services that they could be due to medications that are less complete and less hospitable service personnel so that they did not agree with the turn of JPK be JKN; (3) Two workers who had never used a national health insurance had a poor perception of the health care that they can. Due to primary health facilities that they can at the same JKN with health facilities that previously they had been treated.

Based on statements above, the authors interested in doing research on whether there are influence of predisposing factors (knowledge, attitudes, perceptions), enabling factors (distance / location of primary care facilities) and needs (health condition) on the utilization of the National Health Insurance by workers at PT Maju Jaya Pohon Pinang 2014.

The Benefits of research were as input for the company in an effort to improve understanding of the workers of the National Health Insurance, and encourage the use of JKN by workers as an input for health agencies, especially Health BPJS as the organizer of the National Health Insurance. As the development of science, especially in the field of administrative sciences and health policy as well as reference material for the next researcher who also investigated the same problem so it can be used as a comparison.

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Methods

The type of research conducted is a survey research with the type explanatory research that aimed to explain the influence of predisposing factors (knowledge, attitudes, perceptions), enabling factors (distance/ location of primary care facilities), and needs (health condition) workers on the utilization of national health insurance in PT Maju Jaya Pohon Pinang 2014 (Singarimbun, 1995). The location of this research was at PT Maju Jaya Pohon Pinang. This research was conducted on August to September 2014. The population in this study was all workers at PT Maju Jaya Pohon Pinang which is JKN participants numbered 67 people, using total sampling as 67 people. Methods of collecting data in this study, gotten of 2 resources are primary data were collected through questionnaires given to the workers and secondary data were obtained from a sample study participants JKN workers in the form of data.

Results and Discussion

Results obtained by using univariate, bivariate, and multivariate analyzes.

The univariate analysis

Table 1

The Distribution Category of Respondents Knowledge

No	Respondents knowledge	Amount (person)	Percentage (%)
1	Good	11	16,4
2	Less	56	83,6
	Total	67	100

Univariate analysis showed that the distribution of respondents based on the respondents knowledge about JKN, showed that most respondents with less knowledge category is as much as 83.6%.

Table 2

The Distribution Category of Respondents Attitude

No	Respondents attitude	Amount (person)	Percentage (%)
1	Good	57	85,1
2	Less	10	14,9
	Total	67	100

Table 2 showed that the attitude of the respondents with a good attitude category that is as much as 85.1%.

Table 3

The Distribution Category of Respondents Perception

No	Respondents perception	Amount (person)	Percentage (%)
1	Good	60	89,6
2	Less	7	10,4
	Total	67	100

At the perception variables, showed that the perception of respondents with a good perception category that is as much as 89,6%.

Table 4

The Distribution Category of Distance Location of Primary Health Facilities

No	Respondents perception	Amount (person)	Percentage (%)
1	Near	49	73,1
2	Far	18	26,9
	Amounts	67	100

At the variable distance /location of primary health facilities, showed that as many as 73.1% were in near category.

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Tables 5

The Distribution Category of Health Conditions

No	Respondents perception	Amount (person)	Percentage (%)
1	Less	62	92,5
2	Good	5	7,5
	Total	67	100

In the health condition variables, showed that the health conditions with less category as many as 92.5%.

The bivariate analysis

Based on cross-tabulation between independent variables and the dependent variable showed that the variables of knowledge, of the 11 respondents with good knowledge, as many as 10 respondents (90.0%) who utilized JKN, and one respondent who did not want to utilize JKN. While the 56 respondents with less knowledge, as many as 51 respondents (91.9%) who wanted to take advantage of JKN and 5 respondents (8.9%) were not. Results showed that the attitude variable of 57 respondents with a good attitude category by 55 respondents (96.5%) wanted to utilize JKN and 2 respondents (3.5%) did not want to utilize JKN. while 10 respondents with less attitude category, as many as 6 respondents (60%) are willing to utilize of JKN and 4 respondents (40%) who did not want to utilize JKN.

The results showed that the perception variable from 60 respondents with good perception categories, as many as 57 respondents (95.0%) who wanted to utilize JKN and 3 respondents (5.0%) who did not want to utilize JKN. While the 7 respondents with less perception categories by 4 respondents (57.1%) who wanted to utilize JKN and 3 respondents (42.9%) who did not want to utilize JKN.

The result of variable distance / location of primary health facilities showed that of 49 respondents to the categories of distance/location primary health facilities near 48 respondents (98.0%) who wanted to utilize JKN and 1 respondent (2.0%) did not want to utilize JKN. While the category of distance/location of the primary health facilities far, of 18 respondents as many as 13 respondents (72.2%) who want to utilize JKN and 5 respondents (27.8%) who did not want to utilize JKN.

The result of health condition variable indicated that of 62 respondents to the category health conditions is less, as many as 59 respondents (95.2%) want to utilize JKN and 3 respondents (4.8%) did not want to utilize JKN. Meanwhile, from 5 respondents with good health condition categories, as much as 2 respondents (40.0%) who want to utilize JKN and 3 respondents (60.0%) who did not want to utilize JKN.

Table 6

Result of Chi-Square Test

No	Independent Variables	B	Sig	Exp (B)
1	Attitude respondents	3,11	0,012	22,416
2	Perception respondents	20,454	0,997	7,641E8
3	Distance/ location of primary health facilities	2,486	0,062	12,010
4	Health condition respondents	3,625	0,010	37,515

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Based on the above table, the variables attitude, perception, distance /location of primary health facilities and health conditions had a significant related with the utilization of JKN. Based on the test results of chi-quare, variable attitudes, perceptions, distance /location of primary health facilities and needs have ρ value <0.25 so it can be entered into the multivariate analysis.

The Multivariate analysis

Table 7

Multiple Logistic Regression Analysis

No	Independent Variables	ig	Information
1	Knowledge respondents	1,000	No related
2	Attitude respondents	0,004	Related
3	Perception respondents	0,013	Related
4	Distance/ location primary health facilities	0,004	Related
5	Health condition	0,004	Related

Based on the results of the multiple logistic regression confidence level α = 0.05, indicated that the attitude variable (ρ value = 0.012) and health conditions (ρ value = 0.010) had a significant impact on the utilization of JKN. While the perception variable (ρ value = 0.997) and the distance/location of primary health facilities (ρ value = 0.062) showed did not have a significant impact on the utilization of JKN with ρ value> 0.05.

Logistic regression equations were formed as follows:

Y = -4.119 (constant) + 3,625X1 + 3,110X2

Conclusion can be drawn:

1. If the health condition of the points raised, then use JKN will rise by 3.625 times, meaning that respondents who have health conditions that are less good will utilize JKN 3 times greater than that having good health.
2. If the attitude is increased by one point, then use JKN will rise by 3,110 times, meaning that respondents who have a good attitude will utilize JKN 3 times greater than the respondents who have a poor attitude.

Variables Affected the Utilization of JKN

Attitude

Results of multiple logistic regression test showed that the attitude variables have exhibited significantly influence the utilization JKN (ρ = 0.012 <0.05). This suggests that a good attitude of employees affect the use of good results.

Based on respondent attitudes about diversity JKN which then causes the respondents had a good attitude and a lack of the use of JKN. However, although the category of respondents' attitude was good, there are still many undecided stance on respondents associated with JKN. This is because there is still a lack of confidence and knowledge of the respondents about JKN.

Based on the results of interviews with respondents note that workers considered that JKN is an obligation of all citizens so as participants JKN, workers feel obliged to follow the rules stated in JKN. Despite complaining of respondents associated their lack of information may however, not cause them and then do not want to utilize JKN.

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Health Conditions

Results of multiple logistic regression test showed that the variables of health conditions have a significant impact on the utilization of JKN (ρ = 0.010 <0.05). These results indicated that the unfavorable conditions of health workers, the better utilization of its JKN. The results were consistent with research conducted by Budiarto (1993), the analysis of health needs will demand health care clinics in Mojokerto regency where the variable needs of a decisive variable in the utilization of health centers in both rural and urban.

Variables did Not Affect Utilization of JKN

Perception

Lack of knowledge about an object or thing will affect the interpretation of the object. In this case, the lack of knowledge about JKN workers can have an impact on poor perceptions of workers about health care that they can as participants JKN. However, this did not correspond with the results of the cross tabulation showed some workers have less knowledge about JKN yet had a good perception of the use of JKN.

Distance / Location Primary Health Care Facilities

Based on cross-tabulations showed that of the 49 respondents with category distance/ location primary health care facilities close and easy to reach as many as 48 respondents who use JKN, while one respondent who did not utilize of JKN. This showed that the closer / accessibility of the location of health facilities to the residence, the higher the utilization JKN. There is one category of respondents with distance / location of the primary health care facilities close but no avail, due to the respondents did not want to get health services on primary health care facilities such as health services provided unsatisfactory respondents. While 18 respondents category of distance/location primary health care facilities remote and difficult to reach as many as 13 respondents who use JKN, while as many as five of the respondents who did not use JKN.

The results were consistent with Ida's study (2014) which stated that there was no significant related between the affordability of health facility location on the utilization of health centers 24 hours.

Knowledge

Many workers who did not know what benefits they can gain, health care whatever is borne BPJS Health and not a few workers who did not know how many contributions they have to pay each month and the rights of those who could choose to move primary health care facilities in accordance with their wishes too there were still many who did not know. Lack of knowledge workers will JKN, what is the procedure to obtain health care, the benefits they will be due to the lack of socialization given to workers from the company or the organizer JKN namely BPJS Health.

This is not in accordance with the theory that knowledge of factors affecting the value of the importance of health. A person with high knowledge tended to have a higher demand. Higher knowledge tends to raise awareness of the health status and the consequences for the use of health services by showing through the attitude towards the utilization of health services. Higher knowledgeable society considers important health value, so it will consume more health services than people whose knowledge is lower (Joko 2005 in Laji, 2012).

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Utilization of JKN
In the existing provisions on JKN, worker wage earners were obliged to pay a fee of 0.5% plus the contributions paid by the employer of 4% which family members are dependents as many as five people, including workers. As for other family members outside the nuclear family, the workers subject to a surcharge of 1% of salary or wage per month paid by the employer.

Based on interviews I had done to the staff of HRD, it is known that the company pays dues which it is responsible of 4% for each worker, while workers took pay contributions of 0.5%. 4% fees paid by the company were included in the dependent family members of workers, so the company / employer only pay 4% for each worker. Therefore, the labor costs of 0.5%, workers and family members had been able to take advantage of JKN to get better health services needed drug services or services of preventive, promotion, curative and rehabilitative.

Based on respondents' reasons distribution table JKN utilization, it is known that the reason respondents want to utilize JKN due largely to offset the cost of the treatment as many as 28 respondents (41.8%). Respondents were participants JKN, the middle and lower workers in the company, in the field of production, logistics, security, and engineering. Therefore, all respondents enrolled in the treatment of class II at JKN, where the average salary of respondents less than 2.000.000 IDR. While on the upper middle employees such as managers did not participate as a participant JKN.

Based on an interview I had done, not all workers participate in JKN, because in addition there were some workers who were still new to the upper middle class workers, not included in JKN, but will participated into other health insurance. Therefore, the respondents felt helped by a participant JKN because it can alleviate medical expenses to be incurred.

In JKN provisions, JKN provides many benefits to the participants, either in the form of preventive health services, promotion, curative and rehabilitative services and drugs and medical consumables. One of the services is insurance on JKN were individual health counseling, basic immunization, drug services etc. Such as dialysis services, which will continue to be given to participants JKN for participants still needed in accordance with the medic indications. Therefore, JKN considered alleviating the cost of treatment by the respondent. Moreover, the reason is because the respondents utilize JKN pay dues. Workers feel contribute by paying dues JKN, so did not want to miss the opportunity to utilize JKN if the respondent and family members in need of care.
The third reason respondents utilized JKN because it did not have other health insurance by 8 respondents (11.9%). Based on the research I had done, it is known that all respondents have no health insurance other than JKN they have. So as to obtain health care, respondents can only use JKN cards they have. Reasons to-four respondents utilize JKN want to use the facilities because there are as many as six respondents (9.0%).
The fifth reason, the respondents want /did not utilize JKN feel due care and quality of drugs that are less good. This proved that

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there is dissatisfaction that is felt on the respondents never used JKN because the respondents felt the service and quality of drugs that are less good. In accordance with the provisions of the Minister who has set about the provisions of existing drugs in JKN. Workers who did not know that the provision of drugs given to participants JKN, consider the quality of a given drug is not good and is not in line with expectations so that they did not want to utilize of JKN. Information was not known to the workers because of lack of socialization of the organizers to the workers about JKN. The sixth reason, the respondents did not use due JKN never get sick, so the respondents never used JKN.

Conclusion

Based on the results of research and discussion, the conclusions are as follows that bivariate test results in this study showed that the degree of trust of 95%, predisposing factors (attitudes, perceptions), enabling factors (distance/location of primary health facilities) and needs (health) had a relationship with the utilization of JKN at PT Maju Jaya Pohon Pinang, while the knowledge variable had no related with JKN utilization. The results of the multiple logistic regression analysis showed that there was a significant related between the variables attitude and health conditions of workers on the utilization of JKN at PT Maju Jaya Pohon Pinang 2014.Variable perception and distance/location of the primary health facilities did not have a significant impact on the utilization of JKN by workers at PT Maju Jaya Pohon Pinang 2014.

Expected to companies, in order to provide complete information about JKN to workers so as to improve the understanding of workers and improve labor utilization by JKN. For workers with primary healthcare facilities that did not conform to the domicile of the workers, it is suggested to the company to be able to shift to primary health care facilities in accordance with shelter workers so that workers access to health facilities within easy reach.

For BPJS Health JKN as party organizers in order to provide socialization to all participants JKN not only through the electronic media but also to socialize directly to workers, so workers as participants can better understand JKN about JKN.

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THE FACTORS RELATED PRODUCTIVITY OF NURSES IN INPATIENT UNIT OF CIBINONG HOSPITAL 2014

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ABSTRACT

Background: Intense competition of human resources (HR) in particular is perceived by hospital nurses. Variables that can measure labor productivity are motivation, the level of income, the work environment, the opportunity of achievement, management and nutritional status. The importance of labor productivity for nurses is to evaluate candidates to perform continuous improvements to all components of hospital, improving the quality of the work by the hospital. This study aimed to determine the factors associated with work productivity among nurses as a basis for measuring the perception of nurses regarding labor productivity. **Methods:** Measurements in this study consisted of 6 factors to the overall question amounted to 91 items. All 6 of these factors; (1) motivation; (2) income; (3) work environment; (4) opportunity of achievement; (5) management; and (6) nutritional status. This is a quantitative study with cross sectional approach. The total sample was 59 nurses collected by stratified random sampling method. **Results:** Study results showed the nurse who had unfavorable labor productivity was 29 nurses (49%), while nurses who had fairly good job productivity was 30 people (51%). Variables related with work productivity nurses are motivation, achievement opportunity and management. **Conclusion:** The suggestions given are to conduct internal training and brainstorming activities, holding nurses excel, create forms and reports evaluating nursing activities. Then it is advisable for nurses are: fill out the form report nursing activities, actively participate in internal training and follow the brainstorming activity.

Keywords: Motivation, opportunity of achievement, Nurse working productivity.

Introduction

Cibinong Hospital is the largest hospital among Bogor district hospitals so that a referral center for the entire region in the district of Bogor. Based on secondary data performance achievement nurse in inpatient hospitals Cibinong less than 50 % (whereas 70 % Ministry of Health standards). It is also recognized by the head of the nursing committee states the performance of nurses in the inpatient unit is less than 50 %. Based on preliminary studies were conducted on 10 families of patients in the inpatient unit, seven of them are not satisfied with the performance of nurses in the inpatient unit due to the frequent occurrence of delays in the handling of the infusion.

In addition, based on a preliminary study conducted by researcher to nurses in inpatient unit stated of 15 nurses in the inpatient rooms, 8 of them said low opportunity achievement for nurses in inpatient unit. Based on preliminary studies it can be concluded that the factor of motivation, achievement opportunity and management are important to be studied because they are related to labor productivity. Therefore, researchers

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wanted to examine “The Factors Related Productivity of Nurses in Inpatient Unit of Cibinong Hospital 2014”.

METHODS

This type of research is included in the quantitative research with cross sectional study design. Population used around the nurses who work in Cibinong Hospital inpatient unit in 2014 of 120 nurses. This study used a technique stratified disproportionate random sampling strata used Lovin formula. More detailed population and the number of samples in outpatient unit Cibinong Hospital, as shown in the following table:

Number of Nurses Inpatient Cibinong Hospital 2014

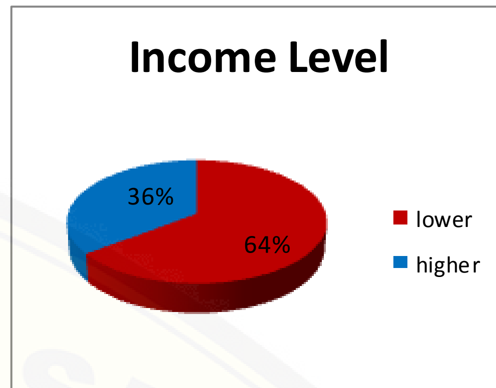
Inpatient Unit	Total Population	Total Sample
Anggrek 1	25	12
Anggrek 2	14	7
Dahlia	9	5
Cempaka	9	5
Flamboyan	11	5
Rafflesia	19	9
Seruni	21	10
Bougenvil	12	6
Total	**120**	**59**

RESULTS

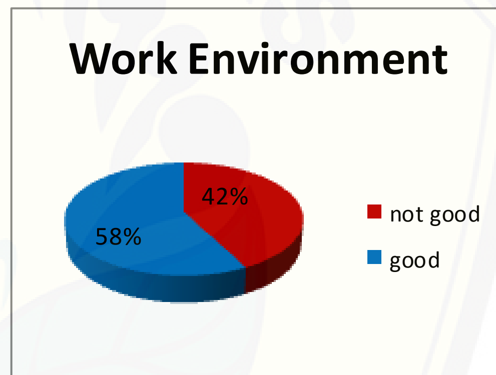
The following research results are presented in chart form:

Distribution General Motivation in Inpatient Cibinong Hospital 2014

Distribution General Income Level in Inpatient Cibinong Hospital 2014



Distribution General Working Environment in inpatient Cibinong Hospital 2014



Distribution General Achievement Opportunity in Inpatient Cibinong Hospital 2014

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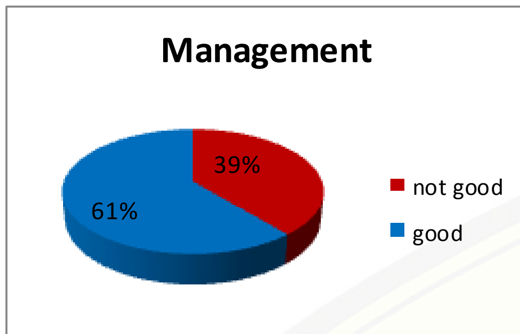
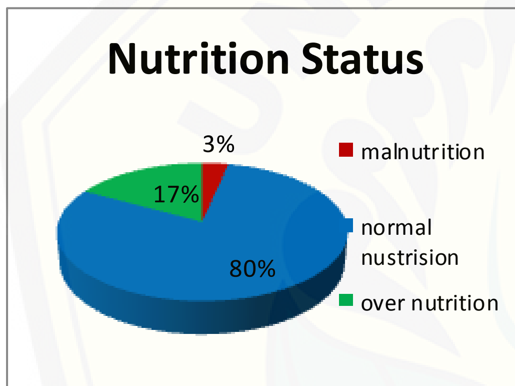
Distribution General Management in Inpatient Cibinong Hospital 2014



Distribution General Nutrition Status in Inpatient Cibinong Hospital 2014



According to Sedarmayanti (2009), in his book Human resources and labor productivity, the philosophy and spirit of the productivity of labor has existed since human civilization since the meaning of productivity is the desire (the will) and effort (effort) people to always improve the quality of life and livelihood in all fields. According to Sedarmayanti (2011) productivity is the mental attitude (attitude of mind) that have a passion to make improvements to repair. Labor productivity is largely dependent on the attitude (attitude) and only on our own as a society can realize the right attitude and just ourselves as a society can realize the right attitude (Bertens , 2008).

Assessment indicators used to measure productivity is the achievement of goals, creativity , level of service and feedback (Hakim, 2009). Based on the research results obtained picture univariate nurses who have poor labor productivity by 29 (49%) of 59 nurses. This is evidenced by the results of the univariate study obtained 100% in the inpatient unit management of dahlias have poor management. This is consistent with research (Carnadi, 2010) that the productivity of the working poor more than the labor productivity is quite good.

Although the results of research in Cibinong Hospital declared (51%) of 59 nurses who have a fairly good productivity but (49%) out of 59 nurses have poor productivity. This is because based on the results of the univariate study found (39%) out of 59 nurses have low motivation, (64.40%) out of 59 nurses have a low income level, unfavorable work environment as much as (42.37%), less good chance of achieving as much as (42.37%), (39%) had poor management and (3%) of the 59 nurses have less nutrition. This is in line with Sedarmayanti (2011) that the factors that affect the productivity of labor are the motivation, the level of income, working environment, an opportunity of achievement, management and nutritional status.

In accordance with the theory from Triantoro (2005) if the reward is felt less, dissatisfaction will emerge. If dissatisfaction is protracted, the motivation

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to work will decrease, as a result of labor productivity will also decrease. Powered by theory Hasibuan (2010) the motivation of nurses will be pushed out of the work environment. If the work environment support, then there will be a desire nurses to perform their duties and responsibilities. This desire will then lead to the perception of nurses and nurse creativity embodied in the form of action. Labor productivity is more than just science and technology management techniques, but it contains the philosophy and attitude that is based on strong motivation for continually trying to achieve a better quality of life to the IV Congress of world productivity in Oslo Norway in Emanuel 1998).

Reinforced with Sedarmayanti theory (2009) said that people who have the attitude compelled to become a dynamic, creative, innovative, and open, but critical of new ideas and changes. Labor productivity is not solely intended to get as much work, but the quality of work is also important. As disclosed that the productivity of the individual can be assessed and what is done by the individual in his work. Productive person will illustrate the potential, perception and creativity continue to contribute its ability to benefit themselves and the environment (Sedarmayanti , 2009).

Productivity culture is defined as the totality of consciousness thoughts, feelings, attitudes, and beliefs underlying, moving, directing, and gives meaning to the whole behavior and productive processes in a production system (Sinamo in Kartikasari, 2008). According to Mulianto (2006) there are some factors that strongly support and determining the success of efforts to increase the productivity of nurses are fully supported all the managers are top-level managers (Director and Vice Director), mid-level (head of the committee of nursing and chief medical field) and lower level (heads room, team leader and nurses) to improve the productivity of nurses, effective communication between nurses, participation or the participation of all nurses from all walks of life if there were activities related to supporting performance, especially nurses such as training, business continuous.

Labor productivity nurse assessment indicators assessed through four indicators of goal achievement, creativity, service levels and feedback. Low labor productivity caused by poor nurse creativity. These include creative creativity in problem solving, creative in using work time and leisure time.

Based on the theory, creativity is important because nurses are creatively solving problems and take advantage of work time and free time will produce quality output. Creativity is also one of the characteristics of the productive behavior. How to increase the creativity of nurses among others related to nursing care training and conduct discussions (Swanburg, 1995). In the study the factors related to work productivity of nurses in hospitals Cibinong, based on the results of bivariate analysis showed that there are three (3) factors that have a relationship with work productivity of nurses at the General Hospital of Cibinong is the motivation, opportunity achievement and management.

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Conclusion

Based on the results of research and discussion, it can be concluded as follows:

1. The nurse who has a high productivity working more than the nurses who have low productivity.
2. The nurse who has a high motivation working more than the nurses who have low motivation.
3. The nurse who has low income levels working more than the nurses who have a high income level.
4. The nurse who has a good working environment working more than the nurses who have a poor working environment.
5. The nurse who has a good chance of achieving working more than the nurses who have a poor productivity.
6. The nurse who has a good management working more than the nurses who have poor management.
7. The nurse who has a normal nutritional status working more than the nurses who had normal nutritional status and more

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CORRELATION BETWEEN STUDENT'S LEARNING READINESS AND MOTIVATION TO THE LEARNING EXPERIENCE IN NURSING CLINICAL PRACTICE

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ABSTRACT

Background: Clinical learning in nursing is a process of professional adaptation for the nursing student in nursing clinical practice. The research aimed to analyze the correlation between students learning readiness and motivation to their learning experiences in nursing clinic. **Methods:** The type of the research is correlational research conducted in Public Hospital of dr H. Koesnadi Bondowoso. The respondents were chosen purposively for 58 respondents. The data was collected by using questionnaires and the analysis was conducted by using multiple linear regressions. **Results:** The result confirmed that there was a correlation between the students learning readiness and experiences (p = 0,000; r = 0,499), and the correlation between the students learning motivation and experiences (p = 0,000; r = 0,820). Obviously, there is a correlation between the students learning readiness and motivation to their learning experiences (p = 0,000; R Square = 0,683; Adjusted R Square = 0,672). **Conclusion:** The students should have before getting a practice, while the motivation is an internal support which will encourage them to obtain experiences and to reach their study competence. The recommendation of the research goes to the students who need to prepare themselves optimally before doing the practice, so they are able to have their high motivation and are able to get their optimal study experiences.

Keywords: Students Learning Motivation, Nursing, Clinical Practice.

Introduction

Rohmah (2010) concluded that there were three crucial things related to the implementation of clinical practice in nursing in Public Hospital of dr. Koesnadi Bondowoso. First, the number of students who practice to clinical nursing increased on the last 3 years (200 students in 2008, 254 students in 2009, and 275 students in 2010). Second, seeing the final result of rate the practice of clinical nursing, 95% of the students get the minimum score of pass (B), and only 5% of them who successfully get 'A' score. The third learning method uses 'conference' and 'bed side teaching'. The method has several weaknesses: (1) tend to make passive observation compared to the students' active participation, (2) the inadequate of feedback and supervision, (3) the lack of chance to have discussion and refection, and (4) the situation of 'unfriendly teaching'.

Some problems faced in the process of teaching and learning in the area of nursing clinic related to the students were (1) slow respond of students' adaptation toward the clinical situation, (2) the students' inappropriate action to finish the practical assignment whether for the content or the submission time, (3) the students' obscurity toward their competence achievement, and (4) the students' anxiety and boredom while doing the clinical learning. One of the factors

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was the things related to the students' problems: (1) the student's learning readiness and (2) the students' learning motivation. These factors are assumed to be related to the process of clinical learning which finally results in the students' competence achievement and experiences.

Nowadays, the process of nursing clinic learning requires focused education on students, integrated, problems oriented, and direct and independent learning. If the students learning readiness and motivation are low, it will be difficult for them to learn independently. Thus, it results in a gap between today's learning method and basic orientation they should have.

Therefore, it requires further research on students' learning readiness and motivation regarding their learning experiences. The objective of the research was to identify the correlation between students' learning readiness and motivation to their learning experiences in nursing clinical practice.

Methods

The type of the research is correlational research conducted in Public Hospital of dr. Koesnadi Bondowoso. The population was the students in nursing clinical practice. They were chosen purposively for 58 respondents that consist of: 3 respondents in Dahlia room, 7 respondents in Bougenvil room, 6 respondents in Teratai room, 8 respondents in Melati room, 13 respondents in Seruni room, 15 respondents in Mawar room, and 6 respindents in Instalation Unit Care. The questionnaires of the students' learning readiness, motivation, and experiences consist of 25 questions. The data collection was conducted in March - April 2013. The categorized data of samples characteristics was described in the form of frequency and percentage. The correlation among variables was analyzed by using spearman rho and multiple linear regression.

Results and Discussion

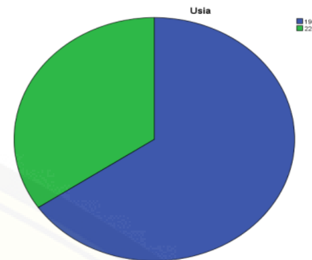

Figure 1. The Characteristics of the Respondents' Age in Public Hospital of dr H. Koesnadi Bondowoso 2013

Based on the figure above, the number of the respondents at the age of 19-21 (65.5%) are more than those who are at the age of 22-25 (34.5%).

Table 1. *The Characteristics of the Respondents' Gender in Public Hospital of dr H. Koesnadi Bondowoso 2013*

Gender	Frequency	Percentage
Male	24	41,4%
Female	34	58,6%
Total	58	100,0%

Description: the table above shows that the female students' of nursing clinical practice are more than the male ones.

Research Variables

1. Learning Readiness

   Table 2. *Students' Learning Readiness in Public Hospital of dr H. Koesnadi Bondowoso 2013*

	Frequency	Percentage
Lack	1	1.7 %
Moderate	26	44.8%
Great	31	53.4%
Total	58	100%

Description: more than half of the students' learning readiness is in great.

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2. Learning Motivation

Table 3. *Students' Learning Motivation in Public Hospital of dr H. Koesnadi Bondowoso 2013*

	Frequency	Percentage
Lack	15	25.9%
Great	43	74.1%
Total	58	100%

Description: most of the students' learning motivation is great.

3. Learning Experiences

Table 4. *Students' Learning Experiences in Public Hospital of dr H. Koesnadi Bondowoso 2013*

	Frequency	Percentage
Lack	15	25,9%
Great	43	74,1%
Total	58	100%

Description: most of the students' learning experiences is great

Correlation Between Student's Learning Readiness And Motivation To The Learning Experience

Table 5. *Analysis of the Correlation between Students' Learning Readiness and Experiences in Nursing Clinical Practice in Public Hospital of dr H. Koesnadi Bondowoso 2013*

	Learning Readiness (n)	(%)	Learning Experiences (n)	(%)	P *value*	r
Great	1	1.7	15	25.9		
Moderate	26	44.8	43	74.1	0,000	0.499
Lack	31	53.4	0	0		
Total	58	100	58	100		

Description: there is a significant correlation between students' learning readiness and experiences in nursing clinical practice.

Table 6. *Analysis of the Correlation between Students' Learning motivation and Experiences in Nursing Clinical Practice in Public Hospital of dr H. Koesnadi Bondowoso 2013*

	Learning motivation (n)	(%)	Learning Experiences (n)	(%)	P *value*	r
Great	15	25.9	15	25.9		
Moderate	43	74.1	43	74.1	0.000	0,820
Lack	0	0	0	0		
Total	58	100	58	100		

Description: there is a significant correlation between students' learning motivation and experiences in nursing clinical practice.

Table 7. *Analysis of Students' Learning Readiness and Motivation to Their Learning Experiences in Nursing Clinical Practice in Public Hospital of dr H. Koesnadi Bondowoso 2013*

	Learning readiness (%)	Learning motivation (%)	Learning experiences (%)	p *value*	R *Square*	*Adjusted R Square*
Great	1 (1,7)	15 (25,9)	15 (25,9)			
Moderate	26 (44,8)	43 (74,1)	43 (74,1)	0,000	0,683	0,672
Lack	31 (53,4)	0 (0)	0 (0)			
Total	58 (100)	58 (100)	58 (100)			

Description: the students' learning readiness and motivation is significantly related to their learning experiences.

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Learning Readiness

Based on the correlation among components, the way to get great clinical learning experiences requires the high readiness and motivation. Learning readiness leads individuals to be ready to give responses to the situation they should face by themselves (Mulyani, 2003).

Zachariah et. al. (2011) said that sixty eight students (44%) have the score of more than 150 (>150) or the average score was 148.6. It shows their readiness that is considered 'high' for independent learning. The students tend to possibly finish their assignments before the laboratory practices, discussing in a group of discussion, and reporting it regularly to start the next learning. However, Deyo's research showed that there was no significant correlation between students' academic achievement and independent learning readiness. The readiness for 'self-directed-learning' is related to their independent learning habits, but it is possibly not required for basic knowledge learning. An important thing for the students is the needs of giving information about materials specification to learn during the practices which will result in a positive impact in learning process.

Irwanto (2013) also said that students' learning readiness influence the motivation. It can be strengthen by the aspect of learning readiness whose several components can improve their learning motivation. The aspects such as: reading guidance book of clinical practice, observing target on practical competence, knowing competence details, knowing the knowledge they need to reach the competence, preparing the referential text books of competence, searching national and international journals, searching seniors' suggestions, preparing introductory repost, assessing the ability of communication with others, assessing the way how to communicate with colleagues professionally whether from the same institution or other institutions (including the communication with the colleagues of the same profession and other profession).

Seeing from the correlational coefficient of 0.499, it can be said that the strength of the correlation between students' learning readiness and experiences in moderate. It indicates that almost 50% from good learning experiences is stimulated by the high learning readiness. It means that each student is aware of preparing themselves before learning activities in the area of clinic. The awareness will trigger the efforts to seek the help related to the adequacy of the competence (cognition, affection, and psychomotor) had by the students. It will be used in explaining the clinical practice.

Regarding the clinical practice, the components of the readiness are: finding out the equipment needed to reach clinical skills, details of the procedure that will be done, the way to interpret the result of each procedure, the possible complication happened in each procedure, the way to modify the limitation of the equipment, the way to overcome the possible complication happened in each procedure, the characteristics of each unit of the practical area (people, room, and authority), all academic regulations in the practice, the hospital regulations related to the practice activities, the patients' right and obligation who will be involved in the practice.

Based on the components explained above, the readiness is crucial because it is related to the basic orientation of a student in practicing in nursing clinic whether in the

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component of cognition, affection, or psychomotor.

Learning Motivation

The result of the research confirmed that the students' learning motivation has positive and significant correlation to the students' learning experiences. The motivation means as someone's power (energy) which can cause the students' persistence and enthusiasm in practicing the activities whether from themselves (intrinsic motivation) or outside themselves (extrinsic motivation). How powerful the motivation had by the students will determine behavior quality they show whether in a context of learning, working, or other activities. The study of students' motivation has provided an attraction for educators, managers, and researchers for a long time, especially related to the effort of reaching someone's competence (Arifuddin, 2009). The power of motivation is also related to the positive and significant correlation with learning result (Firmansyah, H. 2013). Susilo R.S. (2011) said that the sense of understanding, the desire of getting sympathy, the desire of fixing the failure can influence someone's learning. The one who has high desire to understand something will always being motivated to always learn well.

The component of the motivation in the nursing clinical practice learning involves: going to the hospital with grateful, hope, and desire to go studying the nursing clinical practice, the feeling to give a contribution there, a belief to study the precious skills there, including the high energy, including the enthusiasm, and gaining the interest of new things while doing the practice. Also, the students have clear goals, they are able to set the goals, and have clear goals of learning while doing the practice.

The result of the research showed that the correlation is powerful in the form of correlational coefficient of 0.820 meaning that the motivation has the biggest contribution of 82% to the experiences. The motivation is an internal support which can stimulate someone's assertive behavior expressing in a real action since the effect of the motivation is not only related to personal's behavior, but also to the social behavior.

Another component of the motivation effecting on the social behavior is being friendly with friends, nurses, other paramedic workers, patients, and families, able to enjoy all activities in the clinical practice, positive and optimistic feelings on future's orientation as a nurse, a belief that they have an ability to control the behaviors using the practice, and know what is needed to be more motivated in learning the practice. Besides, they are able to be responsible to education and carrier as a nurse, have a desire to grow and learn, and have a comfort feeling to themselves during the practice, are able to evaluate their mistakes, learn from others' success, and want to achieve their goals in the practice.

Learning motivation is also shown by supporting and showing their gratitude when others are success in their learning, a feeling that by learning the clinical practice as of they are able to make a contribution to the world of nursing. The ability expresses emotion well when they do not feel comfort during the practice without losing control, and they are able to appreciate themselves and others. The motivation also has certain meanings which contains knowledge on how to overcome a setback and disappointment while they cannot achieve the goals, and an ability to manage the problems or difficulties

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during the practice (good learning media to improve the ability of problem solving). It also has a hope to always learn, grow and develop the potentials during the practice, and an ability to overcome the problems in a creative way.

Sadirman (1988, cited in Arifuddin 2009) said that there are three functions of motivation: (1) to encourage human to act. It is the engine of any activities will be done, (2) to lead the directions of action to the way of achieving goals, so it can give the directions and activities they should do based on the goals, and (3) to select the actions by determining which actions should or should not be done, especially for the benefits of the goals itself.

Learning Experiences

The result of the research confirmed that there is a correlation between students' learning readiness and motivation to their learning experiences in nursing clinical practice. Learning experiences is not the same with learning material contents or an activity held by the lecturers. The term of learning experiences tends to the interaction between the students and the external condition of the environment they react. Learning through students active behavior includes the things they will do while learning, not to the things done by the lecturers. Based on some suggestions, it can be explained that: (1) learning experiences is an experience which tends to the students' interaction with their external conditions, not to the learning contents, (2) learning experiences tends to a learning through students' active behavior, (3) learning will be held by the students after they follow certain teaching-learning activities, (4) learning experiences is the result the students achieve, (5) there are various efforts done by the lecturers to guide the students in order to have learning experiences. Regarding the explanation above, the lecturers want to find out how far the students have mastered the learning experiences and how good the guidance effectively had been given to the students. The evaluation of learning activities becomes very important within this context, because it is a process to gather and to interpret the data or information done continuously and systematically for determining the level of learning goals achievement (Eko, 2011).

The component of learning experiences in nursing clinical practice is achieving the competence in the clinical practice, knowing the details of the contents of the introductory report, making an interaction with the colleagues whether from the same institution or other institution professionally, making an interaction with the doctors or paramedic workers, and clinic manager, the patients and families professionally. The next component is able to prepare the equipment needed in the procedure of clinical skills, are able to do the details of procedure, interpret the result of each procedure, finish the complication occur in the procedure of the clinical practice, modify the limitation of equipment on the procedure, and identify the characteristics of the unit where they practice as done in the clinical practice (people, room, and authority).

Nursalam & Efendi (2009) said that the clinical learning is a learning and teaching focus including the clients directly, and become the core of nursing studies. The participant is considered to get the chance of clinical practice as much as possible and adopt the area of the clinic in the beginning of learning. Thus, learning experiences is a performance potential which will be

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performed by the students when they have finished the practice.

Another performance of learning experiences is obeying all academic regulation in the clinical practice, hospital, and able to meet the right and obligation of the hospitalized patients, study the nursing clinic, analyze the problems of nursing comprehensively, conducting the nursing diagnosis appropriately and specifically based on the patients' characteristics, making goals and criteria of the result appropriately, rationally, and realistically, determine the planning design of the action appropriately and comprehensively to fulfill the patients' needs, performing the nursing action ethically and professionally, evaluate the result of nursing, document the nursing care activities based on the rule of writing, and present the case of the hospitalized patients communicatively, and attract the feelings that learning in the clinic will make them feel comfort and glad.

Based on the explanation above, learning experiences of nursing clinical practice is a goal of overall learning competence including cognitive competence, affective competence in professional interaction, and psychomotor competence related to the clinical procedure. Therefore, it becomes the part of the crucial component to prepare the students before getting the nursing clinical practice, so they are bale to improve their learning motivation during the process of learning and clinical learrning competence can be achieved maximally.

Conclusion

1. There is a correlation between students' learning readiness and experiences
2. There is a correlation between students' learning motivation and experiences
3. There is a correlation between students' learning readiness and motivation to their learning experiences in nursing clinical practice

Students' learning readiness is hoped to improve through integrated briefing of nursing clinical practice. Students' learning motivation is hoped to improve through interesting learning environmental support and modification. It requires further research on the correlation between students' learning orientation and experiences in nursing clinical practice

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PARTICIPATION BUSINESS ENTITY IN THE BADAN PENYELENGARAAN JAMINAN SOSIAL (BPJS) BRANCH OFFICE OF JEMBER IN JAMINAN KESEHATAN NASIONAL (JKN)

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ABSTRACT

Background: Health is a right for all Indonesian without exception. Sistem Jaminan Sosial Nasional (SJSN) is a procedure for the implementation of the national coverage program organized by using mechanisms of social health insurance which is mandatory based on Constitution No. 40 of 2004. On January 1st, 2014 the Government operated BPJS Kesehatan. Health Insurance participation is mandatory and is done gradually to cover all of population. Employer on Badan usaha Milik Negara (BUMN), large businesses, medium and small businesses shall register participation Health Insurance at the latest on January 1st, 2015. **Methods:** This research purposed to describe the participation businesses entities in the region of the BPJS branch office of Jember. In-depth interview was done by officers BPJS Kesehatan, secondary data collection and study of literature. **Results:** The results showed that the 19 enterprises already registered to participate BPJS Kesehatan and 36 entities (61 %) did not register to participate in BPJS Kesehatan. **Conclusion**: Lack of awareness and the willingness of business entity which are in the region employment BPJS Kesehatan Branch office of Jember to register their employee to BPJS Kesehatan accordance with the mandate of the law, Ignorance of business entities of system, mechanism, and procedure of registration business entity to BPJS Kesehatan. The lack of availability of FKTP around the location of a business entity that cooperating with BPJS Kesehatan. Socialization either directly or indirectly to the enterprise and Hold regular meeting with business entities in order to bring BPJS Kesehatan with busines entity.

Keywords: JKN, BPJS, Businesses entities, Insurance

Introduction

Health is the most fundamental right, therefore every individual and all Indonesian citizens entitled to obtain health services, including the poor, as indicated in the Constitution 1945 Article 28H. Based on the awareness of the importance the protection the human rights, the state developed a social security system for all people and empower the weak and incapable in accordance with human dignity (Constitution 1945 Article 34 (2)). Social security is the protection system that is given to every citizen to prevent the things that cannot be predicted the socio-economic risks that could lead to loss of jobs and threaten health.

With the publication of Law Republic of Indonesia No. 40, 2004 on Sistem Jaminan Sosial Nasional (SJSN) was evidence that the government has strong commitment in realizing the social welfare for the whole society. The government's efforts in accelerating implementation of the JKN as a whole for indonesian citizen then formed a Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS Kesehatan) by Law

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Republic of Indonesia No. 24, 2011. BPJS is the transformation of the four Badan Usaha Milik Negara (BUMN), namely PT. Askes, Jamsostek, TASPEN and Asabri. JKN is not only required for the individual but based Law RI No. 24 of 2011 of the Badan Penyelenggaraan Jaminan Sosisal Nasional (BPJSN) and Peraturan Presiden No. 111 tahun 2013 that the BUMN, the company's large-scale, medium, and small are shall to register participation Health Insurance at the latest on January 1st, 2015.

According to data obtained in East Java, there were about 35,000 business entities, From that amount 607 of which were business entities that were in the working area of BPJS Branch Office of Jember, with detail 549 business entities is old former of Jamsostek (JPK) and 58 is a newly formed business entities. Based on the achievement BPJS Kesehatan targets, that business entities must register and shall be participants of BPJS Kesehatan. In accordance with Peraturan Badan Penyelenggara Jaminan Sosial Kesehatan Nomor 1, 2014, 38H that employers are employers' state officials and employers in addition to state officials, in this case the business entity is the employers other than state officials. But until the first trimester in 2015 the target has not been achieved

Methods

This research was descriptive research with qualitative approach. The purpose of this research was to describe the participation businesses entities in the region of the BPJS Kesehatan branch office of Jember. This research has been carried out in April to May, 2015. Data were collected using in-depth interview technique to the officer of Membership and Participant Sevices Unit in BPJS Kesehatan, collecting secondary data and study of literature. Data analysis in this research used data reduction, data display, and conclusion drawing and verification

Results and Discussion

Results showed, business entities that were in the working area of BPJS Jember Health Branch is divided into 2 categories; business entities former of JPK (Jamsostek, now BPJS Ketenagakerjaan) and new business entities (business entities that are in the working area of BPJS Kesehatan branch offices of Jember are not register the in the JPK (Jamsostek) or new business entities formed.

Business entities former of JPK (Jamsostek, now BPJS Ketenagakerjaan) are business entities that in the working area of the Office of BPJS Branch office of Jember who have enrolled in the JPK before BPJS Kesehatan was formed, with details of the preliminary data entities former of JPK (Jamsostek Ketenagakerjaan) as follow:

1. Business entities located in Jember District: 462 enterprises
2. Business entities that are Lumajang district: 43 enterprises
3. Business entities that are outside the District of Jember: 13 enterprises.
4. Virtual Account (VA) business entity has more than one and not clears status business entity: 31 enterprises.

Number of business entities from the four points were 549 business entities. Whereas the new business entities in Jember and have not registered BPJS Kesehatan or JPK is 58 business entities.

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After JKN, companies are obliged to re-registered data business entities that originated JPK (Jamsostek) to BPJS Kesehatan, until 2015 February was 338 business entities or 61.56% and 211 business entities or 38.43% business entities have not re-register to the BPJS Kesehatan Branch Office of Jember with the details as follow:

1. Business entities are in the district of Jember: 287 business entities or 62% of all business entities that are in the Jamsotek former of Jember District.
2. Business entities that are in Lumajang District: 27 business entities or 62.79% of business entities that are in the ex JPK (Jamsostek) Lumajang.
3. Business entities that are outside the District jember: 11 business entitiesor 84.61% of overall former JPK (Jamsostek) business entities that are outside Jember District.
4. VA business entity has more than one and not clear status business entity: 13 business entities or 41.93% of business entities former of JPK (Jamsostek) has a VA of more than one and not obvious status of the business entity.

Whereas 58 business entities that have not participated in JPK (Jamsostek) until February 2015 was obtained the following data:

1. Nineteen business entities (32.76% of the number of business entities shall BPJS Kesehatan) already registered to participate in BPJS Kesehatan
2. Three business entities (5.17%) have registered, but in the center of the business entities has not been approved.
3. Thirty-six business entities (61% of total business entities shall BPJS) not registered to participate in BPJS Kesehatan

Based on the results of in-depth interviews, yet achieving the target of participation of business entities caused by several things, ie

1. Unpreparedness of business entities and BPJS Kesehatan to change the system of membership former JPK (Jamsostek) become participants BPJS Kesehatan.
2. The lack of awareness and the willingness of business entities that are in the working area of the BPJS Kesehatan Branch Office of Jember in accordance with the mandate of the law.
3. The lack of Fasilitas Kesehatan Tingkat Pertama (FKTP) as the frontline of service to participants BPJS Kesehatan.

Unpreparedness of business entities and BPJS as the implementing agency of JKN caused these parties took time associated with adjustment in accepting a new system changes. Changes can be described in several ways, ie unplanned changes and planned changes. Unplanned changes are changes that occur without preparation. Instead of the planned changes are changes that have been planned and thought out in advance. In general, planned change is a process that is a new idea that is developed and communicated to everyone (Nursalam, 2014).

Changes the service system from JPK (Jamsostek) participants to the BPJS Kesehatan should be well planned, slowly, no drastic or suddenly. Changes must be made gradually. In practice, the system changes JKN services from JPK

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(Jamsostek) to BPJS Kesehatan has planned carefully and implemented gradually. Business Entity JPK (Jamsostek) former are enterprises which previously has been a participant of Jamsostek and the start date of January 1, 2014 Health Insurance Program For Labor JPK (Jamsostek) was transferred to the BPJS Kesehatan. BPJS Kesehatan will provide benefits in accordance with the protection of the rights and applicable provision. Rights can be obtained after the company and the workforce settle obligations to pay dues paid to the health insurance contribution. BPJS Kesehatan began in January 2014 during the first three months of the transition period, JPK and family members were transferred to
BPJS Kesehatan can still use the card of JPK (Jamsostek) health facilities had been serving JPK (Jamsostek) remains in use and in collaboration with the BPJS Kesehatan.

Change theory by Roger 1962 stated that there were five stages of change, namely: awareness, interest, evaluation, trial, adoption (AIETA). The stages explained that a change always pass a more complex process that ultimately these changes can be rejected or accepted the changes. Although the changes are acceptable, may someday will be rejected after the changes are perceived as inhibiting. Effective change is depending on interest, involvement and efforts to always evolve and go forward and have a commitment to work and implement these changes.

Unpreparedness of business entities will ultimately cause a lack of awareness and the willingness of business entities to register as member of BPJS Kesehatan in accordance with the mandate of the law. Nursalam overcome this by 2014 the need for a strategy to make the change goes well. One of them is a system that is clear and continuous communication. Communication is an important element in the change. Everyone needs to be briefed about the changes to avoid rumors or misinformation, if more and more people find out about the situation, the better and are able to provide the foresight and reduces anxiety and fear of change. One-way communication is often likely to cause confusion because it determines what will happen. Two-way communication is useful to minimize misunderstanding and misperception.

Business entity gradually have an obligation to register participation in BPJS and various approaches have been made, ranging from dissemination through print, electronic media to online media, as well as directly socialization done to the business entity. BPJS Kesehatan parties also began sending letter of reprimand to business entities to register as soon as possible in accordance with the deadlines that have been targeted.

Lack of first-level health facilities as front-line services to participants BPJS Health will be bothering service to participants BPJS Kesehatan. Based on guidebook BPJS Kesehatan health care facilities that can provide first-level health services are:

1. First Level Outpatient
   a. Clinic or equivalent
   b. Physician practices
   c. Dentists
   d. Primari clinic or equivalent including first-level health facilities owned by TNI/Polri

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e. Primari Clas D hospitas or equivalent.

2. Inpatient of First Level

The first-level health facilities with inpatient facilities.

Up to this time there were 104 first-level health facilities who has signed a memorandum of understanding with BPJS Kesehatan. Number of 104 first-level health facilities consist of public health center in the region of Jember District, private clinics and belongs to government agencies, private practice doctors and dentists, but is still considered insufficient. Location of first-level health facilities mostly located in urban areas whereas the rural areas being very limited. The limited number and unequal distribution of first-level health facilities in the district of Jember cause business entity are reluctant to register their workers to BPJS Kesehatan. As we know the majority of enterprises in Jember and surrounding areas are fisheries, agriculture, traditional mining and handicraft, all of which are in rural areas. The first-level health facilities availability is crucial to the sustainability of first-level health care for participants BPJS Kesehatan. Affordability of health-care facilities at the first level make a person to make a decision whether he will register as a member of BPJS Kesehatan or not. Besides, accumulation of the number of participants BPJS Kesehatan in one FKTP that can result in services that do not conform to the expectations of the participants

Conclusion

Conclusion from the results of this study are**:**

1. Lack of awareness and the willingness of business entity which are in the region employment BPJS Health Branch office of Jember to register their employee to BPJS Kesehatan accordance with the mandate of the law.
2. Ignorance of business entities of system, mechanism, and procedure of rgistration business entity to BPJS Kesehatan
3. The lack of availability of FKTP around the location of a business entity that cooperating with BPJS Kesehatan.

The conclusions provide an overview of advice that should be done by the Health BPJS

1. Socialization either directly or indirectly to the enterprise. Socialization should also be made to the union of employers in Jember and Lumajang. In addition to provide socialization, the organizers may hold regular meetings with union employers in Jember and Lumajang. Direct socialization is more effective because it is not just one-way communication. Socialization can be done in the office BPJS or can be done in each business entity by inviting decision-makers in enterprises and Labour union.
2. BPJS Kesehatan invites owners of private polyclinics, private practice physicians which are located around the business entity to promote the importance of FKTP for members BPJS Kesehatan. FKTP procedures and the benefits to be gained if cooperation as FKTP for BPJS Kesehatan. BPJS Kesehatan can also suggest medium to large business entity to make her own FKTP. It is advice not only in urban

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areas, but FKTP which is located close to the business entity.

3. Hold regular meeting with business entities in order to bring BPJS Kesehatan with busines entity to detimine the progress of service provider of BPJS Kesehatan.
4. As for the other researchers can analyze the policy of the obligation for businesses to follow BPJS, or analyze the willingness and ability to pay of business entities to register their workers to BPJS kesehatan.

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PERCEPTION OF COFFEE PLANTATION WORKERS COMMUNITY ABOUT NATIONAL HEALTH INSURANCE (NHI) POLICIES

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ABSTRACT

Backgrounds: Coffee is the main commodity of Jember. This condition was expected to achieve the health and welfare of coffee plantation workers. Silo sub district is the largest coffee plantation in Jember East Java. There was 95.65% plantation workers didn't participate in National Health Insurance (NHI) program. As a result, they can't access the health services and the Universal Coverage couldn't be reach. The aimed of this study analyzed the perception of coffee plantation workers about Universal Coverage policy. **Methods:** Design of this study was a descriptive observational with a quantitative approach. It involved 98 respondents. The sampling technique used multistage random sampling. Analysis techniques used univariate analysis. **Results:** Study showed that the majority of respondents aged 30-49 years (53.1%), female (54.1%) and elementary education (42.9%). Respondents knew universal coverage (54.1%) and only 2% of them participated in NHI program, 21.4% of respondents needed health insurance for families. NHI is well known among coffee plantations workers but most of them didn't participate to this program. They didn't satisfy with health care services and didn't know about detail advantages and how to join it. **Conclusion:** There are still many people who don't know about the advantages of the national health insurance. It caused the negative perception about NHI among coffee plantation workers in rural area. The effective way of socialization is needed to enhance their knowledge and motivation in joining NHI program.

Keywords: perception, national health insurance

Introduction

Jember is one of regencies in East Java which has a potentiality of coffee plantations. Silo sub district is the largest of coffee plantations. In this sub district, there were 2288.70 hectares coffee plantation areas with 9336.01 quintals of production (BPS Jember, 2014). This condition indicated that the majority of the population in Silo as farmers or farm laborers on coffee plantations, so the area is famous for coffee plantations community.

Leading commodities is expected to improve the well-being and financial capability of society. In addition to the ability economically, health is an indicator of the welfare of farmers is very important. Work environment farmers have varying risks to health, such as exposure to chemical, biological and others (Kimbey, 1992). But until now no body which ensures access to health care on a group of farmers. Health problem of farmers seems to be a personal problem of farmers and

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farm families who experience health problems.

Government issued Law No. 40 of 2004 on the National Health Insurance System which explains that the compulsory social security and health care for the entire population. Follow-up of these policies is the National Health Insurance program (NHI) to provide a comprehensive social security for the people of Indonesia. The program was organized by BPJS by targeting the entire population of Indonesia must have health insurance no later than January 1, 2019.

The premium has to be paid by the participants of NHI an obstacle in achieving a state of universal coverage. According to the summary report Social Security Organizing Body Health Jember (BPJS, 2015) until April 2015, there were 2,201 participants NHI of life with health center Silo Silo 1 and 2 as the health facility level 1. The number is still very low compared to the total population Subdistrict Silo (103 850 inhabitants) (CBS, 2014).

Based on preliminary studies carried out on the Moon in May 2015 against 23 respondents randomly at villager Sidomulyo Silo Subdistrict shows that there are 95.65% of respondents who have not joined the NHI. All respondents who have registered as participants NHI was 76.19% of respondents who have fears and concerns about premium payments each month because of limited economic viability. Under these conditions, the target of achieving universal coverage on January 1, 2019 will be difficult to achieve. Hence, it is need for the study and analysis of the public perception of the policy NHI coffee plantations.

National Social Security System is a procedure for the implementation of the Social Security program by the Social Security Agency (BPJS) of Health and BPJS of Labour. Social Security System is organized through the mechanism of the Social Health Insurance is compulsory (Law No.40 of 2004). The aim is that all Indonesian people sheltered in the insurance system, so that they can meet the basic needs of a decent public health.

NHI participants is that everyone, including foreigners who work for a minimum of 6 (six) months in Indonesia, which has been paying dues. Dues to be paid by the insurance each month can be referred to as premium. The premium is the amount of money that must be paid each month as a liability of the insured for its involvement in insurance (Wikipedia, 2008).

Contribution payments for beneficiary dues (PBI) participants are paid by the government. Meanwhile, fees for participant recipient workers wages paid by the employer and concerned.

Not Receiver Wage Workers (PBPU) and participants not worker (BP) dues paid by the participants concerned. Contributions are based on the economic level of participants who can be classified based on the benefits of the treatment room services. It is stipulated in Presidential Decree 111 of 2013, which amounted to IDR 25.500,- with service benefits in the treatment room of class III, IDR 42.500,- with care service

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benefits of class II, and IDR 59.500,- with service benefits in treatment rooms class I.

Methods

The study was a descriptive observational study with quantitative approach. The samples were 98 respondents in Sidomulyo and Garahan village by sampling techniques used multistage random sampling. The variables in this study were the characteristics of respondents, knowledge, and attitude. Data collection techniques obtained through interviews using a questionnaire and the analysis techniques used univariate test and presented descriptively.

Results and Discussion

Characteristics of Respondents

Describes of the characteristics of the respondents in the village Sidomulyo and Garahan shown table 1.

Table 1

Distribution of Respondents Characteristic Frequency

Characteristic of Respondents	Σ	%
1. Age		
Adolescent	26	26.5
Adult	52	53.1
Elderly	20	20.4
Total	**98**	**100**
2. Sex		
Men	45	45.9
Women	53	54.1
Total	**98**	**100**
3. Level of Education		
Unschool	16	16.3
Elementary School	42	42.9
Junior High Senior	25	25.5
High School	13	13.3
College	2	2.0
Total	**98**	**100**

According to the table 1, it can be seen that most respondents are age adults (53.1%) and women (54,1%). The level of education the most are elementary school/ equal (42,9%).

Todaro and Smith (2006) were explains that the level of formal education required to reach access to the latest information. This shows that the low level of public education will result in low access their information to the latest information, such as the National Health Insurance. Additionally, Marsinambow (1997) explains that women have lower access to new information. Such conditions lead to access new information including National Health Insurance is limited information on the Coffee Plantation Community.

Knowledge

Below table describes the knowledge of respondents about information related National Health Insurance.

Table 2

Distribution of Respondents Knowledge about information related National Health Insurance

Knowledge of Respondents	Σ	%
1. Heard about NHI		
Ever heard	53	54,1
Never heard	45	45,9
Total	**98**	**100**
2. Source of information		
Family	3	3,1
Neighbour/ friends	19	19,4
Health staff	8	8,2
Village official	4	4,1
BPJS official	1	1,0
Working station	4	4,1
Television	14	14,3
Total	**98**	**100**

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According to the table 2, can be seen that the respondents majority had heard about the NHI (53%). The information they can mostly came from neighboring (19.4%) and television (14.3%). It proves that the information can be obtained from the social environment, such as a neighbor or community. Irawan (2007) explains that it is a form of information and advice is known as word of mouth. Word of mouth is an important part of marketing communication strategy that is often done when associated with something new or valuable things that are expensive or complex. NHI information can be included in the new and complex information for the community.

Related television role in disseminating information about National Health Insurance, West and Turner (2008) emphasized that television does have a causal impact on the culture. The opinion may explain why the public can find out information from television National Health Insurance.

Table 3
Distribution of Respondents Attitude about National Health Insurance

Respondents Attitude	Σ	%
1. Participant		
agree	2	2
didn't agree	96	98
Total	**98**	**100**
2. Reason to be unparticipant		
Do not know	45	45,9
Economy: fear dues each month	19	19,4
Have other health insurance	4	4,1
Unsatisfactory service	14	14,3
Complicated procedures	14	14,3
Total	**98**	**100**

Attitude
The attitude coffee plantation workers towards National Health Insurance were shown at table 3.

Based on the table 3 it can be seen that the respondents majority are not participants or do not follow the National Health Insurance (98%). The reason respondents were not a participant is because they did not know enough about National Health Insurance, so they are not quite sure to follow.

The attitude coffee plantation workers towards National Health Insurance about NHI is one of family needs were shown at table 4

Table 4
Distribution of Respondents Attitude about National Health Insurance need for The Family

Attitude	Σ	%
1. Health Insurance Need for Family		
Necessary	76	77,5
Unnecessary	22	22,4
Total	**98**	**100**
2. Reason doesn't need		
Dues every month burdensome	5	22,7
Unsatisfactory service	8	36,4
Complicated Procedures	5	22,7
Others	4	18,2
Total	**22**	**100**

Based on Table 4 it can be seen that majority respondents need health insurance for families (77.5%). However, there are still 22.4% of respondents who feel no need for health insurance for his family. This is caused by services provided by the respondents unsatisfactory.

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Related to this, Basyaib (2005) explains that the development of the cognitive aspects of the decision-making process. Decision-making is strongly influenced by the quality and quantity of information obtained by the decision maker. Thus, the decision of the position taken by the respondents related to the National Health Insurance and health insurance in the family is only influenced by the information they receive, both in terms of quantity and quality of information.

Conclusion

National Health Insurance is well known as BPJS (Badan Penyelenggara Jaminan Social) among coffee plantation workers in Jember East Java Indonesia. Workers are familiar with BPJS but the detail information about BPJS is still limited among them. Most of them didn't know about the advantages of National Health Insurance and how to get it. Therefore, many coffee plantation workers did not participate in National Health Insurance. They lacked of confidence to join National Health Insurance. In addition, coffee plantation workers didn't satisfy with quality service of BPJS. It cause workers perceived that they didn't need health insurance for their families.

BPJS should give detail information about national health insurance program clearly and accessible. So, coffee plantation workers in rural area can understand about NHI program and encouraged in joining it. Community engagements can be approach to sharing detail information about NHI and motivate the workers to participate in the NHI program. Public Health services should improve their quality services for motivating coffee plantation workers to access it. Finally, community health status can be improved.

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REDUCING DEPRESSION AMONG FAMILY CAREGIVERS OF STROKE SURVIVORS: AN INTERVENTION OF BEREAVEMENT LIFE REVIEW

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ABSTRACT

Background: Family caregivers are the important role in supporting people with chronic illness. Stroke is the major cause of long-term disability and rehabilitation which may contribute to family caregivers' experiences of emotional distress. Family caregivers with depressive symptoms can be priority areas for interventions. This study aimed to investigate differences of depression level among family caregivers of stroke survivors before and after Bereavement life review intervention. **Methods**: This quasi-experimental study examined 28 family caregivers of stroke survivors who obtained by consecutive sampling including 14 in control group and 14 in intervention group. The intervention group got Bereavement life review with 2 sessions conducted by mental health nursing expert. Pre and post test score of depression was measured by the *Center for Epidemiological Studies Depression Scale* (CES-D). **Results:** The results showed that the level of depression after intervention was significantly difference between two groups (55.93 ± 2.79 and 49.79 ± 4.53; p = 0.000). The level of depression were also significantly difference in intervention group before and after intervention (56 ± 2.51 and 49.79 ± 4.53; p = 0.001). Bereavement life review process is a reduction process for depression through re-contextualization, forgiving and reflection. These processes are strengthening the individual coping as their psychological aspect. **Conclusion**: In conclusion, bereavement life review is considered as an intervention to reduce depression among stroke survivors and their family caregiver. A bereavement life review study using mix-method is needed for further research.

Keywords: Bereavement life review, Depression, Family caregiver, Stroke survivors.

Introduction

Stroke is a serious health problem. In 2015, WHO estimates that there are 20 million people will be die because of stroke attack. The proportion of stroke mortality was 15.4% in 2007. Every seven people who died in Indonesia, one of them is caused by a stroke attack (Health Ministry, 2012). Problems that occur not only have impact on the patient, but also have an impact on the family.

Death of the families or spouses who abandoned terminal patients is raising significantly (Stroebe, Schut, & Stroebe, 2007). Mortality of deaths due to the loss of a spouse or the loss of a loved family member is greater than the cardiovascular Disease (CVD) (Strada-Russo, 2006). Mortality of families which be abandoned by patient reaches 75-100% in the first 6 months (Mendes de Leon, Kasl, & Jacobs, 1993). Stressor due to the patient death is the highest stress causes stress also affects depression on the family (De Laune & Ladner, 2002). Depression arises because of the abnormal reaction of the grieving process. This problem requires a solution

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in a decrease the mortality rate of families (Michalski, Vanderwerker, & Prigerson, 2007).

Life review is a depiction of describing the past life experiment which current context and carried by the patient itself (Roach, 2009). Life review is a nursing intervention. Some studies suggest that the life review effective to help patient towards the grieving process. the study Ando, Morita, Akechi, et al. (2010) with a randomized controlled trial show that short-term life review can decrease depressive and distress spiritual patients with a terminal illness, and deliver to peaceful of death.

Bereavement life review concept begins from the life review concept with visualization autobiography using the memory album. Visualization is expected to make the patient more valuable in their life. Ando, Morita and Miyashita (2010) found that the Bereavement life-review potential to enhance the spiritual wellbeing and to reduce depression relatives of patients with terminal illness.

dr. Soebandi Hospital in Jember is type B hospital as a center of heath care provider for the part of eastern area in East Java. Researchers get the data from the hospital medical records and we found the number of patient with a diagnosis of stroke in January-August 2013 as many as 408 patients

The interviews with three nurses there in August 2013 on Melati wards found that in spiritual support for families and patients is necessary for increasing the quality service in this hospital. According to interviewing with nurses and head nurse said that ever happened the hysteria of family when patients were passed away. This may indicate that ineffective bereavement in a family. The nurse said that needing the interventions to prepare the families caregiver toward effective bereavement

From the observation during the three days found that 90% of the husband / wife accompany the patient in the hospital. The interviews with the family show that the psychosocial need is an important one in reducing stress. Family described still a little bit of nursing intervention which was given to the patient's family. The Interventions was still providing information about the patient's condition.

From the data and the facts is needed the research in decreasing the depression in families with stroke patients. Bereavement life review is one of the nursing interventions which reducing the depression. The aims of study is to show the effect of bereavement life review to decrease of depression in families caregiver of stroke survivor

Methods

This research was a quasi-experimental study used a quantitative approach. This study should be composed of two variables are independent variables and the dependent variable. The dependent variable of this study was the level of depression as measured by *Center for Epidemiological Studies Depression Scale* (CES-D) questionnaire. The independent variable in this study was the intervention of Bereavement life review. Bereavement life review interventions performed by mental health nursing which expert in life review therapy. The intervention was done

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at enclosed room to maintain the privacy of the respondents. Bereavement life review conducted over two sessions. Exploring patient's feel is the first session with some trigger questions which adopted from research Ando et al (2010) which consists of: 1) what is the most important thing in your life and why? 2) What are your most impressive memories of the patient? 3) In taking care of the patient, what is your most pleasant memory with the patient? 4) What growth did you experience through taking care of the patient? 5) What is the most important role you have played in your life? And 6) what are you proudest of in your life? The interview with the patient was recorded. After the interview finished the first session, the therapist transcribed the interviews result and we made a mini album. The second session was conducted one week after the first session. We accompany respondent and see the mini album which we made.

The population of this research was families of patients with stroke which treated in dr Soebandi Hospital Jember. Sampling method used consecutive sampling, the number of samples selected by the sequence of the patient. the inclusion criteria was: 1) patients relatives with stroke diagnosis by a physician and has been cared for more than two days, 2) The closest family, the husband / wife of the patient, or a patient's own child or brother / sister of the patient. 3) Respondent could read and write. While exclusion criteria: 1) respondent with psychiatric disorders which was diagnosed by a physician. The number of samples according the previous research by Ando, Minota, Shibukawa, & Kira (2012) as many as 28 people, with 14 people in the control group and 14 people in the intervention group.

Both of Groups will get a pretest to see the level of depression used CES-D. The intervention group got Bereavement life review after pretest and the control group did not get it. After one week, Both of Groups got posttest. We calculated the score of CES-D of a family used computer program. Comparison pre and post intervention used paired t test, and comparison control and intervention posttest used unpaired t test.

Results and Discussion

Respondents' characteristics in the control and the intervention group the most is women, married, jobless, and the own child. Respondents' characteristics were showed in table 1. After the Bereavement Life Review, CES-D scores decreased from 56±2.51 to 49.79±4.53; t=4.287. The study result with paired t test was p=0,001. In control group, CES-D scores increased from 55.79 ± 2.57 to 55.93±2.79; T=0.458. The paired t test's result was p=0.655. These results were figured in table 2. Comparison posttest in control and intervention group showed p=0.000 (55.93±2.79 vs 49.79 ±4.53). These results are figured in table 3.

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Table 1

Respondent Characteristics and Comparison between Control and Intervention group

Characteristic		Control group (n=14)		Intervention group (n=14)		P value
		Amount	%	amount	%	
Ages	Mean	39,14		39,29		0,947
Duration care in hospital	Mean	3,29		3,14		0,366
Sex	Men	2	14,3	3	21,4	1,000
	Women	12	85,7	11	78,6	
Marital status	Married	13	92,9	9	64,3	0,167
	Unmarried	1	7,1	5	35,7	
Education Level	Elementary school	1	7,1	2	14,3	0,821
	Junior high school	3	21,4	3	21,4	
	Senior high school	9	64,3	7	50	
	Higher education	1	7,1	2	14,3	
History of job	Unemployment	12	85,7	8	57,1	0,068
	Private company employer	1	7,1	6	42,9	
	Farmer	1	7,1	0	0	
Salary	High	0	0	0	0	1,000
	Average	12	85,7	11	78,6	
	Low	2	14,3	3	21,4	
Relation with patient	Husband/Wife	3	21,4	4	28,6	0,533
	Sister/brother	1	7,1	0	0	
	Own child	10	71,4	9	64,3	
	Others	0	0	1	7,1	

Table 2

Scores of CES-D Pretest and Posttest in Control and Intervention Group

Group	Mean (SD)		T	P	Mean Differences (CI 95%)
	Pre test	*Post test*			
intervention(n=14)	56 (2,51)	49,79 (4,53)	T=4,287	0,001	6,21 (3,08-9,34)
Control (n=14)	55,79 (2,57)	55,93 (2,79)	T=-0,458	0,655	-0,14 (-0,81) – (0,53)

Table 3

CES-D Scores Differences of Control and Intervention Group in Posttest and Pretest

Depression with CES-D scores	Group		T	P	Mean differences (CI 95%)
	Control (n=14)	Intervention (n=14)			
pretest mean (SD)	55,79 (2,57)	56 (2,51)	-0,223	0,825	-0,21 (-2,19 - -1,76)
posttest mean (SD)	55,93 (2,79)	49,79 (4,53)	4,324	0,000	6,14 (3,23-9,06)

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The study has showed that depression decreased with bereavement life review. The study results are similar with Ando, Morita and Miyashita (2010) which Bereavement life review was effective in reducing depression in in family of terminal cancer patients. This research held on palliative care center in Japan. Ando, Sakaguchi, Shiihara, and Izuhara (2013) represented that Bereavement life review can be applied not only for family of cancer patients but also for the all of patient's family condition. This result was showed by p value = 0.34 (difference bereavement life review in families of cancer patient and other condition). Cancer is a disease that has a high mortality rate, but several other diseases that potential for the treatment of end-of-life it is possible to do Bereavement life review.

Mortality rate of Stroke is high (Mumenthaler & Mattle, 2006). Deaths because of stroke occurs about 80% in developing countries. This problem makes stroke as a concern in the area of palliative care. Assistance to families and provide interventions in decreasing depression is something that needs to be given to the families of stroke patients (Nurbani, 2009).

Decreased family depression with accompaniment is one of palliative care goals in stroke patients and the family. The concept used the family-centered care approach (Burton & Payne, 2012). This accompaniment is a bereavement care in the face of peaceful death of the patient, as well as provides mental and spiritual support to families when patients required total care by the family. Family-centered care is a one of focused in the palliative care, so that every intervention needed to involve the family.The familyalso need to get specific intervention to face the grieving process experienced (Stevens, Payne, Burton, Addington-Hall, & Jones, 2007).

Differences of this study with previous study is this study focused on families caregiver of stroke, the sample used is when the patient is in an acute, so it has its own uniqueness in the process. The next difference is homogeneous patient, so this study specifically used for Jember ethnic, so that its application will be easier and more applicable.

Family caregivers of stroke have been certain characteristics in treating the patient. According to Iosif, Papathanasiou, Staboulis, and Gouliamos (2012) stroke was a disease that suddenly and unexpectedly. Sometimes families are not ready what happened to the patient. This stressor required an intervention with an individual approach. Depression reducing is an effort to bring the grieving process towards effective grieving. The effective grieving was to improve the quality of life and the quality of care which given to the patient's family

Bereavement life review's process is influenced by the based depression level of the respondents (Ando, Sakaguchi, et al., 2013). Respondents with severe depression cannot be given a Bereavement life review, so this respondents needs other interventions to calm, before this respondents was given a Bereavement life review. In a few theories, Bereavement life review was able to improve spiritual well-being and to decrease depression, but depression level is in moderate state. (Ando, Tsuda, et al., 2013).

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Bereavement life review have a three phases, there are re-contextualization, forgiving, and reflection (Garland and Garland, 2005). The third phase has different characteristics in the each person and has been passed with patient with bereavement life review. The process of re-contextualization is formed when the respondent and the therapist to interact on a first meeting. Our observation, the question of therapist in digging of respondent's life review can improve respondent emotional. Emotion that emerges is a positive emotion that leads to the wishes and desires in order to become the best person for the patient who is being cared.

The second phase is a forgiving. This process is an effort to improve the coping ability of individuals in the face of grieving process and can reduce a depression (Garland and Garland, 2005). The process of forgiveness comes after the end of the first session and towards the second session. The next process is the reflection. Reflections appear after the person was able to forgive themselves. This process gives a deep meaning of the family of the patient who is being cared (Garland and Garland, 2005). Reflection in this study aided by the visualization in the form of a mini album made in accordance with the results of the intervention of Bereavement life review. Visualization according Ando, Morita and Miyashita (2010) may reduce a depression as an effort to make good coping.

Bereavement Life Review process is also associated with the cultures. The study was conducted to patients with the same culture. The facilitator of Bereavement Life Review is a mental health nursing who expert in life review intervention and as a Jember native resident. According the melati's nurse ward, native resident of Jember will be more comfortable if they discuss with person who have the same culture.

Life review is a therapy that has been developed but it is still very rarely used in clinical settings. Life review have potentially used as a complementary therapy in strengthening the psychological status of patients and families (Jenko, Gonzalez, and Alley, 2010). The next studies related to Bereavement life review is needed a modification of intervention. Life review can be combined with health education or discharge planning about post-stroke care to get a comprehensive result, not only increase a psychological status but also increase a patient and families knowledge.

Conclusion

Bereavement Life Review is considered as an intervention to reduce depression among stroke survivors and their family caregiver through three phases, there are re-contextualization, forgiving, and reflection. These Three phases was strengthening the individual coping as their psychological aspect. A bereavement life review study using mix-method and modification of intervention are needed for further research.

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EXPERIENCE OF BEING CAREGIVER A CHILD WITH CEREBRAL PALSY: A PHENOMENOLOGICAL STUDY

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ABSTRACT

Background: Children with cerebral palsy have a lot of disabilities. Therefore, they can't met their needs by ownselves. Caregiver of child with cerebral palsy have important role to fulfill their needs. The aimed of this study to explore the caregiver in fulfill children with cerebral palsy basic needs. **Methods:** Phenomenology study was used as research design to explore the caregivers in fulfilling children needs especially activities daily living. Data saturation reached in the fifth participant. Colaizzi's method was used to analyze the qualitative data. **Results:** The themes emerged from the transcripts are caregivers identified risk factors of cerebral palsy, delayed growth and development, caring of children self-care, caring for stimulating child's development, and caring for getting health professional providers. **Conclusion:** Nurses should facilitate the caregivers for preventing psychosocial problems (such as caregivers' burden, role conflict in families, lack of social support, etc) which could be occurred during caring their children.

Keywords: care giver, caring, child with cerebral palsy

Introduction

Basic human needs is fundamental element that human should fulfill it to sustain their life and health (Kartikasari & Handayani, 2012). According to Maslow, an individual has 8 human needs that they should fulfill to gain self actualization (Stuart, 2013). Ideally, the fulfillment of the basic human needs must be met either now or later.

Normally, basic human needs can be met independently but there are some conditions that they can't fulfill it independently such as disability or handicap children (Asmadi, 2008). The International Classification of Functioning, Disability and Health (ICF) defines disability as an umbrella term for impairments, activity limitations and participation restrictions. Disability is the interaction between individuals with a health condition (e.g. cerebral palsy, Down syndrome and depression) and personal and environmental factors (e.g. negative attitudes, inaccessible transportation and public buildings, and limited social supports) (WHO, 2014).

Cerebral palsy is one of congenital diseases and cause developmental disability to children who suffer it. As a result they can't fulfill their needs especially activities daily living such as nutrition or self care (Indonesia Ministry of Health, 2010).

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Between 7-10% children in Indonesia population are estimated to live with some form of disability or handicap (Indonesia Ministry of Health, 2010). Until March 2013, total population of Indonesia children up to 82.980.000 children and number of 9.957.000 children suffering from disability or handicap (Indonesia Ministry of women Empowerment & Child Protection, 2013). Cerebral palsy was fourth highest rank prevalence of disability number in Indonesia (Indonesia Ministry of Health, 2010). Children with cerebral palsy need help from others to fulfill their needs throughout their life esp. from their caregiver.

According to *Allergan Foundation* (2013), there are 17 million people with cerebral palsy in the world either adult or children. According to *My Child at Cerebral Palsy* which collaborate to *Centers for Disease and Prevention* (CDC) shown that prevalence rates of cerebral palsy in the world was 2,3 to 3,6 children with cerebral palsy per 1000 children (American Academy for Cerebral Palsy, 2013). The most type of cerebral palsy is spastic cerebral palsy (61% to 76,9%). It affected the condition of cerebral palsy children such as paralysis. The most type of paralysis is *quadriplegia*. And it followed by *paraplegia* and *hemiplegia*. Three of the four cases have been categorized as severe level (Maimunah, 2013). Prevalence of cerebral palsy in Indonesia estimated up to 1-5 per 1.000 life birth (Soetjiningsih, 2012).

Preliminary study at Education Foundation for Disabled Children (Yayasan Pendidikan Anak Cacat-YPAC) Jember on Februari, 2014 found 9 of 14 disabled students affected from cerebral palsy. Range of ages was 7 to 14 years old. Cerebral palsy characterized by intellectual disability and it affected on learning ability, psychomotor ability, and speech. We should give special concern to disability children because of their physical limitations and delayed growth and development (Indonesia Ministry of Health, 2010). Education Foundation for Disabled Children (Yayasan Pendidikan Anak Cacat – YPAC) is a non-profit organisation which looks after the welfare of children with all kinds of special needs (Paulus, 2014).

According to Miller (2005), cerebral palsy is pathological condition which characterized with psychomotor disability. It caused by brain inflammation which static, non progressive, and non infectious. This inflammation might be happened at pregnancy, labor, or early life development (Muscari, 2005). It will affect limitations on physical movement, speech, and intellectual ability of children. Furthermore, they can’t fulfill their needs independently. Because of it, they called as disability children (Indonesia Ministry of Health, 2010). Cerebral palsy can’t be cured but they can be trained for optimizing their function (*American Academy for Cerebral Palsy and Developmental Medicine*, 2013).

Basic needs fulfillment of children with cerebral palsy is important things that we should concern it. Moreover, they can’t met their needs by own selves. And it will affect to their health (Asmadi, 2008). Unmet nutrition needs can be caused by chewing and swallowing disability. It will

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affect their health such as children with cerebral palsy vulnerable of being sick (Jan, 2006). Caregiver has important role Descriptive phenomenology study was used as research design to explore how the caregivers fulfill children needs especially activities daily living. Participants of this study are families who have children with cerebral palsy. Purposive sampling technique was used to choose participant. Criteria inclusive of participant were family member who spent a lot of time and assist their children needs fulfillment. Ages of their children were 6 to 12 years old in YPAC Jember East Java Indonesia.

Participant consists of 2 woman and 3 men. Data saturation reached in the fifth participant. Data was taken on August 2014. The researcher explored the phenomenon through in person individual in-depth interviews that were digitally recorded and personally transcribed by the researcher. Colaizzi's method was used to analyze the qualitative data.

Results

First participant (P1) was biological mother, 28 years old, Moslem, and graduated from senior high school. Child with cerebral palsy was the only child in his family and the child spend a lot of time with his grandparent every day. His mother accompanied her child at YPAC every day.

Second participant (P2) was grandfather, 52 years old, Moslem, and graduated from senior high school. P2 goes to YPAC everyday for assisting child with cerebral palsy. He (child with cerebral palsy) living with grandparents and his sisters. Child

to assist children with cerebral palsy for sustain their health.

Methods

with cerebral palsy recites at mosque where it is near from his home every day.

Third participant (P3) was grandfather, 60 years old, Moslem, and senior high school graduates. Child with cerebral palsy was the first child in child's family. He lived with parents, grandparent, and brothers. P3 always accompanies child with cerebral palsy at school. But he can play their toys by own selves.

Fourth participant (P4) was biological father, 60 years old, Moslem, and senior high school graduates. This child is twin and on fourth grades at elementary school. Child's father accompanies at YPAC or school every day. Participant works at night every day. Child lives with parents, grandparent, and child's twin.

Fifth participant (P5) was biological mother, 34 years old, Moslem, and senior high school graduates. Child's mother accompanies at school every day. Child lives with parents, grandparent, and child's brothers.

According to Glasscock (2000) that mother's role refers to personal and multiple roles that affect mother who has children with cerebral palsy. This include such as mothering, mother's activities daily living, and family relationship. In this research, caregivers have to accompany child at YPAC every day and whole day. One of five caregivers resigned from her job to assistance her child.

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Almost all of the caregivers of child with cerebral palsy in this research are family members such as mother, father, grandparents, and sister-brothers. Family is the most important social support to a child with cerebral palsy. Family/ social support refers to the assistance that mothers of children with cerebral palsy receive from family, friends, and rehabilitation, and social services. This includes child care, transportation, financial help, emotional support, home making, education, and physical therapist (Glasscock, 2000). Caregivers in this research receive others help from YPAC, friends, health care professionals, and others from family members.

Caregivers experiences to child with cerebral palsy described in to 6 themes emerged: (1) Risk factors of cerebral palsy, (2) delayed of child growth and development, (3) health problems, (4) caring for self care, (5) caring for development stimulation, (6) caring for getting professional therapist.

Risk factors of cerebral palsy

Caregivers attempt to identify the reasons for cerebral palsy in children. During pregnancy there was abnormality in mother appetite. Mother started to eat during her pregnancy in second trimester.

> *P1 said "....actually, when I was pregnant at the time ...I started to eat at 6 month gestation..." Malnutrition in pregnant women was the reason for occurrence cerebral palsy.*

Pregnancy women should examine their pregnancy 4 times or more during the pregnancy at health professional providers (Yulaikha, 2009). During pregnancy process there are physiological and anatomical changes such as weight, size of uterus, breast enlargement, swelling of vagina. Major of physiological changes occur in respiratory system, cardiovascular system, metabolic system increased significantly. It will cause the pregnant women being nausea and out of breath and mother don't want to eat. In the other hand, pregnant women need a lot of nutrition for fetus growth (Leveno *et al.,* 2009). Pregnant women who don't want to eat should go to the health professional providers for getting solution (Information centers of Indonesia Ministry of Health, 2012).

Care givers thought that baby condition when it was birth were abnormal such as premature, low birth weight, baby response and length of baby when it was born. P1, P2, P3 said that their child was premature and they suspected it as the reason for occurrence cerebral palsy. For example,

> *P3 stated "...it was born when 6 month pregnancy...and then his (child with cerebral palsy) skin become dry and wrinkled...got treatment at dr. Soebandi Hospital for one month...might be it was cause of my child become like this (cerebral palsy)....".*

> *P2 said "...yup, the baby didn't cry when it was born...it so different with her sisters ....and the length of baby was only 30 centimeters...weight was only 8.5 oz... generally, premature baby has 1 kg, 1,5 kg, but my baby only 8.5 oz..."*

Lack of nutrition intake in pregnant women causes fetal malnutrition. It will cause fetus metabolism disturbed. Signs

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and symptoms are dry skin and wrinkled, low birth weight, and abnormally growth of fetus etc (Manuaba, 1998). Premature birth is dangerous for baby health because of the anatomical and physiological functions are immature. Baby will be difficulty adapting to the environment changes. Baby who born less than 33 weeks gestational ages is 30 times more vulnerable being cerebral palsy than babies born at full term gestation (Mardani, 2006).

Characteristic of normal babies are crying spontaneous when it was born, and it weight more than 2500 gram (Milton, 1995; Meadow, 2002). Babies when it was born didn't cry are signs of brain inflammation or trauma (Delp & Manning, 1996, dalam Herliana, 2011). It affected on muscle tone, strength, and coordination controlling (Meadow, 2002). The epidemiological study was conducted by Mandari (2006, in Herliana 2011) shown that 5 percent baby with low birth weight developed into cerebral palsy. Baby with low birth weight have a higher chance up to 100 times more vulnerable of having cerebral palsy than babies that are carried to term (Mandari, 2006 in Herliana, 2011). Risk factors of low birth weight and premature baby caused by malnutrition, anemia in pregnancy, lack of prenatal care, mother with chronic or infectious diseases, drug addiction, obstetrical complication, and others of insufficient mother fertility. The other psychosocial condition as risk factor of low birth weight and premature baby are single parent, pregnancy in early ages, space of pregnancies too close together, and multipara (Arvin, 2009).

Delayed of child growth and development

Caregivers identified that characteristics growth and development of their child was different than others. They thought that the weight of their child increased slowly, and the other of growth was late.

> *P5 said "...for the first time, baby teeth has growth on 1.5 years old..".*

> *P1 stated"...the baby was setep-setep (fever seizures) so the growth being late...and it has impact to his (child with cerebral palsy) eyes...his eyes become squint (strabismus)..."*

The other characteristics of delayed development on psychomotor, intellectual, and speech such as delayed on sitting, standing, crawling, reading, writing, responding commands, speaking, and remembering.

> *P4 said "...the teacher said that my child lacked of memory ability...he was forget anything easily if he had not taught every day..."*

> *P5 stated "...he (child with cerebral palsy) were difficult for remembering....if he remember now, he will forget tomorrow...again and again...something like that...and he can't understand how to write".*

Health Problems

Health problems that often occur to children with cerebral palsy are fever seizure.

> *P2 said "...this child often got setep (fever seizure)..".*
> *P1 said "..setep occurred one to two a week...my father in law will shake my baby coz his eyes will disappear if he gets fever...so I retired and I can giving care to my child...".*

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P4 said "...if he get fever I only compresses with warm water...temperature will be decrease and the fever will be gone..."

Cerebral palsy is disorder that affects muscle tone, movement, and motor skills (the ability to move in coordinated and purposeful way) (Widayastuti, 2010; Hirsch, 2015). Cerebral palsy usually is caused by brain damage that happens before or during baby's birth, or during the first 3 to 5 years of child's life (Hirsch, 2015). Child with cerebral palsy has higher risk to fail growth from moderate to severe (Saharso, 2006 in Herliana, 2011). Since cerebral palsy affects muscle control and coordination, even simple movements — like standing still — are difficult. Other functions that also involve motor skills and muscles — such as breathing, bladder and bowel control, eating, and talking — also may be affected when a child has cerebral palsy (Hirsch, 2015). It will affect to growth and development of child with cerebral palsy.

Brain damage in infancy or early childhood also can lead to cerebral palsy such as fever seizures. It caused intellectual disorders from mild to severe (Suryanah, 1996 in Herliana, 2011). There is no cure to cerebral palsy but it is no progressiveness disorders. Seizures, speech and communication problems, and intellectual disabilities are more common among kids with cerebral palsy. Many have problems that can require ongoing therapy and devices such as braces or wheelchairs (Hirsch, 2015). Speech therapy is therapy that can optimize speech ability of child with cerebral palsy (Widyastuti, 2010).

Fever seizure is one of risk factor brain damage to child having cerebral palsy. Frequency of fever seizure contributes the severity of growth and development of child with cerebral palsy (Arvin, 2009). Furthermore, caring for fever seizures effectively is important way to prevent brain damaged. First aid for treating fever seizures at home such as make sure that airway is cleared, loosen clothing, especially that of the neck, do not put anything in the child's mouth when seizures; position the child was placed in a flat position and tilted to one side in order to ensure child are not available, make sure there are no danger objects around the child; give anti-seizure drugs through the anus, the drug do not be given if the seizure stopped; pack with warm water after seizure stopped immediately, and give them antipyretics (Consensus Managements of Febrile Seizure, 2009). Caregivers should know when they must seek for health care services if the seizures don't stop during 15 minutes, or seizure happen twice or more in a day (Adibah, 2014). Caregivers should improve their skills in fever management esp. fever seizures.

Caring for child with cerebral palsy self care

Caregivers identified self care level of their child such as kinds of self care that child can do independently or dependently, how to improve their skills to fulfill their self care.

P5 said "...he (child with cerebral palsy) can take bath by own selves..."

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P2 stated "...he need help for toileting..."

P4 said "...he can wear t-shirt without any help but for wearing shirt, he can't do it..."

P1 said" there is no problem with eating or drinking....but it is still messy..."

P3 said "...parent must help him to eat..."

Cerebral palsy children have physical limitations, but they have possibilities to fulfill their self-care independently. Caregivers can improve strategic way to facilitate child's independent of doing self-care. Caregivers analyze the ability and support system of child with cerebral palsy. For example: cerebral palsy child who able vines on the wall or can stand up to the knee when child go to the bathroom so they can toileting by themselves independently (Miller & Bachrach, 1998).

Caring for development stimulation

Caregivers are aware about the limitation of their child with cerebral palsy in activities daily living. Caregivers attempt to stimulate their development as far as they can such as allowance to play with others, recite Al-Quran, performing arts, or the others competition.

P2 said "...valen (child with cerebral palsy) with her sisters recite Al-Quran at Mosque where it near from home...may be around 500 meters..."

P5 said"...he want participate in performing arts event...and I allow it...I don't want to restrict ryan's (child with cerebral palsy) activity...because of that he has a lot of friend...if his friends at home I motivate ryan join with his friend...and his friend doing the same thing..."

Different kinds of therapy can help them achieve their maximum potential in growth and development. As soon as cerebral palsy is diagnosed, a child can begin therapy for movement, and other areas that need help, such as learning, speech, hearing, and social and emotional development (Hirsch, 2015). Caregivers can participate in stimulating development of child with cerebral palsy directly. It contribute to optimize positive psychological state of children (Hidayat, 2008). Family members and peers are good support system to gain optimal development of child with cerebral palsy.

Caring for getting professional therapist

Caregivers seek professional health providers to overcome their problems in caring children with cerebral palsy. Caregivers not only seek for health professional but also alternative treatment.

P1 said "...I went neurologist to get treatment for my child..."

P4 said "...this child has been massaged by physiotherapist at YPAC...but there is no physiotherapist anymore... "

P3 stated "...I looked for alternative treatment....anywhere and anytime.... to give massage my child ..."

P5 stated "... my child have been already massaged by traditional therapist...anywhere....I went Asembagus (place where there is alternative traditional treatment provider and it is far from town of participant)...and then I went to hospital for therapist once a week..."

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Currently, there's no cure for cerebral palsy. But a variety of resources and therapies can provide help and improve the quality of life for kids with cerebral palsy. Different kinds of therapy can help them achieve their maximum potential in growth and development (Hirsch, 2015). According to Lazimah (2013), frequencies of therapy intervention depend on severity of cerebral palsy and the ability of child to do it. There is no cure for cerebral palsy. However, there are numerous treatments available, which can treat many of its symptoms and help people with the condition to be as independent as possible. These treatments include physiotherapy, occupational therapy and medication to relieve muscle stiffness and spasms. In some cases, surgery may also be needed (NHS, 2015). A team of professionals will work with caregivers to meet child's needs. That team may include therapists, psychologists, educators, nurses, and social workers (Hirsch, 2015). Therapy from professional can enhanced growth and development of child with cerebral palsy. Caregivers should participate in the treatment program at home or school.

Conclusion

Caregiver identified the risk factor of cerebral palsy such as malnutrition during pregnancy, low birth weight, and premature birth. Caregiver identified the delayed of growth and development of their children and children more vulnerable to health problems. Caregiver learned how to care their children with cerebral palsy. Caregiver being aware that their help are needed to fulfill the children needs. They knew that their children need special education and training for optimizing children abilities to fulfill basic human needs or activities daily living. Nurses should facilitate the caregiver how to train their children with cerebral palsy at home and optimize their support system.

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THE EFFECT OF SOCIALIZATION GROUP ACTIVITY THERAPY (SGAT) TO SOCIAL INTERACTION ABILITIES OF ELDERLY WITH LONELINESS

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ABSTRACT

Background: The aging process of elderly will reduce the normal function of the body. It cause decreased the elder ability to socialize and elderly being loneliness. Socialization Group Activity Therapy (SGAT) aims to increase the social relationship in the group gradually. The aimed of this research was to analyze the effects of SGAT toward ability of social interaction of elderly with loneliness at nursing home Jember. **Methods:** This research used pre experimental method with one group pretest posttest design. Samples of the research were taken by using purposive sampling technique. Sample of this study were 19 respondents. The data were analyzed with dependent t-test. **Results:** the loneliness elder ability to socialize in community after got SGAT was 94.7% has a good ability in social interaction. The result showed that p value = 0.0005 (CI 95%). It means that there was significant difference of elderly social interaction ability before and after training with SGAT. It is proved by an increasing of the average point of social interaction ability before get SGAT was 22.3 (ability of social interaction are enough) and after get SGAT was 37.32 (ability of social interaction are good). **Conclusion:** SGAT can increase the ability of social interaction of elderly with loneliness. Nurse can use SGAT to increase the ability of social interaction of elderly with loneliness.

Keywords: elderly with loneliness, SGAT, ability of social interaction

Introduction

Elderly is person who over the age of 60 years old. The amount of elderly in Indonesia is estimated to reach 30-40 million in 2020 so that Indonesia would rank fourth in the world. The percentage of the elderly population in 2000 amounted to 7.18% of the population in Indonesia. This number increased to 7.56% in 2010 and in 2011 to 7.58% of the population in Indonesia.

Increasing the amount of elderly will have an impact on changes in the epidemiological transition into an increase in morbidity due to degenerative disease (Kemenkes RI, 2013).

The aging process experienced by the elderly will lead to a decrease in the normal functioning of the body. These conditions make the elderly at greater risk for health problems, both biologically and psychologically (Azizah, 2011). This situation may lead to social interaction skills in the elderly decreased. This condition will be bad for the elderly because of the

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participation of social and interpersonal relationships is an important part of physical health, mental, and emotional for the elderly (Anida, 2014).

Decreased ability of social interaction can give rise to feelings of loneliness in the elderly. Loneliness is a feeling of discomfort that is associated with the desire or need to do a lot more contact with others (Herdman, 2012). The situation is more easily experienced by elderly who live in nursing homes, because the elderly have more limited support system and the opportunity to interact with the external environment is less than elderly who live with families in the community (Hayati, 2011).

Socialization group activity therapy (SGAT) is an attempt to solve the social relationships problem, which aims to improve the social relations within the group gradually (Keliat & Akemat, 2003). SGAT can help elderly to socialize with people who are nearby. Giving SGAT in elderly experience loneliness in nursing home is expected to increase the ability of social interaction.

Results of a preliminary study known health problems have been experienced by elderly in nursing home Jember ranging from physical and psychological problems. Physical health problems experienced by elderly in nursing home Jember such as hypertension, rheumatoid arthritis, rashes, respiratory tract infection, diarrhea, diabetes, vision disorders, fractures, stroke, and so forth. Psychological problems experienced by elderly in nursing home Jember also diverse as dementia, emotional status is not good as often angry, jealous, irritable, often quarreled with other elderly and lonely.

The results of interviews with elderly and nursing home administrators known social interaction problems experienced by elderly due to elderly is still less show a sense of togetherness among others. Social interaction problems that occur can make elderly feel alone and lonely. Feelings of loneliness experienced by elderly in nursing home Jember indicated by the discovery of daydreaming and brooding alone. Efforts are being made in nursing home Jember to reduce feelings of loneliness in the elderly is to provide regular activities to increase social interaction. SGAT not been done in nursing home Jember.

Based on the description of the problems researchers interested to do a study to know “is there effect of socialization group activity therapy toward ability of social interaction of elderly with loneliness in nursing home Jember". The aimed of this research was to analyze the effects of SGAT toward ability of social interaction of elderly with loneliness at nursing home Jember.

Methods

This research used pre experimental method with one group pretest posttest design. Population in this research is all elderly who live in nursing home Jember as many as 140 elderly. Samples of the research were taken by using purposive sampling technique as many as 19 elderly. This research was conducted in November 2014 until May 2015.

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Research instruments using a respondent characteristics questionnaire and social interaction skills questionnaire, and for screening respondents using a loneliness questionnaire that was adopted from the UCLA Loneliness Scale and Mini Mental State Examination (MMSE). The data were analyzed with dependent t-test with 95% confidence interval (CI 95%).

Results

The age average of respondents was 67.84 years. Elderly are people who over the age of 60 years old (Effendi & Makhfudli, 2009). Elderly who over the age of 70 years old have a higher risk to have health problems both physical and psychological (Maryam, et al, 2008). The aging process experienced by the elderly cause a decrease in the overall body functions that can cause decreased health status of the elderly (Tamher, 2009). This situation will have an impact on the ability of the elderly to interact.

The majority of respondents were female as many as 13 people (68.4%). Research conducted by Juniarti et al (2008) about representation of lonely elderly who live in nursing homes, showing 76% of elderly who experience loneliness are women elderly. Conditions of the musculoskeletal system of the elderly would decrease the structure and function (Maryam et al, 2008). The rate of bone demineralization was greater in women with menopause than elderly men (Potter & Perry, 2005). The ability to mobilize elderly who continue to decline due to bone demineralization will lead to the ability to make a contact and communication with other people is hampered, so the ability of social interaction of elderly will decline.

Table 1

Analysis of the age characteristic of elderly with loneliness in nursing home Jember

Characteristic	n	Mean	SD	Minimum-Maximum	95% CI
Age (Years)	19	67,84	5,23	60-74	65,32-70,36

Elderly with the status of elementary education / school does not have the greatest percentage of as many as 13 people (68.4%). Education is one of the sociocultural predisposing factors to the occurrence of psychological problems (Stuart, 2013). Educational factors affect a person's ability to solve problems faced (Masitoh, 2011). The higher the education level of an elderly, the more experience of life in its path so as to be better prepared to face the problems.

Occupational status of elderly who live in nursing homes Jember majority have a history of working with the highest occupational status were entrepreneurship as many as 7 people (36.8%). At the time of the elderly, an individual will experience some loss of one of them is the work and the elderly require the support of others in the face of loss (Riyadi & Purwanto, 2009). Hurlock expressed elderly developmental task one is adjusting to pension and income reduce (Azizah, 2011). The elder who has job with a good income, will be make the

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elderly have the ability to sufficient their own needs, including the need for interaction with others.

Table 2

Frequency distribution characteristics of gender, education, occupation, marital status, length of live, and the status of lonely elderly in nursing home Jember

Characteristic	Frequency (n=19)	Percentage (%)
1. Gender		
a. Male	6	31,6
b. Female	13	68,4
2. Education		
a. Elementary school	13	68,4
b. Lower secondary school	2	10,5
c. Upper secondary school	4	21,1
3. Occupation		
a. Unemployment	5	26,3
b. Farmer	1	5,3
c. Entrepreneurship	7	36,8
d. Others	6	31,6
4. Marital status		
a. Married	6	31,6
b. Widow/widower	13	68,4
5. Length of stay		
a. 0-5 years	14	73,7
b. 6-10 years	2	10,5
c. >10 years	3	15,8
6. Loneliness status		
a. Mild loneliness	14	73,7
b. Moderate loneliness	5	26,3

Marital status of respondents the most widely are widows/widowers as many as 13 people (68.4%). Burnside, Duvall, and Havighurat stated that the elderly have special developmental task that consists of seven main categories one of which is to adjust with the death of a spouse (Potter & Perry, 2005). People who have experience divorce or not having a spouse, including to the high-risk groups experiencing psychological problems (Stuart & Sundeen, 2007). Elderly who have a spouse, allowing for relieve his psychological problems and the elderly should be able to adjust to the loss of a spouse.

Elderly of the research respondents' majority had lived in nursing home during 0-5 years as many as 14 people (73.7%). Elderly who lives in nursing home get a chance to interact with the external environment is more limited than the elderly living in the community. The less chance the elderly to meet and interact with others will

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have an impact on the greater the elderly to feel loneliness (Carpenito, 2009). The longer an elderly person living at home then these circumstances will often be experienced.

Lonely status of the most widely experienced by respondents is light lonely as many as 14 people (73.7%). Research conducted by Juniarti, Eka, & Damayanti (2008) about representation of lonely elderly who live in nursing homes the majority of elderly experiencing light loneliness as many as 66 people (69.5%). Loneliness is a feeling of discomfort that is associated with the desire or need to do a lot more contact with others (Herdman, 2012). Loneliness can be caused due to lack of opportunities for someone to meet and interact with the others (Carpenito, 2009). This situation often experienced by elderly who living in nursing home Jember. This condition can make elderly who living in nursing home are more at risk to feel loneliness.

Table 3

The ability of social interaction of elderly with loneliness before get SGAT

Characteristic	n	*Mean*	SD	Minimum-Maximum	95% CI
Ability of social interaction	19	22,31	3,53	18-31	21,51-24,92

Results of the research about the ability of social interaction of elderly with loneliness before get SGAT show up the average value of ability of social interaction before get SGAT is 22.31 (ability of social interaction enough). Ability of social interaction that have been categorized showed that all the elderly had enough social interaction abilities, and no elderly who have less and good social interaction abilities.

The ability of social interaction can be affected by various barriers. Inadequate social interaction among elderly due to of quantity of social exchange are limited or excessive, and the ineffectiveness of the quality of social exchange itself.

Elderly can experience difficulties of getting social interaction when they feel uncomfortable in social situations and are unable to receive a satisfying sense of social cohesion social relationships (Wilkinson & Ahern, 2011).

Elderly who have been living at nursing home Jember have fewer opportunities to interact with the outside community of nursing home. Elderly have been socializing at nursing home actively. It caused social interaction between elderly are limited. The condition affects to ability of social interaction of elderly, because the less chance the elderly to make contact and communication with other people, then the less chance for social interaction. Social interaction can occur if two conditions are met, namely the existence of social contact and communication (Noorkasiani, Heryati, & Ismail, 2009).

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Limitations on social interaction in the elderly can be caused by the aging process that causes decreasing general functions of all of body. Social interaction is very important to improve health status among the elderly. One of the therapy that can increase the ability of social interaction among elderly is a socialization group activities therapeutic (SGAT).

Table 4
The ability of social interaction of elderly with loneliness after get SGAT

Characteristic	n	*Mean*	SD	Minimum & Maximum	95% CI
Ability of social interaction	19	37,32	3,19	31-43	35,77-38,86

Results of the research about the ability of social interaction of elderly with loneliness after get SGAT show up the average value of ability of social interaction after get SGAT is 37,32 (ability of social interaction good), 18 people (94.7%) have a good social interaction abilities and 1 (5.3%) have enough social interaction abilities, and not found the elderly have less social interaction abilities. These results represent the majority of the elderly have good social interaction abilities after get SGAT. Ability of social interaction that have been categorized showed that all the elderly had enough social interaction abilities, and no elderly who have less and good social interaction abilities.

SGAT is one of therapy that aims to increase the togetherness, socialize, exchange experiences, and to change the behavior (Maryam et al, 2008). Socialization Group Activity Therapy (SGAT) aims to increase the ability of socialization with enhancing social relationship in the group gradually (Keliat & Akemat, 2004).

This result of the research was supported by a previous research conducted by Muzayyin about differences of ability of socialization before and after get SGAT. Social skills after get SGAT have increased (Muzayyin, Wakhid, & Ismail, 2014). These results showed that SGAT can increase the ability of socialization.

SGAT which have given among elderly with loneliness can train the elderly to do some activities. The effect of SGAT can increase the elder ability to build interpersonal relationships. After following SGAT, the elderly will get skills for social interaction and can be used in daily life, so as to increase ability of social interaction of elderly with loneliness.

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Table 5

Analysis the effects of Socialization Group Activity Therapy (SGAT) toward Ability of Social Interaction of Elderly with Loneliness in nursing home Jember

Variable	n	*Mean*	SD	95% CI	*p value*
Before SGAT	19	23,21	3,537	21,51-24,92	0,0005
After SGAT		37,32	3,198	35,77-38,86	

The results of data analysis showed there was difference in the value of social interaction ability of elderly before and after SGAT. Changes in the average value of ability of social interaction before get SGAT much as 23.21 (ability of social interaction enough) and after get SGAT much as 37.32 (ability of social interaction good), which means the SGAT give affect on ability of social interaction of elderly with loneliness. Result of statistical test with dependent t-test showed p value = 0.0005 (95% CI), which means there is the effect of SGAT on the ability of social interaction of elderly with loneliness. P = 0.0005 (CI 95%) showed significant level of the results was meaningful extremely. The conclusion of the statement was Ha accepted and showed significant effect of SGAT toward ability of social interaction of elderly with loneliness in nursing homes Jember.

The results of this research according with the theory of socialization group activity therapy can be used to help clients to socialize with the other people who exist around. This therapy use to psychotherapy facilitation for monitoring and improving interpersonal relationships, responding to other people, to express ideas and exchange of perception, and receive external stimuli who coming from the environment (Keliat & Akemat, 2004).

This research was supported by a previous research by Hasriana, Nur, and Anggraini (2013) that SGAT can improve sociability clients with problems of social isolation with p value = 0.000, which means it is very meaningful. Research was conducted by Akbar shown that SGAT was able to increase self concept of the elderly (Akbar, Herman. & Ilyas, 2014).

SGAT consists of seven sessions is to introduce ourselves, acquainted with other people, conversing, talking about a particular topic, talking about personal problems, cooperate, and argue about the benefits of SGAT (Keliat & Akemat, 2004). SGAT session consists of activities that can improve the ability of the elderly to socialize and building a good relationship with the other elderly and the surrounding environment. SGAT given to the elderly to improve the interpersonal relationships in the group, communicating, caring, giving responses to others, express ideas, and receive external stimuli who coming from the environment.

SGAT is one of effective nursing intervention which able to improve the

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client's ability of social interaction (Yosep, 2007). Research was conducted by Muzayyin, Wakhid, and Susilo (2014) about the differences in the ability of socialization before and after SGAT on isolation of patients shown that there was difference in the ability of socialization before and after SGAT with p value = 0.000 (p <0.05). SGAT effective for improve the social ability in patients with social isolation problems. SGAT sessions enable for clients to support each other, learn interpersonal relationships, feeling of togetherness and to provide input to the experience of each client, so it will increase the ability to socialize with others who are nearby (Videback, 2008). The ability of social interaction with the lonely elderly in nursing home Jember have increased because SGAT aims for the elderly have ability to express feelings and exercise behavior in relating to others.

Conclusion

The ability of social interaction of elderly with loneliness after getting SGAT was 94,7% had a good ability of social interaction. The result showed that p value = 0,0005 (CI 95%) who describe a significant difference of elderly social interaction ability before and after training with SGAT. It is proved by an increasing of the average value ability of social interaction before get SGAT was 22,3 (ability of social interaction enough) and after get SGAT was 37,32 (ability of social interaction good).

SGAT can increase the ability of social interaction of elderly with loneliness. Nurse can use SGAT to give nursing care to increase the ability of social interaction of elderly with loneliness.

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EFFECTIVENESS OF COGNITIVE BEHAVIORAL THERAPY (CBT) FOR DECREASING SCHIZOPHRENIA SYMPTOMS: A LITERATURE REVIEW

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ABSTRACT

Background: Nowadays, prevalence of mental health disorder increase significantly and a lot of people around the world talk about it. Schizophrenia is mental health disorder that is included in the top 10 cases of mental health disorder that can to make patient be difficulty perform simple movement. In Thailand there were 3 people with schizophrenia than 1000 people. Meanwhile in Indonesia, the number of schizophrenia up to 1,7 million in 2013. Therefore it needs strategic treatment to reduce the symptoms of schizophrenia such as Cognitive Behavior Therapy (CBT). The purpose of this literature review is to analyze the effectiveness of CBT for reducing the symptoms of patients with schizophrenia. **Methods:** This literature review was collects and analyzed amount ten of the article about CBT. Articles collected through electronic databases CINAHL, Nursing Reference Center, and using the keyword Science Direct which discuss about CBT and schizophrenia. The articles have published in period between on 2009 to 2015. **Results:** Schizophrenia is serious mental health illness which patient believing on negative thought and maladaptive behavior. CBT is a form of psychological intervention that combines cognitive therapy and behavioral therapy. CBT focused to individual interpretation method and respond for some problem and teach the people to be able to change their automatic negative thought to be a positive thought and their behavior become adaptive. Patient with schizophrenia has decreased symptoms levels of anxiety and depression around 44% after patients received CBT. **Conclusion:** CBT is very effective to reduce the symptoms of schizophrenia with combines cognitive therapy and behavioral therapy. With the result that, CBT can apply by nurses as one of the nursing intervention, especially in communities so patients still get standardized nursing therapy.

Key words: CBT, Schizophrenia

Introduction

Nowadays, mental health disorder be a phenomenon that many a conversation in around the world. Most of the countries, the government have been given special attention to people with mental health disorders pass through focus on efforts to improve the health quality of people with mental health disorders. In developed countries, the government has been provided accommodation which ranged between 1.6% until 2.6% of the total expenditure on health finance for caring patients, especially schizophrenia. This is different in Asian countries, exactly Taiwan which has been provided finance amounts 1.2% to careschizophrenia patients (Phanthunane, Vos, Whiteford, Bertram & Udomrat, 2010).

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One type of mental health disorder always almost find in some cases are schizophrenia. Schizophrenia is a mental health disorder that included in the top 10 cases of mental disorder and patient can be difficult perform while doing a simple movements (Huttlova, et al., 2014). According to research by Saha, Chant, Welham, McGrath (2005) in Phanthunane et al., (2010) in Thailand there were 3 patients with schizophrenia of 1000 people. Meanwhile in Indonesia, in 2013 the prevalence of schizophrenia up to 1.7 million people (Balitbang, 2013). Based on these data proved that schizophrenia cases to be an issue and became the main spotlight in worldwide. Approximately 1% of world population people with schizophrenia who mostly suffered during adolescence or young adulthood (Pocklington, O'Donovan, & Owen, 2014).

Schizophrenia is a psychotic condition that may affect to development and function of the human brain such as it can cause confusion of cognitive abilities, memory, language, emotion, perception, and self confidence. Symptoms of schizophrenia included positive symptoms and negative symptoms. Indicate by positive symptoms are hallucinations, delusions, confusion when think and speak. In the meantime, the negative symptoms are attitudes quiet, withdraw from social intercourse and a minimum of emotional contact (Rastad, Martin, & Asenlof, 2014).

From the descriptions of condition and maladaptive symptoms of schizophrenia, it would have been required a separate approach to overcome this issue. The efforts which can doto improve the quality of life of patients with schizophrenia is perform maintenance strategy in schizophrenic patients appropriately. According to Addington and Lecomte (2012) describes that the most effective to handling of schizophrenia cases is make the combination therapy such as pharmacological therapy in the form of antipsychotic medication and psychosocial therapy. The hope, these therapies will be reduce symptoms of schizophrenia with the result that increase the patient's recovery. One of psychosocial therapy can be used is Cognitive Behaviour Therapy (CBT).

CBT is a combination psychological therapy that combines cognitive therapy and behavioral therapy. CBTis based on the way individuals interpretation and respond a problem and people would beteachable to change theirs beliefs and behaviors in the first characteristic is maladaptive to be adaptive (Fairbrother, 2009). CBT has been clinically applied as one of intervention in treatment patient with schizophrenia. One of the countries have been implemented CBT is Norway (Thimm & Antonsen, 2014).

In the meantime, the clinical application of CBT in Indonesia had been applied to be one of therapy in mental health nursing. The result of research that have been done by Arjadi (2012) said CBT able to decrease depression in the elderly. The results showed that CBT is very effective in lowering elderly patient depression level. Additionally, Setyaningsih (2011) also conducted a study to analyze the effect of CBT on self-esteem of patients with chronic renal failure. Based on the results of these studies showed that CBT is very effective improving self esteem renal failure patients. This therapy is rarely carried out by health workers for treatment

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of schizophrenia patients because the treatment just only focused on pharmacological treatment alone. Therefore, from the description above there problems, so the author would to explain how the effectiveness of CBT therapyto reduce the symptoms of schizophrenia patients.

Methods

This literature review was collects and analyzed amount ten of the article about CBT. Articles collected through electronic databases CINAHL, Nursing Reference Center, and using the keyword Science Direct which discuss about CBT and schizophrenia. The articles have published in period between on 2009 to 2015.

Results and Discussion

CBT is a one of psychological combination therapy that combines cognitive therapy and behavioral therapy. CBT is focused the way individuals interpretation and respond a problem and people will teach to be able to change beliefs and behaviors in the first characteristic is maladaptive be adaptive. Patients with schizophrenia had been decreased symptoms levels of anxiety and depression around 44% after the patients received CBT.

Schizophrenia is a mental health disorder that can affect of quality clients and families life (Akinsulore, et al., 2014). Schizophrenia can be defined as a psychotic syndrome be disturb and affect the ability of individuals in a variety of functional areas such as the function of thinking, the ability to interpret theirs feeling, and the ability of decision making that causes the individual to behave irrational. The maladaptive behavior is shown two or more of the characteristic symptoms such as hallucinations and delusions in which the individual is able to see and hear something that they believe to be in existence and real. In addition, the symptoms are often generated in schizophrenic patients can be appear into two main categories are positive symptoms and negative symptoms (Duckworth, 2011).

Positive symptoms of schizophrenia can also be called as psychotic symptoms which individuals experience abilitydecreased to think rationally. The form of positive symptoms include hallucinations is defined as a condition in which the individual is able to listen another voice, conversations, strange sounds who is believed by individuals in existence. While delusions is a mistake belief that occurred in the patient. While negative symptoms arise from schizophrenia can to make individuals decreased of motivation and a reduction in emotional reactions such as emotional responses are flat or blunt, there is no push to act or initiative, apathy, seldom spoke, did not interested in doing social interactions so can makeindividuals withdrew from the socialenvironment, and declining performance (Duckworth, 2011).

Based on the description of the conditions and maladaptive symptoms experienced by patients with schizophrenia, we need a therapy that aims to improve the quality of life of patients. CBTis a one of therapy psychological can be used. CBT defined as a form of psychological intervention that combines cognitive therapy with behavioral therapy used to treat psychological problems experienced by

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individuals (Patterson, 2009). CBT aims to teach people to be changing negative beliefs, irrational, and the irregularitiesactions be a rational and positive action so that individuals can to have adaptiveattitudes and behaviors (Morrison, 2009). According, Lau (2009) CBT is a psychological intervention that teach individual to focus and flash back the wrong judgments relating to the cases until appear maladaptive feeling and behavior so that the result can be make individual conscious about his actions. The sentence can be proven with results of the literature search conducted by Jauhar et al. (2014), the results of the meta-analysis of 1246 articles showed that CBT is effective therapy to reduce schizophrenia symptoms. The reduce of positive symptomsseen in the decrease hallucinations and delusionssymptoms, meanwhile decrease of negative symptoms characterized by motivation patient be increase, patient began to speak and interact with the others people, and able to control theirs emotion.

Other research results was also carried out by Thimm and Antonsen (2014) which uses as many as 143 respondents schizophrenia. The results showed that patients with schizophrenia had been decreased levels of anxiety and depression as much as 44% after received CBT. Based on the research has been done before, it could be concluded that CBT was very effective therapy to be applied in order to decrease schizophrenia symptoms.

Morrison (2009) also explains that CBT has a positive impact on patients was characterized by a decrease schizophreniasymptom.The decrease of schizophrenia symptomcan occur because the work principle of the CBT always involves the patient in every intervention. CBT treatthe patient with schizophrenia through some stages: first, build a trust relationship between health workers with patient, together with the patient to recognize and understand symptoms appear, recognize every feeling experienced by patients to an event of the past and today, educating the patient to confront of the problems being faced by exposing the events that have been experienced by patients in the past and led their feeling and negative behavior with the hope can bring out again and coping mechanisms can be increase so that the patient has come back to be more confidence, change in the first beliefs and negatif behavior of patients into a positive.

The working principle of therapy CBT is change the beliefs of individuals about a problem, raise and increase the revived interest of individuals in doing some activity, and can transform an individual's negative beliefinto a positive by given expose back to individuals regarding the activities or places can cause negative feelings in the hope of coping mechanism patterns of individuals can be reformed and increased gradually. CBT therapy was assessed as effective therapy and efficient to provide optimal care ofschizophrenia patients (Vinci, Coffey & Norquist, 2015).

Vinci, Coffey and Norquist (2015) describe in detail the working procedures of CBT. The working procedure of this therapy is the first step gaveexplaination to client about the working principles of CBT. The second step explainedthat the CBT session for 60-90 minutes every week and last for 9-12 weeks. The third step did assesment to review of the daily

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activities are performed while patient at home. The fourth step exploredcore of the problems experienced by the client and remain for focused to change the paradigm towards a positive thinking when the client interpretation the views and negative behavior about a problem. The fifth step gave a stimulus to the client in a way to explore and expose situation patient in the past that can encourage clients to behave negatively until the stimulus is no longer causes the client to behave maladaptive. The sixth step was the end of each session to evaluate therapy by measuring the symptoms caused by the client.

Additionally, Sevi and Sutcu (2012) also added that the working techniques of CBT among others teach the patients to improve the coping mechanisms, gave of psychoeducation, and teach patients how to solve a problem. Thimmand and Antonsen (2014) explained that the elements include in psychoeducationare doing some assesment about depression, wreathe interpersonal relationships, teach the patient how to interaction with others people, explored the patient favorite activities, educating the patient to change his beliefs and negative thinkingto positive thinking, motivate clients to prevent recurrence, and doing evaluation on end of therapy.

In accordance with the above description, it can be seen that implementation of this CBT focuses on cognitive and behavioral aspects with the intervention in depth on both aspects. It can be concluded that CBT is effective therapy to reduce the symptoms of schizophrenia.

Conclusion

Schizophrenia is serious mental health illness that can be make individual have belief and maladaptive behavior. The treatment of schizophrenia with the combination therapy such as pharmacological therapy in the form of anti-psychotic medication and psychosocial therapy. One of appropriate psychosocial therapy is CBT. CBT is a psychological therapy that combines cognitive therapy and behavioral therapy.

Based on several studies that have been conducted, showed that CBT is very effective to reduce positive and negative symptoms of schizophrenia. The decreasein positive symptoms shown by decreased hallucination and delusion symptom while decreased negative symptom characterized by increased motivation of the patient, the patient began to speak and interact with others people, and can able to control theirs emotion.

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THE EFFECT OF THERAPEUTIC GROUP AND LIFE REVIEW THERAPY FOR ACHIEVING ELDERLY DEVELOPMENTAL TASKS BASED ON TRANSITION THEORY

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ABSTRACT

Background: Life expectancy in 2004 was only in the range of 66.2 years and in 2014 increased to 72 years. The Increase of life expectancy caused increasing elderly population or age above 60 years. Elderly developmental task is to achieve ego integrity versus despair, meaning that if the elderly are able to carry out tasks in accordance developmental stages of development will be achieved elderly good ego integrity. **Methods:** Number of sample was 24 healthy old age. Quasi experiment pre-post post design was used for applying the therapeutic group therapy of life review. The transition theory was used as guidelines for implementing and discussing about this therapy in elderly. **Results:** Elderly therapeutic group therapy of life review can improve the integrity of ego 8.6%, while group therapy therapeutic life review can improve the integrity of the ego elderly up to 6.6%. Elderly who achieved the integrity ego showed acceptance to their aging, socializing to the others, free from loneliness feeling, group therapeutic therapy can build their support system from peer and cadre also from health professional especially mental health nurses. **Conclusion:** Group therapeutic therapy of life review can be implemented by community mental health nurses to help the elderly for achieving their developmental tasks.

Keywords: Therapeutic group therapy, life review, elderly development tasks

Introduction

Elderly under Act 13 of 1998 on the welfare of the elderly, is a person who has aged 60 years and over. According to Minister Al Jufri (2013) said that social ministry has recorded 23 million elderly in Indonesia at this time, approximately 58 percent of the number of elderly is still potential. According to Stanley, et al (2005) the various problems faced by the elderly that can affect psychological health of elderly people are entering retirement and the role of loss, decreased income, loss, separation and displacement, loneliness and withdrawn, and weakness and dependence to the others.

Sufa (2013) said that the results of research conducted by Ministry of Health showed the life expectancy of Indonesian people from year to year increases. Life expectancy in 2004 life expectancy was only in the range of 66.2 years and in 2014 increased to age 72 years. In women, life expectancy is greater, could be five years higher. Increased life expectancy is causing increasing elderly population or age above 60 years. The number of Indonesia elderly population in 2000 was about 5.3 million, and in 2010 increased to 24 million. Seniors had the potential to continue growth by implementing its development as a human task. Theory about the task of development is used according to Erickson's theory of

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development, in which the theory describes the challenges or needs in every eight stages of human development (Stanley & Beare, 2007).

According to Erik H. Erikson in the theory of psychosocial development, the elderly lies in the eighth stage of psychosocial development that occurs around the age of 60 or 65 and over is to achieve ego integrity versus despair (integrity vs. despair), meaning that if elderly able to carry out tasks in accordance developmental stages of development will be achieved elderly good ego integrity. Integrity ego is well marked to individual ability in receiving life that happened and when individuals are not able to achieve ego integrity will occur despair or despaired.

Townsend (2011) suggested that the client's care in the hospital led to high costs for individuals and their families than when client care in communities with more cost effective. Development of health service delivery occurs through an assessment of health care needs of individuals, families and communities; development and implementation of public health policies; and improved access to services. Studies made of them include the collection of data on populations, public health status monitoring and the availability of information about the health of the community (Stanhope & Lancaster, 2006 in Potter and Perry, 2009). Pyramid of health facilities is an example of how to conduct community-based services, which consists of five levels, namely the first level is a population-based care facilities, the second is the prevention of clinical facilities, the third is the primary health care, secondary health care fourth and fifth level is a tertiary care. In the population-based services focusing on health care aimed at preventing disease, maintaining health, and health promotion-where it became the basis of primary health care facilities, secondary and tertiary (Potter & Perry, 2009).

Community health nursing is nursing practice in the community, with a primary focus on the health care of individuals, families and groups in the community. Community health nursing aims fatherly preserve, protect, promote and maintain health (Stanhope & Lancaster, 2006 in Potter & Perry, 2009). The focus of the community nursing service is to improve the health and quality of life in the community. One is a community-based nursing basis of primary health care or Primary Health Care. Primary care focusing on individual health services, primary health care while focusing on improving the health of the entire population. Primary health care model requires collaboration between health professionals and community members. 5 Primary Health Care basic concepts is the equitable distribution of health measures, the emphasis on prevention, appropriate technology, community participation and sector linkage cooperation (WHO, 2008). Schafer (1989) in his study of the interest expressed towards health promotion elderly, where elderly suggests the need of improving health information such as the elderly remain active and maintain a positive outlook on life; exercise, nutrition, break and relaxation; monitor blood pressure and health checks; and discipline yourself to do something that is not tight. Stanley and Beare (2007) suggest that the promotion of health for the elderly is not focused on the disease or the inability but

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more on the strength and ability of the elderly. According to Stuart (2009) there are two things that underlie primary prevention activities in mental health psychiatry: first is to help people recognize and adapt to the stressor, and the second is to change the resources, policies, which causes stress but without changing society. Form approach used in primary health care to mental health services is a community psychiatric mental health nursing or community mental health nursing (CMHN).

Community Mental Health Nursing is a comprehensive health care, holistic and focuses on community mental health, prone to stress (risk of mental disorder) and in the stage of recovery and relapse prevention (mental disorder) (Allender & Spradley, 2005). CMHN management concept consists of four pillars: management of community mental health services, mental health worker empowerment management, sector linkages and partnership programs linkages, and mental health case management.

Methods

CMHN services focus on addressing mental health problems in individuals, families and communities. CMHN activities that have been carried out in the period from 17 February until 18 April 2014, contributed CMHN nurses to nursing care for the elderly in particular mental health problems. Community Mental Health Nursing or CMHN is one program that contains the efforts in providing mental health services in society, the one aimed at the elderly. CMHN activities through mental health nursing practice II and III carried out in RW 04 and RW 05 Sukadamai village. The number of elderly in the two-RW around 85 people, but were successfully given nursing care are 8 people in the period October-November 2013, and some 16 people in the period February-April 2014.

The total number of elderly people who have managed is 24 people. Complex nursing diagnoses include physical and psychological problems found in patients under management, i.e starting from the damage to physical mobility is 1 or 4 percent, the risk of falling is 1 or 4 percent, anxiety there are 4 people, or 17 percent, low self esteem is 1 or 4 percent, helplessness, there are 2 people or 8 percent, diagnosis of social isolation is 1 or 4 percent and increase the readiness diagnostics elderly developments there are 14 people or 59 per cent. Of the 24 elderly people who managed the demographic consisting of 22 people or 92 per cent are female, two people, or 8 percent were male sex, 11 people or 46 per cent have a partner, and 13 people 54 percent do not have a partner, 2 or 8 percent of people living alone, 22 people, or 92 percent still live with their partner or with another family as a child or sibling. But in a report KIA, the author will discuss the therapy group implementation in the elderly to increase in development that is only 14 elderly people. Special therapies were given to elderly by nurse were consists of therapeutic group therapy and group life review therapy.

Therapeutic group therapy is a therapy given to a group of people who have a relationship with each other, interdependent, and have the general norms (Townsend, 2011). Group therapy

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therapeutic purposes, maintaining homeostasis (Montgomery, 2002), focuses on the dysfunction of the feelings, thoughts and behaviors, helping to overcome emotional stress, physical illness, crisis growth or social adjustment. Therapeutic group therapy can be given to all age levels appropriate growth stage and can be done in groups or individually. Therapeutic group therapy is the treatment of elderly given to healthy elderly aimed at helping the elderly to obtain and maintain balance adjustments to changes in the growth process to achieve the integrity of self (Stuart & Laraia, 2005). According to Stuart and Laraia (2005) in Trihadi (2009) Group therapeutic therapy consists of three steps which contain a group of pre-phase, initial phase, and termination phase. Therapeutic group therapy is expected to improve the adaptability of the elderly to the change process. This therapy is performed on a group of healthy elderly, the focus of this therapy is stimulation of adaptation to changes in the biological aspects, the sexual aspects, social aspects, aspects of the psychosocial, and spiritual aspects. This therapy has been developed by Faculty of Nursing Science of University of Indonesia (2011), which is based on modules made of group therapeutic therapy elderly arranged stages and consists of 6 sessions.

Psychotherapy for managing depression in the elderly includes life review therapy. Based on meta-analysis from 17 studies which discussed life review therapy, it is a therapy that is not expensive compared to other therapies such as cognitive therapy, behavioral therapy, and reminiscence, psychodynamic and supportive therapies. Life is defined as the observation retrospective review (backward) or existence, live or study criticizes reconsideration (second look) against a person's life (Wheleer, 2008). The goal of therapy of life review is to help clients focus on the positive memories of the past rather than thinking negative life experiences, can help improve the overall emotional well-being of parents struggle during the transition period (Mitchell, 2011). Several studies have shown the benefits of therapy on life review, it will be a source of inspiration in the world of nursing to develop it as a therapy nursing specialists.

Nursing has its own knowledge that is theoretical and practical. Theoretical knowledge according Meleis (2006, in Potter & Perry, 2010) is included in it a reflection of the basic values, guiding principles, elements and phases of a concept of nursing. Thought provoking purposes theoretical knowledge and comprehensive understanding of creation science and the practice of nursing discipline. That requires an approach to nursing theory in performing nursing care, in this paper the author uses the theory or theories transition transitions Meleis. End of life is a complex transition period/multiple, because they have to face retirement, loss of job, couple or friends, the shift to a new life situation, the development of chronic diseases and weakness is the experience faced by the elderly (Meleis, 2010). Transitions theory was developed by Afaf Ibrahim Meleis. Transitions development theory began in mid-1960, and began to be used and was first introduced in 2002 (Alligood & Tomey, 2010).

From the above phenomenon, the authors

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are interested to write a scientific paper with the basic issue of whether to apply the elderly and Group therapeutic therapy Life Review can help the elderly in achieving its development tasks and analyze it using concepts and models of nursing. From the formulation of the problem is eating the authors draw a heading "Application of elderly people and Group therapeutic therapy Life Review in achieving the developmental tasks of integrity in the elderly by using Transitions Theory in RW 04 and RW 05 Sukadamai Village , Bogor".

Results and Discussion

The results of the application of specialist therapy in elderly group therapy and Group therapeutic therapy elderly generalist experience changes in sexual and biological aspects as much as 97.2% and decreased the number of clients to 49.5% after therapy. Clients who are experiencing changes in the cognitive aspects as much as 75% and decreased the number of clients to 50%. In the affective aspect before treatment as much as 87.5% of elderly Group therapeutic therapy and Group therapeutic therapy elderly after therapy decreased to 75%.

Behavioral aspects as much as 60% before treatment and after treatment is given to increase to 95% and social aspects as much as 93% increasing to 95% after therapy is given Group therapeutic therapy elderly. While in the second group to therapy generalist, the elderly and Group therapeutic therapy life review, obtained data on the biological aspects of sexual and as much as 97.2% and decreased the number of clients to 49.5% after therapy. Clients who have experienced of changes in the cognitive aspects as much as 75% and decreased the number of clients up to 50%.

In the affective aspect before treatment as much as 87.5% of elderly Group therapeutic therapy and Group therapeutic therapy elderly after therapy decreased to 75%. Behavioral aspects as much as 60% before treatment and after treatment is given to increase to 95% and social aspects as much as 93% increasing to 95% after therapy is given Group therapeutic therapy elderly.
In the elderly ego integrity scores increased after given TKT elderly as much as 8.6%. In the group given life review therapy experienced the increase 6.6%.

Evaluation of the ability to compare the percentage increase before therapy and after therapy. Ability to know the problems due to changes in the elderly an increasing number of clients as much as 17% and in group 1, while group 2 increased 30%.

On the ability to adapt to changing biological and sexual aspects, group 1 increased by 60% and in group 2 increased 80%. On cognitive aspects increased into 10% in group 1 and 27% in group 2. Affective aspect an increase of 40% and in group 2 increased to 150%. The social aspect an increase of 20% in group 1 and group 2 increased to 31%. Spiritual aspects of an increase of 20% in group 1 and group 2 increased to 26%.

According to Potter and Perry (2009) developmental tasks elderly is how the elderly were able to adapt to the physical and psychosocial changes faced by the elderly. Results of the evaluation of the ability of the therapeutic group therapy

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after the elderly and evaluation sign symptoms did not reveal any signs of symptoms of desperation on every elderly would occur an increased ability to adapt to change. Elderly therapeutic group therapy conducted in 6 sessions or meetings, carried out 2 times a week. The presence of member for each session is always 100% and the elderly are particularly enthusiastic to follow this special therapy. This is supported by research Schafer (1989) argued about the interest of elderly to health promotion, where the elderly suggests the need of improving health information such as the elderly remain active and maintain a positive outlook on life; exercise, nutrition, break and relaxation; monitor blood pressure and health checks; and discipline yourself to do something that is not tight.

Therapeutic application of therapeutic group Life reviews indicate an increase in signs and symptoms of different healthy elderly or 34.2% difference from before is given therapeutic life review group therapy and after therapy is given life review. Application of life review therapy therapeutic group also showed an increase integrity in the elderly to 6.6% life review therapy has been recommended for the treatment of depression in the elderly (Scogin, Walsh, Hanson, Stump, & Coates, 2005). In the study Serrano, et al (2004) to 20 elderly with ages between 65-93 years old who are depressed without dementia, has been given life review therapy for 2 weeks with a result reduce depression and increase life satisfaction.

Results of evaluation of the ability of the elderly therapeutic group therapy obtained an increased ability to follow the therapeutic group therapy elderly as much as 33%. The data showed an increase in scores integrity in group therapy or group therapy therapeutic elderly therapeutic group life review. But there were two people (14%) did not have increased, this is according to the assumption of the writer due to other factors that affect them education and a closed personality of the elderly client and the client's lack of involvement in group activities. An understanding of the content of the questionnaire is also influenced levels of client education, but it is also a culture of openness towards individual integrity less ego. Achievement of optimal integrity of the elderly will not only with the efforts of the elderly alone, but needs the support of other people, namely families, groups and communities (Mauk, 2010). There were elderly who have highest score of the highest integrity, based on the analysis of therapist that client's personality and self-awareness that is open enough to change that marked the clients often Exchanging ideas with members of the group during the implementation of group therapy therapeutic elderly.

Characteristic of good integrity is characterized by the ability of individuals to receive a sense of life that happened and when individuals are not able to achieve ego integrity will occur despair or despaired. Application of therapeutic elderly group therapy also showed the increase the ego integrity as much as 8.6% higher than the increase in group therapy therapeutic life review. Pase study (2012) on the effect of group therapy on the integrity of therapeutic elderly also showed an increase in scores integrity.

Therapeutic nursing theory describes the transition that was developed through three

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activities, namely the assessment, nursing interventions and the role of health education. Health education and prepare for the development of individual self is the goal in nursing therapeutic. This is in accordance with the application of therapeutic elderly group therapy, where there is an element of health education about the introduction of changes to the bio psychosocial aspects of the elderly and teach the group how to adapt to and involvement in the provision of nursing interventions. Each session in the elderly therapeutic group therapy always involves members of the group. Principle in the theory of transition is a client as an individual and the social environment (Meleis, 2010). The social environment is described as a social support that families, groups and communities, so that proper use in the application of the nursing care of the elderly in the community area.

Conclusion

Elderly therapeutic group therapy can improve symptoms signs of healthy elderly as an average of 10% and a life review group therapy therapeutic improving the symptoms signs of healthy elderly as much as 50%. Group therapy therapeutic integrity elderly increase an average of 8.6% and a life review group therapy integrity elderly increase an average of 8.6%. Therapy therapeutic group life review can improve the integrity of the elderly themselves an average of 6.6%. Community involvement through the role of mental health volunteers is very important in community mental health nursing program. The transition theory as an approach in nursing care for the elderly in the community area can be implemented precisely.

This article is based on scientific work, the therapist should be expected to use evidence based scientific work in the preparation of this final and use as a basis for scientific development of mental health nursing, mental health care, especially the elderly, the role of the nurse Community Mental Health Nursing / CMHN further enhanced in supporting health nursing practice people in the community, involve the family or caregiver in the care of the elderly in community life. This research is related to the expected future scientific work on the effectiveness of therapy life review done individually or in groups, research on the relationship with the variable characteristics of the elderly integrity, to implement transition theory research on other developments such as teenagers, young adults, and middle adulthood.

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THE EFFECT OF SELF-SELECTED INDIVIDUAL MUSIC THERAPY (SeLIMuT) ON ANXIETY LEVEL OF PALLIATIVE CANCER PATIENTS AT dr. SARDJITO HOSPITAL YOGYAKARTA

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ABSTRACT

Background: most of palliative cancer patients have experienced to anxiety. Furthermore, nurses rarely give treatment to release anxiety to patients. Self-selected Individual Music Therapy (SeLIMuT) as a complementary therapy was to aid the process of relaxation and reduce anxiety easily, cheaply and effectively. This research aimed to knowledge the effect of SeLIMuT on the level of anxiety on palliative cancer patients. **Methods**: Quasi Experimental pretest and post-test design with Comparison Group by using purposive sampling were conducted in inpatient ward dr. Sardjito Hospital. Total number of respondents were 46 patients, divided into control group (n = 23) which was not given any interventions, and the intervention group (n = 23) which was given SeLIMuT therapy for 15-20 minutes. The anxiety measurements were conducted twice, pre and post with Anxiety Visual Analog Scale (VAS). **Results**: This study showed that there were significant differences in the mean anxiety in both groups. It showed by p value = 0.001 ($p < 0.05$). Decreasing of anxiety occurred in the intervention group. It showed by mean value (SD) 1.36 (0.49). **Conclusion**: SeLIMuT is effective treatment to decrease anxiety level of palliative cancer patients.

Keywords: palliative cancer, anxiety, SeLIMuT, Anxiety Visual Analog Scale

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Introduction

Cancer is life-threatening disease and it can contribute to psychological or mental health problems. It is frequently observed in cancer patient population (Vignaroli, 2006). The Psychosocial Collaborative Oncology Group (PSYCOG) identified psychiatric disorders in cancer patients by 47%, which includes depression and anxiety (68%), depression major (13%), organic mental disorders (8%) and personality disorders (7%). With one of the main goals of palliative care being to improve quality of life, it is important to recognize and treat mental health disorders that can further decrease physical and emotional functioning in this vulnerable patient population (Hotopf, 2002).

Cancer patients who are depressed and anxious three times more at risk disobedient to treatment than patients are not depressed and anxious (Berger et al., 2002). In the terminal stage cancer patients with anxiety have some very detrimental effects, like increased the incidence of insomnia, reduced confidence in the physical ability, participate in medicine and became poor quality of life (Kolva, 2011). The higher clinical stage of the cancer getting worse Quality of Life, patients should receive a comprehensive

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palliative and sustainable care. The purpose of palliative care is to realize the optimal Quality of Life towards the end of life (Fallon & Hanks, 2006).

The current trend of palliative care is to combine medical therapy with complementary therapies (Complementary and alternative medicine / CAM) to reduce symptoms that bother the patient. One kind of therapy is complementary music therapy. From medical side, music has a beneficial effect on the body and psychology. Music therapy has positive effect to help patients expressing feelings, helping physical rehabilitation, influence positive moods and emotions, improve memory, and providing a unique place to interact and build emotional (Purwanto et al., 2008).

One technique which is easy to do is listening to the preferred music because it is inexpensive, and can be done anytime. In palliative patients, listening to music using tape, MP3, MP4, cell phone, either recordings or live is common reminding the physical limitations experienced by patients (Bradt & Dileo, 2009). Music therapy can also be given together with deep breathing and relaxation techniques such as progressive muscle relaxation (Krout, 2007). Seeing this phenomenon, researchers were inspired to establish a music therapy procedure that includes music therapy itself, along with other modalities, such as self-selected Individual Music Therapy (SeLIMuT).

SeLIMuT music therapy is a therapy that can be carried out independently by the patients, with a practical method which doesn't need to be attended by therapists. Music therapy is done by applying aspects of patients' independence. During the process of therapy, patients can determine the choice of music as desired, adjust the volume accordingly and can be done anywhere, with effective use of time and equipment which is simple and inexpensive.

SeLIMuT therapy can also be applied simply, so it is suitable for the cancer patients who basically have many physical and psychological problems. The main physical and psychological problems in cancer patients are pain (Kurnianda & Murti, 2005) and anxiety (Kolva, 2011). According to Haun (2001) Cancer pain can stimulate of the activity of anxiety characterized by an increase of sympathetic nerve activity and muscle tension which can cause the additional pain. Thus, it is very important to study more about anxiety in palliative cancer patients.

Interviews conducted by researchers with the nurses in the dr. Sardjito Hospital, they explained about non-pharmacological measures, including music therapy that has never been applied to cancer patients in dr. Sardjito. According to this fact, the researchers are interested in doing this research entitled "The Influence of Self-selected Individual Music Therapy (SeLIMuT) on the level of anxiety in palliative cancer patients in dr. Sardjito Hospital". This study was aimed to determine the effects of music therapy SeLIMuT done in 2-day administrations of the intervention.

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Methods

The type of the research used in this study was Quasi Experimental- pretest and post-test design with Comparison Group in which observation was done twice, before and after the experiment of the intervention group and the control group.

The population in this study was palliative cancer patients hospitalized in dr. Sardjito Yogyakarta. Samples were taken by *purposive sampling technique*. The inclusion criteria of the respondents of this study were as follows: patients were diagnosed with breast cancer, nasopharyngeal, gastrointestinal tract, cervix, and prostate stage IIIa, IIIb or IVa by physicians, 18 or more year old patients, the patients at least had mild anxiety, the patient did not have a hearing loss, and the patients were willing to engage in the research. The exclusion criteria of the respondents of this study were patients in *emergency* conditions, uncooperative with the research, undergoing anxiolytic medication manifold *tiopentil, flumazenil,* and patients were experiencing decreased consciousness.

Based on the research conducted by Massafi et al. (2011) with a semi-experimental method (pre-test - post-test with control group), it was obtained by the estimated standard deviation score of anxious population (σ) of 11.6. Estimated value of the average (mean) of anxiety in the experimental group after the intervention was 47.9 and the average value (mean) of anxiety in the control group after post-test was at 57. By counting the differences of the effects, there were 8, and then the respondents in this study were 21 patients in each group. The total sample used 42 patients, 4 patients with the possibility of *10% loss to follow-up*. Therefore, the samples have been taken in this study were 46 patients.

In the intervention group SeLIMuT therapy was given for two days. Therapy was given twice a day, in the afternoon and in the evening. It was started with taking a deep breath in one minute of the duration, and continued to the music therapy in 15 minutes. The treatment was conducted one to four hours after patients were taking the drugs.

In the control group, the respondents were not given intervention, and only were they taking usual medication prescribed. The instrument used to measure the level of anxiety in this study was *Anxiety Visual Analog Scale* (VAS). *Anxiety* VAS was an anxiety level measuring instrument most widely used in various clinical studies and applied to various types of measurements, such as psychological and health status measurements (Cohen et al., 1995; Padilla et al., 1983; Daut et al., 1983).

Anxiety level measurement with *Anxiety* VAS used a horizontal line which formed the scale with the length of 10 cm or 100 mm with an assessment of the left line which indicated "no concern" to the tip of the right line saying "anxiety extraordinary" (Davey, 2007). Patients were asked to sign with the vertical line on the line that described the feelings of anxiety experienced at that moment (Davey, 2007). The *Anxiety* VAS value was determined by measuring the length of the left line to the vertical line that was

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made by the patients in millimeters (Tamiya, 2002).

VAS Interpretation score of 0-4 mm was not anxiety, 5-44 mm as mild anxiety, 45-74 mm as being anxious 75-100 mm as heavy anxiety (Tamiya, 2002). Davey et al. (2007) reported that the *Anxiety* VAS was a sufficiently reliable measuring instrument used in the measurement of the anxiety. Several other studies indicated that VAS was a valid and reliable measurement in measuring the level of anxiety in patients with anxiety disorders and panic generally (Bond, 1995). Chang's research et al cit Jensen (2003) demonstrated the validity of r> 0.7. VAS reliability of r = 0.78 using the test-retest at intervals of five minutes, and was obtained r = 0.75 with a test-retest interval for 1 week (Davey et al., 2003).

The respondent demographic data and health conditions were analyzed by univariate analysis. On the categorical data, the data were presented in the form of frequency tables and percentages. Meanwhile, the numerical data were presented in the form of *mean, median* and *standard deviation*. These data were also analyzed to determine its homogeneity test, which the categorical data were analyzed using the chi-square, Fisher and Pearson with regard normality test using the Shapiro-Wilk test. In the numerical data of the homogeneity test, the test was done using independent t-test in normality distributed data and the Mann-Whitney Test in abnormality distributed data.

Results and Discussion

On respondent's demographic data, there were obtained if all the variables on the demographic characteristics of the respondents between the control group and the intervention group were homogeneous. This illustrated that demographic conditions between the two groups had the same characteristics, and did not differ significantly. On the results of homogeneity tests conducted on the variables contained in the health condition of respondents, it was obtained that variables consisting of types of cancer, disease duration, stage of cancer, the amount of chemotherapy, the number of radiotherapy, other diseases and cigarette consumption between the control group and intervention in a homogeneous condition. This showed that the health condition of respondents associated with the process of the disease of cancer had spreading homogeneous data.

The music variations used were divided into several genres of music, including spiritual ones, dangdut, Indonesian pop, Campursari, kroncong, instrumental, and more than one.

Based on statistic result, there are significant differences in the average value of anxiety statistically in both groups with p = 0.001 (p <0.05). From 23 patients of the SeLIMuT, score of pre-post with a mean (SD) obtained was 1.36 (0.49).

Table 1

Comparative Results; Mean change of Anxiety Level in Intervention (SeLIMuT) Group and Control Group

Group	n	Mean (SD)	p value
SeLIMuT	23	1,36 (0,49)	0,001
Control	23	0,06 (0,28)	

On the result of anxiety value analysis of pre-post control group, it was obtained mean (SD) 0.06 (0.28). At the mean value

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(SD) the score of anxiety pre and post-tests of the control group obtained was 3.06 (2.25) and 3.00 (2.24). It was clear that in the control group there was also a decrease in the anxiety, but statistically it did not show a significant difference.

Table 2
The difference of anxiety level in the control group between before and after Self - Selected Individual Music Therapy

	n	Mean	SD	p value
Pre-test	23	3,06	2,25	0,285
Post-test	23	3,00	2,24	

The difference test of anxiety mean between groups which was given SeLIMuT therapy and not given SeLIMuT therapy showed a significant difference with value of p = 0.001 (p <0.05). This difference test was conducted using the Mann-Whitney Test

Table 3
The difference of anxiety level in the intervention group between before and after Self - Selected Individual Music Therapy

	n	Mean	SD	p value
Pre-test	23	1,36	0,46	0,001
Post-test	23	0,06	0,11	

Statistically, it was obtained the difference in the mean (SD) on the average of pre-test anxiety with the results of the 1.36 (0.46) and post-test with value of 0.06 (0.11), so it caused the decrease on the post- test group. It showed that the mean anxiety in the intervention group decreased right after the intervention. The different mean anxiety in the intervention group before given SeLIMuT therapy (*pre-test*) and after given SeLIMuT therapy (post-test) showed a significant difference with value p = 0.001 (p <0.05). This different test was performed using *paired T-test*. On the table above, it was found a difference in the mean (SD) of the pre-test anxiety mean value of the 3.06 (2.25) and the average value of the post-test anxiety 3.00 (2.24). It showed that the average decline in the *post-test* group, but the value was not a significant difference from the results of the statistical tests analysis. The mean different test anxiety in the control group between the *pre-test* and *post-test* showed no significant difference with p = 0.285 (p <0.05). This difference test was performed using *Wilcoxon* test.

The results of the research indicated that the SeLIMut music therapy significantly affected the anxiety in palliative cancer patients in IRNA I DR. Sardjito Hospital. The influence of a decrease was in anxiety in cancer patients in the palliative IRNA I DR. Sardjito Hospital.

Music therapy had a positive influence on the palliative cancer patients because the music therapy could change the atmosphere of the patients' emotion and feeling bored. Medically, music had a beneficial effect on the body and psychology. Listening to music had an influence on the decrease of the stress level, anxiety, depression, heart rate, decreased blood pressure, and reduced the need for medication of anti-pain (Brunges & Avigne, 2003; Covington & Crosby, 1997; Good, Anderson, & Stanton-Hicks, 2002; Steelman, 1990), in addition to the audio stimulus with music could give the effect of relaxation and analgesia (Latifa et al., 2006).

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Stimulation affected the pituitary in the brain to release the β-endhorphin which was basically neurohormone that effected in reducing anxiety to someone by lowering the body's metabolic needs as indicated by a decrease in blood pressure and pulse (Judith et al., 2010).

The relaxation effects and reducing anxiety could also be obtained with a therapeutic deep breath. The process of breathing involved breathing movements in the abdomen and chest breathing stimulated the movements of the lungs, more effective in fulfilling the needs than breathing oxygen usually done (Kaushik, 2006). A person who was experiencing the anxiety tended to have higher oxygen demand because activating the autonomic nervous made the lungs work (Djohan, 2010) and heart was getting faster (Frijda, 1986). By the time someone took a deep breath with a regular lung rhythm capacity would become more optimal and effective (Kim SD and Kim HS, 2005), so that the oxygen demand was very high when the anxiety could periodically be filled (Hayama & Inoue, 2011), and the spur worked autonomous nervous system that affects the limbic system in regulating someone's emotional patterns to return to be normal (Djohan, 2006).

Supine position was the most effective position to carry out the deep breath, because these positions helped the flow of air into the lungs smoothly (Kaushik, 2006), and helped the breathing through the process of biomechanics that occurred from the positions of head, neck, and chin connected with the joints formed in the temporal area and mandibular (Hruska, 1997). The same thing happened during the process of the SeLIMut therapy in this study. SeLIMut was one of the music therapies combined with the deep breath therapy done by giving researchers' instructions, with the supine position and at the beginning before giving the music therapy.

SeLIMut facilitated the patients to choose his own songs. During the therapy, they felt calmer, more comfortable and enjoyed the music choice, because they felt more familiar with the music that was being used. It was also shown by several phenomena, such as, several patients have ever participated in singing the lyrics memorized some parts of the lyric, moved some parts of the body such as the toes, and moving the wrist. It was the same as the previous research conducted by Mandel (1993) which stated that music therapy which used music grooved and could create feelings of comfort, enjoy, could show a better effect in reducing anxiety for palliative patients.

Physiological responses that often arose from the music therapy with a certain rhythm caused by emotional aesthetic of music that emerged in the physiology of the human brain also based on the existence of a particular nerve, in other words, the nerve has been arranged for a certainly specific music emotion (Djohan, 2010). Another factor influencing the success of music therapy was very starring role of voice and the client's perception of the voice, whereas someone's perception was often influenced by the musical and social experience of culture (Djohan, 2010), it could be concluded that the selection of songs which were appropriate to the condition and the patient's perception in music therapy greatly

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affected the success of achieving the goals of music therapy itself.

Music element was not only a stimulating element but also a relaxing element. Elements of the music that was relaxing having characters such as tempo which was stable, stability or a gradual change in volume, rhythm, *timbre, pitch* and harmony (Djohan, 2006). Judith et al., (2010) said that music interventions performed by using this type of pop music, instrumental, traditional music, spiritual music and jazz. The same thing happened in this SeLIMuT therapy, the patients could choose a song according to their own choice, with a choice of several types of music genres such as pop, classics, kroncong, campursari, religion, dangdut, as well as jazz.

The types of music that were given during the treatment consisted of songs with the kind of music that was slow with a steady tempo, low sound, and soft dynamic, consistent texture (the combination of voice and instrumental ones), did not contain percussive sounds, gentle timbre (sound or color tone), *legato melodies*, and simple harmonies.

In this research, the therapy music used was music which had a passive method, the respondents listening to the MP3 music with a headset. Patients were focused on the sound coming out of the headset that was the music used as a therapeutic tool that they chose according to the previous explanation. Thus destructing factors associated with noises could be minimized. The fact of the research showed that using these methods during the intervention led to no difference in the mean level of anxiety respondent intervention group before and after SeLIMuT therapy on the level of respondents' anxiety in the intervention group. This was supported by studies Chan et al., (2009), where the provision of music therapy intervention with the same methods that used MP3 could significantly lower levels of anxiety. In the study also noted that with the help of a headset when listening to MP3, the patients could focus more on the duration of the intervention, it was because this method could minimize sound distractions originating from outside the therapeutic intervention. This was also supported by Heitz's research (1992), which proved that the treatment group music using the headset during therapy was significantly lower compared with the level of anxiety in the group who underwent the music therapy without using headset. The phenomenon was caused when someone felt more focused on the relaxing desire flow of nerve that affected the release of β-endorphin would run more regularly and had a big effect on the feeling of comfort and quiet with demonstrated that the hormone cortisol levels were decreased after the intervention (Leardi et al ., 2007).

SeLIMuT conducted over two days with the face-to-face twice each day. Every face to face, the respondents in the intervention group were given the choice of music therapy for approximately 15 minutes and has been effective in lowering levels of anxiety. The phenomenon was similar in the study Boothby et al., (2011) showed that a decline in levels of the hormone cortisol were significantly higher in the group of respondents who received music therapy with a duration of 10 to 20 minutes compared to the group receiving music therapy for 30 minutes. The study

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also explained that the respondents group who received music therapy to 30 minutes of many complains of feeling boredom and increasingly uncomfortable. So Boothby et al., (2011) stated that the duration of therapy was more effective with less than 20 minutes. It was also stated by Guetin et al., (2008), which was almost similar to this study indicated that the duration of 15 minutes, the respondents might feel the relaxing effects as indicated by the decrease of levels of anxiety and depression levels. The fact the study also showed that the treatment duration ranging from 15 minutes SeLIMuT were also considered effective to reduce anxiety among respondents in the intervention group. Therapy given SeLIMuT around 15:00 pm and 19:00 pm. The timing of this was agreed by the care team in the inpatient ward dr. Sardjito Hospital, so the timing meant it did not interfere with the regulation of the activities remained procedure which resulted in activity that could disturb the patient's care. The timing was also based on the patients' leisure time, so that the patients were not disturbed and felt compelled to do this SeLIMuT therapy. Based on all the phenomena described above could be concluded that listening to music had many positive effects in the healing process. In the process of healing were found to handle the anxiety associated with the process of diagnosing the disease, ignorance of things that would happen and the emergence of the fear of things which were not expected (Judith et al., 2010). Therefore, music was an appropriate and effective therapy to address the anxiety issues that occured especially in palliative cancer patients This study showed that a SeLIMuT therapy was effectively applied in significantly reducing the level of anxiety in palliative cancer patients. The effect of positive response to the positive aspects indicated most of the respondents were the disappearance of the expression of fear, reduced muscle tension and feelings of fatigue (Heitz et al., 1992).

Conclusion

Based on the results of research and discussion of the influence of the Self-Selected Individual Music Therapy (SeLIMuT) on the level of anxiety in the department of palliative cancer patients dr.Sardjito hospital could be concluded that there were significant SeLIMuT therapy to decrease the level of anxiety in the department of palliative cancer patients dr.Sardjito Hospital. Expected nurse at the time of going to therapy blanket is recommended to provide this therapy at certain hours, so it was not expected to interfere with the activity of the patient, in addition to the nurse could do the promotion or recognition of the patient so that the patient could benefit from this therapy independently in overcoming anxiety.

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EFFECTIVENESS OF SUPPORTIF THERAPY TO HYPERTENSION CLIENT WITH ANXIETY: SOCIAL SUPPORT THEORY BASED APPROACH

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ABSTRACT

Background: hypertension can cause anxiety and may influence patient's quality of life. Anxiety can be burden to patient with hypertension. Prolong anxiety may cause maladaptive behavior which can create mental health issues. The purpose of this final report is to describe the implementation of support therapy on hypertension patient who experience anxiety using social support theory **Methods:** This scientific report used pre-post intervention without control. Support therapy was given onto hypertension 15 patients who experience anxiety. Therapist examined the signs and symptoms of anxiety before and after gave therapy. **Results:** The result showed that the supportive therapy could decrease level of anxiety symptoms of hypertension patient and increase patient's ability in using supporting system. Coping mechanism of the clients with hypertension and anxiety become adaptive. **Conclusion:** It is recommended that support therapy become nursing specialist therapy to improve social support in treating anxiety.

Keywords: anxiety, hypertension client, supportive therapy, social support theory

Introduction

Hypertension is the increase in systolic and diastolic blood pressure above 140/90 mmHg and as a risk factor for myocardial infarction and stroke. Hypertension can lead to permanent damage to organs such as kidney failure, stroke and damage to the heart and require treatment or management of hypertension in the long term, lifetime and must be continuously apart by changing his lifestyle. In advanced stages of hypertension can lead to physical symptoms such as headaches upon awakening, blurred vision, epistaxis and psychological symptoms are anxiety and depression (Baradero, Dayrit, & Siswadi 2008; Brashers, 2008).

Hypertension impact on meeting the needs of everyday life that is fulfilling the function of the physical, psychological and social functioning changes for clients and families having to adjust to changes in health condition. The physical changes on the client hypertension may affect the reduction in revenue resulting burden and economic problems in the family because of the cost of treatment and care of the old, time-out with no work or become unproductive. Changes in psychological and emotional adjustment on the client hypertension can reduce quality of life, if the client is not able to adapt to changes in health condition and not being able to use adaptive coping (Sarafino & Smith, 2011; Holmes & Deb, 2003).

Hypertension can lead to anxiety and depression that will affect the quality of

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life and the burden on the family as a caregiver, as well as the economic burden (Larsen & Lubkin, 2011). Based on the hypertension with anxiety and depression, that 16.7% of clients hypertension was found 8.1% and 4.9% experienced anxiety with depression that occurs during the 12 months (Grimsrud, Stein, Seedat, Williams, & Myer, 2009).

Results of another study conducted by Wei and Wang (2006) showed that the 103 clients of hypertension was found 11.6% had severe anxiety SAS with a score of more than 40 as a result suffer from hypertension, and more common in female clients, clients with a history of hypertension more 3 years as well as clients with a history of severe hypertension treated with cardiovascular problems. The above results indicate that hypertension can lead to anxiety that needs treatment to prevent an increase in the prevalence of anxiety.

Anxiety can be caused by a disturbance in the brain associated with physical disorders or psychiatric disorder that is manifested by feelings of fear, palpitations, discomfort, sweating and shortness of breath or chest pain so that individuals can not meet the needs of life and daily activities into disturbed (Keliat, Wiyono & Susanti, 2011).

Efforts to address anxiety in clients with hypertension in the community is by providing a program service of a community-based mental health nursing by providing supportive therapy. Implementation of this supportive therapy by using the Social Support Schaffer theory approach. Rockland (1993) in research in Africa shows an association between

Stuart and Laraia (2005) explains that supportive therapy is very effective for clients with schizophrenia, anxiety, post-trauma stress, eating disorders, and very good also for clients with physical illness problems. Supportive therapy was created to help clients hypertension in overcoming anxiety problems encountered.

Methods

Implementation of group therapy as much as 4 sessions held with three meetings every single week with a time of 40-60 minutes for each meeting, with the involvement of mental health cadres. The number of participants 15 people were divided into 2 groups. Analysis of the data by processing the average values of anxiety pre and post supportive therapy is done.

Results and Discussion

Characteristics of clients hypertension with anxiety given supportive treatment were women, the majority of elementary education (80%) and not working. The average age of the clients who experience anxiety hypertension was 48.2 years with the youngest age range are at the age of 37 years and the oldest 57 years old, while the average length of clients suffering from hypertension is 3.27 years.

Supportive therapy results showed that the decrease in the signs and symptoms of anxiety with the change in value in response to cognitive, afective, behavioral, physiological and social to be reduced by comparing the value before being given supportive therapy with supportive therapy

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given value after. Pre and post the results can be seen in table 1.1

Based on the response ranges Hamilton, mild anxiety value ranges 14-17, 18-24 and 25-30 anxiety was severe anxiety showed that anxiety on the client hypertension after being given supportive therapy decreased by 14 points from moderate anxiety level with a score of 19.13 becomes anxiety with a score of 5.13. Results of changes in the level of anxiety can be seen in Table 1.

Table 1

Average Anxiety Response Clients Hypertension pre and post Supportive Therapy (n = 15)

No	Response	Anxiety		
		Mean (pre)	**Mean (post)**	**Mean Difference**
1	Response of cognitive	3,4	0,93	2,46
2	Response of Afective	3,6	0,86	2,73
3	Response of physiologis	8,8	2,53	6,26
4	Response of behavior	3	0,13	2,86
5	Response of social	0,8	0,13	0,66

Table 2.

Anxiety Level Clients Hypertension Before and After supportive therapy (n = 15)

Variable	Mean (pre)	Mean (post)	Mean difference
Anxiety	19,13	5,13	14

A decrease in the signs and symptoms of anxiety in clients with hypertension, according to the analysis of authors because of the supportive therapy is client can exchange experiences with other group members about the condition of the disease and the problem, have the same opportunity to express the problem and do not feel alone, mutual support among members in the group.

Social support may influence the ability to be adaptive coping. Social support impacts on health status, health behavior and can be used in health care. There was also a lot of positive things from social support include improving health promotion behavior, coping, well-being, self-esteem, lower anxiety (Stewart, 1993 in Peterson & Bredow, 2004). Clark (2013) said that social support is a very important factor in predicting physical and mental health, improve well-being and prevent anxiety.

Anxiety on the client hypertension largely due to the inability of the client to resolve the problems facing the problem of his physical condition due to hypertension. Clients disturbed by the complaints he felt like dizziness, headache, back pain, blood pressure rises to meet the needs of everyday activities become compromised and becomes a threat to the client.

Stuart and Laraia (2005) explains that the physical disturbance can threaten to physical integrity that can cause a person's

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ability to perform everyday activities into decline and an internal threat that is the failure of the physiological mechanisms of the body such as cardiovascular problems, immune system and changes in body temperature may precipitate anxiety.

Cognitive responses that are found on the client hypertension decreases after being given supportive therapy. Cognitive responses are consistent with the theory that describes the cognitive response to the anxiety that confusion, decreased concentration, forgetfulness, attention decreasing, blocking, creativity declined, airy perception narrowed, unable to resolve the problem, it is difficult to make decisions, focus on the stimulus increases, difficult thinking, unable to consider the information, illogical thinking, tend to blame others and can not think rationally (Videbeck 2011; Herdman, 2012; Stuart, 2013). The client's mind focused on the problems faced associated with perceived physical complaints as a result of hypertension. Cognitive responses decreased concentration and focus on the problem in accordance with cognitive response to the condition of the client is experiencing moderate levels of anxiety (Videbeck 2011; Herdman, 2012; Stuart, 2013).

The results were found in hypertensive clients with anxiety shows that most clients do not know and are not able to cope with anxiety. This shows that the client still lack the informational support in accordance with the application of the theory of Social Support. Informational support can be obtained from both nurses and health care workers health care providers, friends, family, neighbors or other people around who can provide information to improve knowledge and change health behavior (Peterson & Bredow, 2004). Informational support in this respect that can be given to clients is about knowing anxiety and how to overcome or information on how the prevention and treatment of hypertension.

Affordable health care facilities, availability jamkesmas, health officials both doctors and nurses who provide services impact on clients with hypertension with low socioeconomic status to improve the welfare and improve their health status. Availability of health care facilities and health workers are a source of support for the client so that it can be used as a source of coping.

Efforts to increase the sources of support formal and informal, the nurses can develop and strengthen relationships with clients, forming a group for mutual support, using a system of support from neighbors, program volunteers and resources exist in the community (Froland, Pancoast, Chapman & Kimboko 1981 in Peterson & Bredow, 2004). Social support can be used to assess the community and the surrounding environment to identify problems and high-risk groups (Stuart, 2013).

According Videbeck (2011) there are two specific components necessary for an effective support system into which the client's perception of the support system and the response of the support system. Clients should understand that social support systems reinforce the confidence and self-esteem and provide assistance related to interpersonal stress by offering

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help to resolve the issue. According to the theory of Social Support that instrumental support is the provision of material that can provide immediate relief as useful tools, or health services (Peterson & Bredow, 2004).

Conclusions

Implementation of supportive therapy using theory approach Stress Adaptation Model Stuart and the theory of Social Support can reduce the signs and symptoms of anxiety with an average decrease anxiety by 14 points from the level of anxiety is becoming not anxiety and an increased ability to use sources of support, especially the utilization of outside support such as neighbors, communities and health workers.

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THE RISK FACTORS OF ANEMIA ON MALNOURISHED CHILDREN BASED ON HEALTH PROMOTION MODEL

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ABSTRACT

Background: Iron deficiency is the most common cause of nutritional anemia. It will hinder children's growth and intellectual development. The purpose of this study was to analyze the risk factors of the incidence of anemia on malnourished children from age 1 to 3 years in Banyuwangi with Health Promotion Model approach. **Methods:** The type of this research is observational analytic. Fifty mothers and malnourished children were taken as samples from *Klatak* Community Health Center by using purposive sampling technique. Independent variables include maternal age, motivation, tribe, perceived benefits, perceived barrier, perceived self-efficacy, activity related affect, situational influences, the adequacy level of iron consumption, the type of children's food consumption, while the dependent variable was anemia. Instruments used to collect dependent variables were questionnaire and food recall 24 hours while to get the anemia was used hemoglobin test. The data were analyzed by using chi-square and multiple logistic regressions to determine the dominant variable associated with the incidence of anemia. **Results:** variables with p value <0.05 was iron consumption with p value of 0.002 and the OR value of 0.013 95% CI 0.001 to 0.191. **Conclusion:** The risk factor of anemia in malnourished children 1-3 years of age was the adequacy level of iron consumption therefore it is needed health education and iron supplementation as a prevention of anemia and its negative impacts.

Keywords: malnourished children aged 1-3 years, anemia, Health Promotion Model

Introduction

Nutritional problem is one of the major public health problems in Indonesia. Nutritional deficiency is not only caused by quantity deficiency but also concerning incompatibility in composing nutrient optimally. One essential micronutrient is iron (Fe) (IDAI, 2011). Iron deficiency is the most common cause of nutritional anemia (Kemmer, 2008). It can occur on children who consume less varied foods. Iron is a very important element to form hemoglobin (Hb) (Adriani & Wirjatmadi, 2012). Age group experiencing the highest Iron Deficiency Anemia (IDA) is children 0-5 years old thus this group is a priority of IDA prevention.

The negative impact caused by iron deficiency on children is very serious. Specifically on children, nutritional anemia will slowly hinder their growth and development of intelligence. They will be more susceptible to disease due to decreased physical endurance. Based on several studies conducted in experimental animal research, it appears that iron has a varied role in the nervous system such as normal myelination, neurotransmitter synthesis and neurometabolism. On infants or children, nutritional anemia can lead to motor coordination disorders, language development disorders, learning ability, influence on psychological and behavior and decreased physical activity.

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There are 909 cases of malnutrition in 2013 (0.96%); 4.51% due to LBW, 15.74% for often sick, 8.04% due to poverty and nearly 66.66% due to the mother or the family's lack of knowledge (Health Profile Banyuwangi, 2013). Iron deficiency anemia (IDA) is one of the most common types of nutrient deficiency spread around the world. A studied done by Thakur (2014) showed a very high percentage of anemia on malnourished children. It said 70% of children with severe acute malnutrition suffered from anemia, which 26% of them had mild anemia, 40% had moderate anemia and those with severe anemia were 3%. A research in Indonesia obtained the prevalence of IDA on preschool children were around 30% - 40% and on school children were 25% - 35%. It was caused by poverty, malnutrition, deficiency of vitamin A and folic acid. Riskesdas (2013) showed that IDA was a public health problem on preschool children with prevalence of 28.1% and children 5-14 years old were of 26.4%. A study about micronutrient in 10 provinces in 2006 found that 26.3% children suffered from IDA with hemoglobin (Hb) less than 11.0 g/dl (Direktorat Jenderal Bina Gizi dan KIA, 2013). In epidemiology, the highest prevalence was found in late infancy and early childhood because there was iron deficiency during pregnancy and the accelerated growth of childhood accompanied by low intake of iron from food, or because of the consumption of infant with less iron (IDAI, 2013). Given the importance of iron for a growing child, the primary preventive action is very important.

Primary prevention of iron deficiency in infants and children are healthy feeding practices, which is none other than the provision of healthy food for children. The main strategy for primary prevention is increasing knowledge through public education about the nutritional care of infants and children in particular food (Lestari, 2011). According to Gibney (2009), the basic principle in the prevention of anemia due to iron deficiency is to ensure regular consumption of iron to meet body requirements and to improve the content and bioavailability of iron in the diet. The American Academy of Pediatrics (AAP) recommended screening of Iron Deficiency Anemia (IDA) through hemoglobin (Hb) and clinical assessment in children aged 1 year who are at high risk of iron deficiency anemia. The Centers for Disease Control and Prevention (CDC) recommended that all children aged 2 to 5 years to be assessed annually to identify IDA risk factors. Children who are at high risk of IDA (for example, iron poor diet, limited access to food due to poverty or neglect, high cow's milk consumption) should be screened between the ages of 9 and 12 months, then six months later, and every year from the age of 2 years to 5 years. This recommendation is intended to screen the toddlers with high-risk IDA (Gabrielle Paoletti, 2014).

Children under five years have not been able to meet their nutritional needs independently, so they depend on adults in the immediate social environment, the family (Gregory, 2010). In the majority of families, mother has important role in managing family members' food. Mother

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has an important role in helping children aged 1-3 years meeting their nutritional needs. (Masithah, Soekirman & Martianto, 2005, Mishbahatul, 2012). The use of Health Promotion Model in this study is as a theoretical perspective that explores the factors and relationships in health promotion efforts aimed at improving maternal health through behavioral improvement in meeting the child's needs for iron. HPM help nurses understanding the determinants of mothers' health behavior in meeting the iron need to prevent anemia. It becomes a basis for intervention/counseling on mothers' behavior to improve the nutritional status of children aged 1-3 years. HPM is a guide for nurses to explore the complex biopsychosocial process. It motivates the mother in meeting the nutritional needs of children who suffer from malnutrition intended to prevent nutritional anemia in children.

The problem discussed in this study is the correlation of dominant risk factors of personal factors, behavioral specific cognition and affect, behavioral come out with the incidence of anemia on malnourished children aged 1-3 years. The purposes of this study are (1) to analyze the correlation of personal factors, behavioral specific cognition and affect, behavioral come out with the incidence of anemia on malnourished children aged 1-3 years, (2) to analyze the risk factors associated with anemia on malnutrition children aged 1-3 years. The result of this research can be used as a framework for the development of pediatric community health nursing science. Particularly, it provides input for the development of disease early detection model as part of the primary and secondary prevention of anemia incidence on children. It also provides input for the effort to change the mother's behavior in meeting iron needs on malnourished children aged 1-3 years using the Health Promotion Model theory.

Methods

This study was observational analytic research with cross sectional design. The populations were 67 mothers and their malnourished children aged 1-3 years. Sample of 50 peoples were chosen using purposive sampling method. The inclusion criteria for the sample were the mothers lived with their children and they took care of their children their selves, also they could read and write. Data collection was conducted from 4 – 28 May 2015. The independent variables were maternal age, motivation, tribe, perceived benefits, perceived barrier, perceived self-efficacy, activity related affect, purchasing power, the adequacy level of iron consumption, the type of children's food consumption, while the dependent variable was anemia. An instrument used to collect the independent variables was food recall 24 hours questionnaire. It assessed the diversity of food consumed by the children. The adequacy of iron consumption is obtained through interviews with the mothers about what their children consumed the day before, i.e. breakfast, lunch, dinner and snacks times. It was taken three times a week. The results of interviews showed foods that had been consumed by the children, and then they were converted in weight units (grams) using ersatz list. Food intake on the first, second and third days were summed and calculated to find the rate. The rate obtained was compared to the

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recommended iron adequacy using nutri survey program to determine the iron adequacy value. The anemia variable was obtained by doing hemoglobin examination levels from blood test on the tip of index finger. The blood taken was 0.5 cc by using quick check tools. A child is considered anemic if the hemoglobin values is less than 10 g/dl (IDAI, 2008). Data analysis included descriptive statistics and inferential statistics. Descriptive analysis was used to provide a description of the data collected and presented in tabular form. Chi-square test was to determine the relationship of each independent and dependent variable. Multivariate analysis was to determine the risk factors of anemia on malnourished children aged 1-3 years by using multiple logistic regression. In multiple regression, the independent variables are more than one (Kuntoro, 2007).

Results and Discussion

The average age of respondents in this study was 30 years old. 54% of respondents had strong motivation, 62% are Javanese, 56% had positive perceived benefit, the majority had problems in meeting the iron needs of children (62%), 54% had strong self-efficacy, 82% had purchase power less than 2 million rupiahs, 58% had strong attitude in meeting their children's need for iron. The data of adequacy of iron consumption showed that 52% of children had less iron consumption and 58% did not have diverse type of food consumption. The data of anemia incidence on malnourished children aged 1-3 years showed that 40% of them were anemic. The analysis results of correlation between personal factors, behavioral specific cognition and affect, behavioral out come and the incidence of anemia on malnourished children aged 1-3 years using chi square test showed a variable that has p value <0.05 was motivation with p value 0.005, perceived barrier with p value 0.006, activity related affect with p value 0.035, iron consumption with p value of 0.000, and the type of food with p value of 0.000. It means that there is correlation between these variables with the incidence of anemia. The results of logistic regression analysis showed that the variables which had p value <0.05 were iron consumption with p value of 0.002 and OR value of 0.013 95% CI 0.001-0.191. It means that iron consumption is the most dominant risk factor compared to other risk factors. The other variables; activity related affect, perceived self-efficacy, motivation and type of food had p value> 0.05 which means those variables were confounding factors.

The results of multivariate logistic regression analysis showed that the consumption of iron is the dominant variable associated with the incidence of anemia with p value of 0.002 OR 0.013 95% CI 0.001–0.191. The statistical meaning of it is malnourished children who consume foods containing iron less than Daily Values will be at risk of anemia 0,013 times higher than malnourished children who consume foods containing iron equal to or more than Daily Value.

One of the essential micronutrients for humans is Fe. It is the most micro minerals in the body, about 3-5 grams (Almatsier, 2002). Daily iron intake is needed to replace the iron that is lost through feces, urine and skin. In childhood, school age

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and adolescence, a lot of iron are required for rapid growth process (Manampiring 2008).

Table 1. The results of logistic regression analysis of risk factors correlated to anemia on malnourished children aged 1-3 years in Klatak Community Health Centers in Banyuwangi 2015

No	Variables	B	S.E.	Wald	df	*P value*	OR	95% CI	
								Min	Max
1	Motivation	-1, 521	1,110	1,878	1	0,171	0,218	0,025	1,924
2.	Perceived Barrier	-3,787	1,371	7,629	1	0,006	0,023	0,002	0,333
3.	Perceived Self Efficacy	0,099	1,499	0,004	1	0,947	1,104	0,059	20,841
4.	Activity Related Affect	0,836	1,231	0,461	1	0,497	2,306	0,207	25,754
5.	Iron Consumption	-4,345	1,372	10,025	1	0,002	0,013	0,001	0,191
6.	The type of food	-2,318	1,271	3,326	1	0,068	0,098	0,008	1,189

Based on the analysis of mother's responses, the diet given to children the most is rice and Moringa dishes. They rarely provided a diet of meat or beef liver containing heme iron that is easily absorbed by the body. It was because they cannot afford to buy any meat. Tofu, tempeh and lemuru were the dishes they often provided. According to Kisworini and Mulatsih (2005), the most common cause of anemia on children is lack of iron in their food intake, both because of improper food consumption pattern, inadequate food quality and quantity and the increase of iron need. The body's need for iron affect iron absorption. There are many vegetables rich in iron such as cassava leaves, spinach and other green vegetables, but the iron in these foods is more difficult to absorb. It takes a large portion of vegetables to meet the need of iron in a day and its number of servings may not be consumed. If the iron requirement from the food is not met continually, it will cause iron deficiency anemia (Setyaningsih, 2008).

Iron deficiency anemia can be treated by giving iron supplement, both orally and injection, 60-180 mg/day until someone get his normal conditions. The prevention of iron deficiency anemia can be done by eating the main sources of iron such as meat and vegetables based on recommended nutritional adequacy standards (Setyaningsih, 2008). Health Office of Pekalongan Regency has been implementing a program against nutritional anemia which especially intended for toddlers. The program have been started in June 2000 by giving iron syrup to toddler, the priority is poor toddlers, by giving PMT recovery to malnourished toddler (Setyaningsih, 2008). Based on it, the efforts from local government to support low-income families, especially those who have

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undernourished and malnourished children who were detected anemic, is a necessity. The support is by giving iron supplement in the form of syrup or iron-fortified foods such as vitamin A supplementation and vitamin A fortified foods program that are already implemented today.

Perceived barrier is defined as the perception of the barriers existence to do a specific health behavior (Pender, 2011). The barriers in behavioral nutrition include taste, cost, difficulties in preparing the food (e.g. unable to cook, the short of time and the short of food ingredients) (Fowles & Feucht, 2004; Strolla, Gans & Risica, 2006). Based on the analysis of responses, the barriers that most perceived by the mothers' behavior in meeting the iron needs were their children did not like the food they made, the children consumed only breast milk even though they were 14 months old, foods containing iron are expensive and their lack of the ability to choose foodstuffs so they feared their children would bored. Based on these results, it needs efforts to improve the ability to overcome obstacles in meeting the nutritional needs of children, so that the mothers' perceived barrier becomes low. One effort is formed peer group discussion as a means of exchanging mothers' information and experiences about children iron needs. Table 1 shows that the perceived barriers had a significant correlation with the incidence of anemia in children with p value <0.05 (0.006). It means the more mothers perceive the barriers in meeting the needs of their children's iron, the more it directly affect the mother in choosing and providing food containing iron for the child and the more it will indirectly affect the incidence of anemia in undernourished or malnourished children. This is consistent with the statement of Pender (2011), the perception of the barriers correlated with the implementation of diminishing behavior although in this study the researchers did not analyze the correlation between mothers' barrier perceptions in meeting the children's iron needs (perceived barrier) with the mother's behavior in meeting children's iron needs.

Conclusion

The adequacy of iron consumption on children and mothers' barrier in meeting the children's need for iron (perceived barrier) had correlation with the incidence of anemia on malnourished children aged 1-3 years. The dominant variable correlated with the incidence of anemia on malnourished children aged 1-3 years was adequacy of iron consumption.

Screening of anemia on malnourished children is a need as an early detection in order to take prevention and treatment of anemia. Community nurses need to improve health education with subtopics anemia on children, the benefits of iron for children's development and iron-rich foods menu that can be prepared by the mother. The government and health professionals are expected to collaborate with food technology in the provision of Fe supplementation for children and iron-fortified foods to prevent anemia on children.

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CORRELATION BETWEEN NUTRITIONAL STATUS AND SCAR HEALING OF THE POSTPARTUM MOTHERS WITH *SECTIO CAESAREA* IN KALISAT HOSPITAL OF JEMBER

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ABSTRACT

Background: Advances in medical technology, particularly in childbirth method by using *sectio caesarea* has some advantages for mother's and baby's safety, and it can make the childbirth process easier, so many pregnant mothers like to choose caesarean section rather than normal childbirth. However, the fact shows that Maternal Mortality Rate (MMR) on caesar operation is 40-80 in every 100.000 childbirth processes. The rate shows the risk 25 times bigger than pervaginam childbirth. The scars after *sectio caesarea* will highly risk to occuring the infection if it is not carefully noticed. One of factors related to the process of scar healing after *sectio caesarea* is nutritional status. **Methods:** This research used correlational design with cohort study or perspective approach that was conducted in Kalisat Hospital of Jember. The sampling technique used in this research was quota sampling with 35 respondents. Whereas the statistical test was chi square test with the significancy level 5%. **Results:** By using chi square test, it had the p value = 0.000 (α = 0.05) meaning that there was a significant correlation between nutrional status and scar healing process of the postpartum mothers with *sectio caesarea*. **Conclusion:** The paramedic workers could give certain education about the importance of optimal nutrition for postpartum mothers with *sectio caesarea* in order to prevent from the infection of the scars, and the information could also be given when the mothers got anternal care.

Keywords: Nutrional Status, Scar Healing, *Sectio Caesaria*

Introduction

Postpartum with *sectio caesarea* is the period after the partus has been done and finished after around six weeks in childbirth period. *Sectio caesarea* is one of the ways in providing childbirth care to help the pregnant mothers easier to have the childbirth process, especially for the abnormal mothers due to certain diseases during the pregnancy which cannot afford them to have a normal childbirth or *pervaginam* (Mansjoer *et.al.*, 2001).

The ability of medical care in a country is determined by the comparison of the low Maternal Mortality Rate (MMR) and Perinatal Mortality Rate (PMR). Indonesia, one of the part of ASEAN countries, is a country with the highest MMR and PMR whose abilty in providing medical care requires full reparation, 334/100.000 of safe childbirth. The estimation of childbirth processes in Indonesia is 5.000.000 soul. The MMR reaches 19.500 – 20.000 per year, or one mother dies in every 26-27 minutes. The factor causing the death is bleeding (30,5%), infection (22,5%), gestosis (5%), and anestesia (2,0%) (SDKI, 2000).

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Advances in medical technology, particularly in childbirth method by using *sectio caesarea* obviously has some advantages for mother's and baby's safety. However, according to Bensons and Pernolls, the fact showed that the MMR of caesarean section is 40-80 in every 100.000 safe childbirth. The rate shows the risk 25 times bigger than *pervaginam* childbirth. Moreover, the case due to the infection has the risk 80 times higher than the pervaginam childbirth (Adjie, 2002).

In 1985 WHO proposed the *sectio caesarea* rate is nationally no more than 10% from overall childbirth processes, but the report from some countries shows the higher rate than the WHO's. The *sectio caesarea* rate of United State of America, for example, is 24.1% in 1986, Latin America, i.e., Puerto Rico has 28.7%. Whereas in Asia, i.e., Nanjing (the area of China) has 26.6%. Currently, *sectio caesarea* rate in Europe countries, i.e., England has reached 50% from overall childbirth processes (Hubli, 1999, cited in Chaerunnisa, 2005). The *sectio caesarea* rate in Indonesia is 20-25% from the overall childbirth processes in State Hospitals, while the rate in Private Hospitals is 30-80% from the overall chidlbirth processes (Mutiara, 2004). Based on the previous research in Kalisat Hospital of Jember, the caesarean section rate has significantly increased in every year. There were 66 people with caesarean section in 2007 (6 people per month), 113 people in 2008 (13 people per month), and 167 people in 2010 (14 people per moth).
The scars are tissue or skin continuity loss caused by a trauma or sectional procedur. *Sectio caesarea* is also an action of section or surgery. The scars recovery is highly influenced by mother's nutrition. Normally, the scar healing requires appropriate nutritions. Physiological process of scarshealing depends on the availability of proteins, vitamins (especially vitamin A and C), and zink mineral and copper. Collagen is a protein made of amino acid from fibrolast of the food they consume. Vitamin C is needed to synthesize the collagen. Vitamin A can effectively reduce negative effect of steroid on the scar healing. Zink element is needed to form epithelial, collagen synthesis (zink), and to cooperate the collagen fibers (Potter & Perry, 2006). Immunity from the infection depends on good nutritional status. Antibody is a kind of protein, so the lack of nutritional status can impact the ability of body for synthesizing antibody.

The increase of *sectio caesarea* rate requires an intensive care to scar so the scar recovery can be fasten, or to avoid scar that is slow (tertiary healing), so the risk of infection can be reduced. The role of medical workers is very crucial to detect the process of scar healing. Thus, it requires further research regarding the correlation between nutritional status and scarshealing of the postpartum mothers after the caesarean section.

Methods

This research used correlational design with cohort study or perspective approach that was conducted in Kalisat Hospital of Jember. The respondents were postpartum mothers with *sectio caesarea*. They were got by using technique of quota sampling (35 respondents). This research last for three months (January-March 2015). The

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statistical test used in this research was chi square test with the level of significancy (α = 5%).

Results and Discussion

Based on the result, the findings are as follows:

Table 1

Frequency Distribution of Postpartum Mothers Characteristics with Sectio Caesarea in Kalisat Hospital of Jember (January-March 2015)

No.	The Characteristics of Postpartum Mothers with *Sectio Caesaria*	Frequency (people)	Percentage (%)
1.	Age		
	15-25 years old	13	37.1
	26-36 years old	20	57.1
	37-47 years old	2	5.8
	Total	35	100.0
2.	Profession		
	Farmer	13	37.1
	House wife	15	42.9
	Private Employees	5	14.3
	Civil Cervant	2	5.7
	Total	35	100.0
3.	Last Education		
	Elementary School	11	31.4
	Junior High School	13	37.1
	Senior High School	8	22.9
	University	3	8.6
	Total	35	100.0

Table 2

Frequency Distribution of the Respondents based on the Nutritional Status in Kalisat Hospital of Jember (January-March 2015)

Nutritional's Status	Number of Respondents	Percentage
Abnormal	6	17.1
Normal	29	82.9
Total	35	100.0

Table 3

Frequency Distribution of the Respondents based on the Scarshealing Process after Sectio Caesarea in Kalisat Hospital of Jember (January-March 2015).

Scar Healing	Number of Respondents	Percentage
Slow	6	17.1
Fast	29	82.9
Total	35	100.0

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Table 4
Correlation between Nutritional Status and Scar healing of the Postpartum Mothers with Sectio Caesarea in Kalisat Hospital of Jember (January-March 2015)

Nutritional Status	Scar healing		Number of Respondents	p Value
	Slow	Fast		
Abnormal	6	0	6	0,000
Normal	0	29	29	
Total	6	29	35	

Discussion

Based on the statictical test chi square, it proves that there is a significant correlation between nutritional status and scar healing of postpartum mothers with *sectio caesarea.* The researchers suggested that the postpartum mothers with *sectio caesarea* which had normal nutritional status had marked the availability of cells as supplied by proteins, vitamins, and other nutritional components in the scar healing process. In contrast, abnormal nutritional status affected the obstraction of body cells regeneration, particularly in scar healing process due to the needs of proteins, vitamins, mineral, and other nutritional components did not meet the needs. It is in accordance with Potter & Perry (2006) that physiological process of scar healing depends on the availability of proteins, vitamins (especially vitamin A and C), and zink mineral and copper. Collagen is a protein made of amino acid from fibrolast of the food they consume. Vitamin C is needed to synthesize the collagen. Vitamin A can effectively reduce negative effect of steroid on the scar healing. Zink element is needed to form epithelial, collagen synthesis (zink), and to cooperate the collagen fibers.

According to Smeltzer & Bare (2002) the main activity during the scar regeneration phase is filling the scar by using new connective tissue or granulation tissue and covering the scar surface with proliferation. Fibroblast is the cells synthesizing collagens that will cover the scar's effect. It requires vitamin B and C, oxygen, and amino acid in order to function well. The collagens give strenght and structure integrity in the scar. Mubarak & Cahyatin (2007) stated that immunity to the infection depends on good nutritional status. Antibody is a kind of protein, so the lack of nutritional status can impact the ability of body for synthesizing antibody.

Based on the result, it shows that there are 6 respondents (17.1%) who have abnormal nutritional status. The researchers states that it is possibly because of the lack information of postpartum mothers with the *sectio caesarea* about the importance of nutritional status during the pregnancy and postpartum period. It can be seen from the result of this research that most respondents are graduate students of Senior High School, 13 respondents (37.1 %) and graduate students of Elementary School are 11 respondents (31.4 %). Besides, other possibility which affects the abnormal nutritional status is the role of paramedic

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workers in providing health counseling about the importance of nutritional status during the pregnancy and postpartum period. It is in accordance with a research by Widya (2006) that there is a significant correlation between health education and pregnant mother's knowledge.

In line with the correlation between nutritional status and scar healing, the abnormal nutritional status from postpartum mothers to the slow scar healing (tertiary healing) relies on 6 respondents, the abnormal nutritional status of postpartum mothers to the fast scar healing relies on 6 respondents is zero (0), the normal nutritional status of postpartum mothers to the slow scar healing (tertiary healing) is zero (0), and the normal nutritional status of postpartum mothers to the slow scarshealing (tertiary healing) is 29 respondents.

The researchers say that the abnormal nutritional status will lower the scar healing. It is in accordance with the theory of Wiknjosastro (2005), one of factors influencing the scar healing after *sectio caesarea* is nutritional status. In curing the scars, the needs of nutrition is increased through physiological stress which causes proteins defficiency, so it obstracts the collagens synthesis and leads to the decrease of leukocytes function because it can impact to the decrease of body ability in synthesizing antibody, and can also impact the mothers to be easily infected.

According to Suriadi (2007), the patients with scars, the main role to fasten the scar healing is filling adequate nutritions. Abnormal scar healing is related to the calories-proteins-malnutrition rather than the lack of nutritional components, one of them is proteins. If the surgical patients is lack of proteins, they will get the decrease of fibroblast proliferation, proteoglicant, and collagens synthesis, angiogenesis, and collagens remodeling disorder. The lack of carbohydrate can impact the proteins to be spreaded out for energy, and the proteins will then turn over from reparation to give glucose for maintaining the cells. This adaptation process is important to against the infection like leukocytes gets the glucose for fagositosis. Non-adequate of fat supply can be seen from the hanger or high hypermetabolism and the defficiency on soluble vitamins absorption in the fat, such as vitamin A, D, E, and K which is possibly required by the scar to healing.

Some related research show that the nutritional status influences the scar healing. Said *et.al.,* (2013) said that malnutrition is related to the decrease of the function of mascular, respiratory, immunity, life quality, and the disorder of the scarshealing (Bruun *et.al.,* 2004). It affects the increase of hospitality time, the patient's cost, and the high risk of complication during the healing process in hospital (Cinda, 2003).

Physioligically, the surgical patients will get the increase of metabolic expenditure for energy and recovery, the increase of nutrition's needs for homeostatis, recovery, back to the sense, and rehabilitation to the normal condition (Torosian, 2004). The surgery procedure does not only cause the catabolisme, but also causes digestive, absorption, and asimilation procedure for nutrition's need (Ward, 2003).

Observational study shows that nutritional status and its effects on the patiens after

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getting the surgery as conducted by Sulistyaningrum & Puruhita (2007), the better IMT, the faster scar healing will be, and the higher the almunine, the faster the scar healing will be. Whereas the research of Ijan (2009) showed that there was a significant correlation between nutritional status and scar healing and hospitality time. Based on some related research and theories which has been explained before, it shows the correlation between the nutritional status and the acceleration of scar healing from postpartum mothers with *sectio caesarea*.

Conclusions

The researchers draw a conclusion that: 1) The postpartum mothers with caesarean section who mostly have normal nutritional status are 29 respondents (82.9%), and the rest are 6 respondents (17.1%) who have abnormal nutritional status, 2) The post partum mothers with *sectio caesarea* who mostly have fast scar healing are 29 respondents, and 3) There is a significant correlation between nutritional status and scar healing of the postpartum mothers with *sectio caesarea* (*p value* 0.000).

Based on the result of this research, the researchers suggest: 1) The nurses should improve health education about the importance of optimal nutrition for the postpartum mothers with *sectio caesarea* in order to prevent from the infection of the scars. The information could also be given when the mothers got anternal care, 2) The postpartum mothers with *sectio caesarea* are hoped to optimize the concumption of nutrition containing balanced nutrition components without forbidden food. It can support the acceleration of scar healing, so the infection can be avoided, 3) There are many factors influencing scar healing process, so the next researchers are hoped to find other factors that can influence it for the postpartum mothers with *sectio caesarea*. Besides, it can develop the reseach by using certain intervention that is able to prevent the infection of postpartum mothers with *sectio caesarea*.

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THE EFFECT OF HEALTH EDUCATION ABOUT VAGINAL HYGIENE TO LEUCORRHEA PREVENTION IN JUNIOR HIGH SCHOOL

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ABSTRACT

Background: Leucorrhea is a condition of excessive colored, smell, and sometimes itchy fluids expelled from vagina. It is one of disorder symptoms to reproduction organs, so it needs to be prevented effectively. An effort of prevention can be done by keeping the vaginal hygiene appropriately. The purpose of the research is to know the effect of health education about vaginal hygiene to the effort of leucorrhea prevention for female students at Junior High School 1 Dau, Malang. **Methods**: The research design used is pre-experimental design occupying one group pretest-posttest approach. The sampling in the research employs total sampling technique. There are 68 students of 72 female IX grade student population meeting the criteria. The variable of leucorrhea prevention is measured by using questionnaire twice. **Results**: According to the paired *t-test* using SPSS 16 for Windows, it reveals a significant number (p=0,000). From the data above, it can be concluded that there is a positive effect of health education about vaginal hygiene to the effort of leucorrhea prevention for female students at Junior High School 1 Dau, Malang. Besides, the data gained shows that after the health education about vaginal hygiene is done, the leucorrhea case decreases while physiological vaginal discharge increases. **Conclusion**: Based on the result of the research, it is suggested that female teenagers should keep vaginal hygiene appropriately and regularly to prevent the leucorrhea.

Keywords: leucorrhea prevention, health education, vaginal hygiene.

Introduction

Medical field introduces pathological vaginal discharge as leuchorrea or flour albus. Vaginal discharge can be either physiologicalor pathological (Wiknjosastro, 2005). Normally, fluids expelled from vagina are transparent, odorless, less amount, less itchy, less hot, and painless. Meanwhile leucorrhea, there are much amount of colored, smelly, itchy, hot, and painful fluids. The leucorrhea symptoms are suffered by many women of various ages in majority (Vorvick, L *et al*, 2011). Based on the data of the research about the woman reproduction health, it shows that 75% of women throughout the world suffer leucorrhea at least once in a lifetime. Compared to the countries in South East Asia, Indonesian women are more vulnerable in suffering Reproductive System Infections like leucorrhea triggered by Indonesian humid weather (DEPKES, 2009).

Vaginal discharge is considered as normal happening on women. This consideration is not fully correct since there are several factors causing vaginal discharge (Razzak,2011). Abandoned physiological vaginal discharge can risk another

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leucorrhea Therefore, it needs a change of daily behavior to keep the intimate organ dry and not humid. This condition often happens on female teenagers while they tend to ignore the vaginal discharge without considering the cause. The teenagers are one of population gaining the risk of vaginal discharge obtaining a special treatment (DEPKES, 2009).

Teenagers are expected to maintain their reproductive function appropriately, so they have to recognize about the reproductive organs. If the reproductive organ is not well maintained, it may cause leucorrhea (Widyastuti, 2009). A woman previously suffering infection of long period leucorrhea may have a problem for futher health condition of her reproductive organs. Therefore, it is suggested to do some prevention by keeping vaginal hygiene (Manuaba, 2006). The prevention also requires an appropriate foundation of knowledge. Because a behavior based upon a knowledge lasts longer than it based upon none (Maulana, 2009). Therefore, it needs a complete information to the female teenagers to elevate their knowledge and awareness about how important to keep the vaginal hygiene including the risk of the abandonment. One of the ways in transferring the knowledge for teenagers is health education (BKKBN, 2003).

According to the previous study conducted at Junior High School Dau 1, Malang to 7 female students, it is shown that all of them did the effort of leucorrhea prevention inappropriately. Therefore, the researcher is interested in conducting a research related to "The Effect of Health Education about Vaginal Hygiene to Leucorrhea Prevention in Junior High School. The purpose of the research is to know the effect of health education about vaginal hygiene to the effort of leucorrhea prevention for female students at Junior High School 1 Dau, Malang. The result of the research is expected to be a reference of nursing science development in maternity field. The practical use for nursing institution is as information for nurses in improving health education for female teenagers about how important to keep vaginal hygiene to prevent leucorrhea.

Methods

The design of the research uses pre-experimental design with one group pretest-posttest. The sampling technique used is total sampling. In this research, the researcher uses 68 person that IX grade female students at Junior High School 1 Dau, Malang eligible in the certain criteria. The inclusive criterion is gaining parents' permission,healthy physically and mentally, as well as joining from the beginning until the end. The research was done at Junior High School 1 Dau, Malang in Januari to Februari 2013.

The variable of leucorrhea prevention is measured by questionnaire of 13 questions. Each answer given the score to assess leucorrhea prevention. The score using *Guttman Scale*. When answer in accordance with the key so given a score "1" while if no proper answer given "0". (Hidayat, 2009). Then grouped based on the criteria which: Appropriate Leucorrea prevention : the final score 76%-100%, Fair Leucorrea prevention : the final score 56%-75%, Poor Leucorrea prevention : <56%. The quesionnare that have been in validity test by using *Pearson product* moment correlation technique by 0.05 significance level, while reliability test by using *alpha cronbach* formula.

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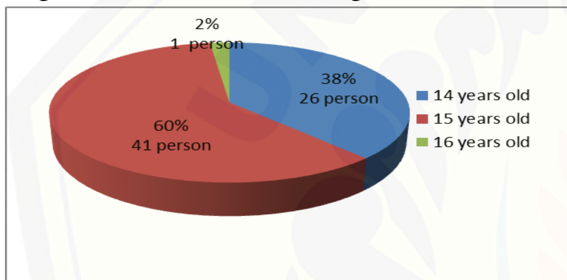
To know the positive effect of the health education about vaginal hygiene to leucorrhea prevention for female students at c by using paired t-test, with the index of 95% (= 0.05) by using SPSS 16 for windows. If it is gained ρ value < α (0.05), it means there is a positive effect of health education about vaginal hygiene to leucorrea prevention in Junior High School.

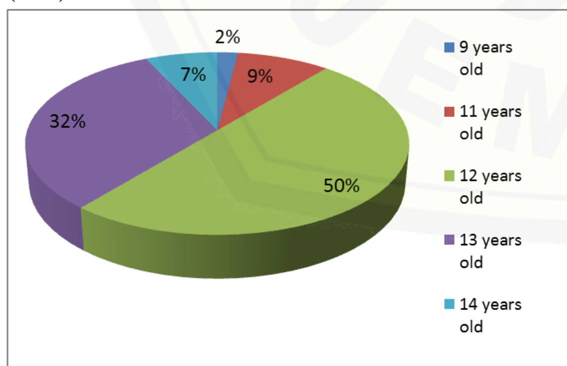
Results and Discussion

The following part elaborates the result of the research about the effect of the health education to leucorrea prevention at Junior High School 1 Dau, Malang



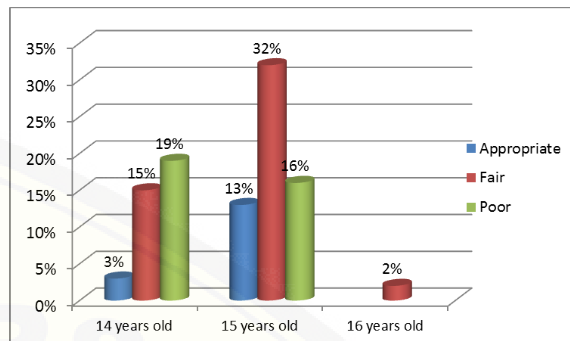
Picture 1. The Distribution of Respondent Based on Age

Picture 1 above shows that most of the respondents are 15 years old that are 41 respondents (60%), and the least includes 16 years old student that is only an individual (2%).



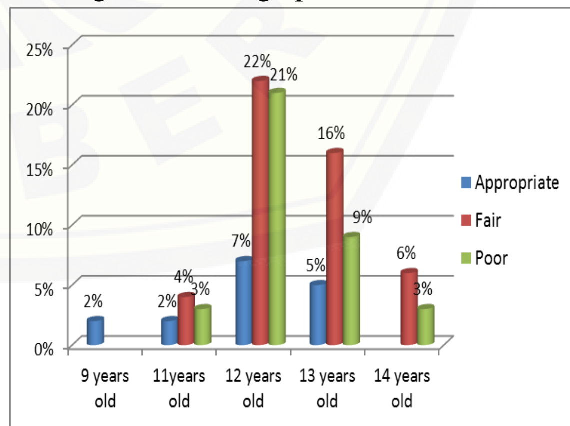
Picture 2. The Distribution of Respondent Based on Menarche Age

Picture 2 above shows that most of the respondents have menarche at 12 years old that are 34 respondents (50%) and the least respondent is 9 years old that is only an individual (2%).



Picture 3. The Distribution of Effort to Prevent Leucorrhea Before Given Health Counseling about Vaginal Hygiene Based on Respondent Age

Picture 3 above shows that there are 2 respondents (3%) in 14 years old doing the appropriate leucorrhea prevention, 10 respondents (15%) doing the fair leucorrhea prevention, and 13 respondents (19%) doing the poor leucorrhea prevention. Meanwhile, in 15 years old level, there are 9 respondents (13%) doing the appropriate leucorrhea prevention, 22 respondents (32%) doing the leucorrhea prevention and 11 respondents (16%) doing the poor leucorrhea prevention. Another respondent in 16 years old does the fair vaginal discharge prevention.



Picture 4. The Distribution of Efforts to Prevent Leucorrhea Before Given Health Education about

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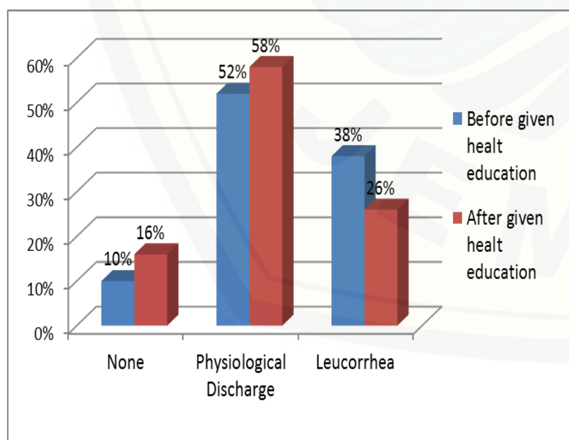
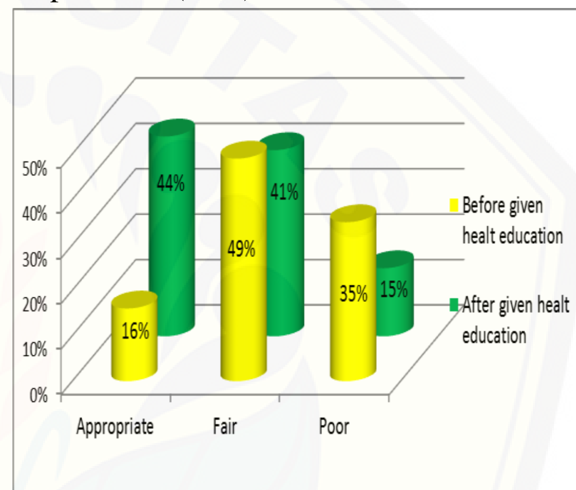
Vaginal Hygiene Based on Respondents' Menarche Age

Picture 4 above shows that in 11 years menarche age, there is 1 respondent (2%) doing the appropriate leucorrhea prevention. There are 3 respondents (4%) doing the fair leucorrhea prevention, and 2 respondents (3%) doing the poor leucorrhea prevention. In the 12 years menarche are, there are 5 respondents (7%) doing the appropriate leucorrhea prevention, 15 respondents (22%) doing the fair leucorrhea, and 14 respondents (21%) doing the poor leucorrhea prevention. In the 13 years menarche age, there are 4 respondents (5%) doing the appropriate leucorrhea prevention, 11 respondents (16%) doing the fair leucorrhea prevention, and 6 respondents (9%) doing the poor leucorrhea prevention. Meanwhile, in the 14 years menarche age, there are 4 respondents (6%) doing the fair leucorrhea prevention and 2 respondents (3%) doing the poor leucorrhea prevention. Another respondent (2%) having 9 years menarche age does the appropriate leucorrhea prevention.



Picture 5. Distribution Of Respondents Charateristics Leucorrhea Before And After Given Health Education about Vaginal Hygiene

Picture 5 above shows that before health education about vaginal hygiene, there are 7 respondent (10%) that did not suffer vaginal discharge, there are 35 respondents (52%) suffer physiological vaginal discharge and there are 26 respondents (38%) suffer leucorrhea. After health education about vaginal hygiene, the data show that most of the respondents suffer physiological vaginal discharge that are 39 respondents (58%), leucorrhea that are 18 respondents (26%) and the least amount of respondents were did not suffer vaginal discharge are 11 respondents (16%).



Picture 6. The Distribution of Efforts to Prevent Leucorrhea for Female Students at Junior High School 1 Dau Malang Before and After Given Health Education about Vaginal Hygiene

Picture 6 above shows that before health education about vaginal hygiene, there are 33 respondents (49%) doing the fair leucorrhea prevention, 24 respondents (35%) doing the poor leucorrhea prevention, and 11 respondents (16%) doing the appropriate leucorrhea prevention. Meanwhile, after the health education about vaginal hygiene, there are 30 respondents (44%) doing the appropriate leucorrhea prevention from all. There are 28 respondents (41%) doing the fair leucorrhea

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prevention and 10 respondents (15%) doing the poor leucorrhea prevention.

The data analysis in the research uses T-Test Paired test by using SPSS 16.0 for windows.

Table 1 Tabel Uji t

	The Number of Respondents	Mean	(p)
Pretest	68	58,2647	0,000
Posttest	68	66,8235	

From table 1, it is shown that the respondents receiving health education about vaginal hygiene have the average score of leucorrhea prevention higher with interval average score of 8.55882. Significance gained is $p(0.000)<\alpha(0.05)$, so it can be concluded that there is a significance difference between pretest and posttest in preventing the leucorrhea. Therefore, H0 is rejected, so at $\alpha=0,05$ and trust interval 95% it can be gained a positive effect of health education about vaginal hygiene to leucorrhea prevention in Junior High School.

Before being given health education about vaginal hygiene, there are 11 respondents (16%) doing the appropriate leucorrhea prevention, 33 respondents (49%) doing the fair leucorrhea prevention, and 24 respondents (35%) doing the poor prevention. The result of the research shows that before the health education, most of the respondents tend to do the fair leucorrhea prevention only, while those who do the appropriate leucorrhea prevention are the least. The result is close to the research done by Ikke (2003) in Ayuningtyas (2011) to the female students at 3rd Junior High School, East Jakarta showing that the respondents doing the appropriate behavior to the genitalia hygiene to prevent leucorrhea is very low that is 13.2% from all. It is different from the research done by Melati, et al (2011) to the house wives in Sawahjoho Village, Warungasem, Batang claiming that most of respondents master vulva hygiene to prevent leucorrhea of 51.1% from all. The result difference can be caused by several factors.

Behavior is a form of response from stimulus affected by internal and external factor The internal factor included is age and experience. The respondents of the research are 15 years old (60%) in majority. According to Notoadmodjo (2007), the older age, the better mental and intellectual development process. It makes someone do a better deed. It is appropriate to the result of the research that most of the respondents are in the middle-age teenager period, so they tend to do the fair vaginal discharge prevention, and there are only a few of them doing the appropriate leucorrhea prevention. Meanwhile, in the menarche age, half of the respondents get the first menstruation when they are 12 years old. It can be related to the experience and the knowledge as well as the sill to keep the vaginal hygiene to prevent leucorrhea. The earlier a woman gets her first menstruation, the more awareness she gets to keep her intimate organs (BKKBN, 2003). It is appropriate with the result of the research that most of the respondents are still 15, and most of the respondents get the menarche age when they are 15 years old. Thus, the respondent experience tends to be low.

Wijayanti (2009) mentions that the way to keep the vaginal area for women affects a lot to the leucorrhea. Based on the leucorrhea's characteristic respondent, it is gained that there are 26 respondents (38%)

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gaining the leucorrhea. It is caused by only a few of respondents doing the appropriate leucorrhea prevention. Health Education plays an important role in every change in the health field. By giving health education, the society knowledge about an object can be improved, so an individual can change his/her behavior. In this research, the data collected after the health education about vaginal hygiene covers 30 respondent (44%) doing the appropriate leucorrhea prevention, 28 respondents (41%) doing the fair leucorrhea prevention, and 10 respondents (10%) doing the poor leucorrhea prevention. The difference in leucorrhea prevention to the respondents after health education about vaginal hygiene can be caused by several factors, including matter, environment, instrumental, and individual subject factors (Guilbert in Notoatmodjo, 2007). The improvement of the leucorrhea prevention done by the respondents is caused by the knowledge gained by the respondents through health education about vaginal hygiene.

Based on the respondent's leucorrhea characteristic, most of the respondents (58%) get physiological vaginal discharge, while the rest (26%) get leucorrhea. It shows that leucorrhea decreases because of the improvement of the effort of leucorrhea prevention done by the respondents. Keeping the hygiene around vaginal area regularly every day is an effective way to prevent the growth of any leucorrhea l etiology (Wijayanti, 2009). Meanwhile, the increasing number of physiological vaginal discharge relates to the stressed respondents in majority for the national examination. The relation between psychological factor and physiological vaginal discharge is closely related to hormones within the body. When stressed, estrogen hormones increase and stimulate vaginal and cervix epitels in producing more glycogen than in the normal state then expelled on vagina lumen to bathe surrounding areas (Wiknjosastro, 2005).

The data analysis done by using Paired Sample T-Test test shows the significance level of (p) < 0,05 (0,000<0,05), so we can conclude that there is a difference of the effect of the leucorrhea prevention after and before health education about vaginal hygiene.

Skinner (1938) in Notoatmodjo (2007) mentions that behavior is a response or a reaction of an individual to the outer stimulus. Health education about vaginal hygiene is one of the stimuli. Like Onal, *et al* (2010) in their research entitled *Some Hygiene Behaviours and Genital Infection Complaint Among 15-49 Aged Women in Suburban Area in Istanbul* ever state that women particularly teenagers need health education about regular vaginal hygiene to prevent genitalia infection complaint which is leuchorrea as one of them.

Before the behavior occurs on an individual, there is sequential process, including recognizing the information, then gaining interest of awareness and curiosity about the information. After the information gained, there is consideration of the information through a response in the form of behavior. The final stage of the process will cause a behavior based up the attitude formed (Azwar, 2007). The research done by Rogers (1974) cited by Notoatmodjo (2007) concludes that behavior processed and based upon a knowledge and positive awareness. Therefore, the behavior will be long lasting. However, the behavior will be temporary if it is not based upon a knowledge and

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awareness. Based on the research, there is a significant improvement of the leucorrhea prevention after health education about vaginal hygiene.

Conclusion

From the result and discussion of the research, it can be concluded that:

1. Before health education about vaginal hygiene, there are 33 respondents (49%) doing the fair leucorrhea prevention, 24 respondents (35%) doing the poor leucorrhea prevention, and 11 respondents (16%) doing the appropriate leucorrhea prevention, while there are 26 respondents (38%) suffer leucorrhea.
2. After health counseling about vaginal hygiene, there are 30 respondents (44%) doing the appropriate leucorrhea prevention, 28 respondents (41%) doing the fair leucorrhea prevention, and 10 respondents (15%) doing the poor leucorrhea prevention, while the leucorrhea occurrence decreases to 18 respondents (26%) and the physiological vaginal discharge occurrence turns to 39 respondents (58%).
3. There is a positive impact of the effect of the health education about vaginal hygiene to leucorrhea prevention in Junior High School.

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ANALYSIS OF PARENT FACTOR RELATED TO CHILDREN'S NUTRITIONAL STATUS USING THEORY OF HEALTH BELIEF MODEL APPROACH IN PUBLIC HEALTH CENTRE AREA OF PERAK TIMUR SURABAYA

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ABSTRACT

Introduction: Nutritional status is a condition between intake and nutrient requirements in th e body and helps to detect early risk of health problems, especially in children who are suscep tible to nutritional problems. The data from Health Department in 2012 showed the increasin g of less nutritional status (3:39%) and poor nutritional status (1:30%) in work area of PHC T imur Perak Surabaya**.** This research explained the factors correlate to nutritional status of chil dren in the Public Health Center in Perak Surabaya using approach of Health Belief Model (HBM) Theory in 2014. **Methods**: Data was collected in January 2014 using a cross-sectional design. The sample was recruited using probability sampling, consist of 113 respondents. The dependent variable is nutritional status and the independent variables in the form of HBM co mponents are perception susceptibility, perceived seriousness, perceived benefits and barriers cues to action. Data were analyzed using univariate and bivariate frequency distribution test with Spearman's Rho test ($\alpha<0.05$). **Results:** The results showed there was correlation percep tions susceptibility and nutritional status ($p=0.011$), there was correlation perception seriousn ess and nutritional status ($p=0.000$), there was correlation perception of barriers benefits and nutritional status ($p=0.004$), there was correlation cues to action and nutritonal status (0.000). **Conclusion**: Based on the results, the HBM components can affect the parents to increase nut ritional status of children so it is recommended to health workers at public health center Pera k Timur to give adequate information about children nutritional status using posters, leaflets o r stickers.

Keywords: parent, nutritional status, health belief models

Introduction

Nutritional status is a state of balance between nutritional intake and needs in the body. Judging from health and nutrition, infant nutrition including in vulnerable groups are groups of people most likely to suffer from malnutrition, where they are currently undergoing a process of rapid growth (Soegeng, 2004). PHC Perak Timur Surabaya is one of the health centers that has the number of children under five malnourished and lacking most in Surabaya, known in 2011 amounted to 0.83 per cent suffer from malnutrition and 2.65 per cent suffer from malnutrition, this shows an increase because the number of patients in 2012 amounting to 1.20 per cent suffer from malnutrition and 3.39 per cent suffer from malnutrition (DHO Surabaya, 2012; the Health Office, 2013).

The prevalence of malnutrition in East Java although it has surpassed the standards of the Ministry of Health Strategic Plan 2010-2015 and the MDGs, but sufferers of malnutrition in East Java continue to increase fluctuated while the government expects that the East Java freely malnutrition in 2013 and it is

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very difficult to reached (MOH East Java, 2012). National target of the Indonesian government in improving the nutritional status of children has been performing well, can be seen with the achievement of the target in 2012 already exceeded the target set (MoH RI, 2013), but the number of cases of malnutrition in East Java, there were 8410 children or 2.5 percent and the prevalence and malnutrition of 9.3 percent. In 2012 the number of cases of severe malnutrition as many as 9493 children or 2.3 percent, while the prevalence of malnutrition increased to 10.3 percent. East Java Government is only able to reduce the prevalence of malnutrition around 0.2 per cent and there is an increased prevalence of malnutrition around 1 percent (MOH, 2012).

During 2010, the City Health Office of Surabaya held a counseling program "Kadarzi" (Family Literacy Nutrition), implementation of Posyandu, mentoring and supplementary feeding to children malnutrition (Sahrial, 2011), but these efforts have not been able to run optimally because the reality on the ground, malnutrition bad usually found late and penangganannya not targeted because of a lack of understanding and awareness of parents in monitoring the state of the nutritional status of a toddler (Minarto, 2011).

Many factors influence the occurrence of lack of nutritional status, including the social economy of parents in the work of parents, circumstances surrounding environment, ignorance of parents about providing good nutrition for children, parents' perceptions through the stimulus received and based on knowledge later for monitoring the growth of children and take countermeasures nutritional status of children (Novitasari, 2012; Devi, 2010). Children under five suffering from malnutrition or less decreased intelligence (IQ) to 10 percent (MOH, 2007). This situation indicates that essentially poor nutrition or less will decrease the quality of human resources. The worst impact is received death at a very early age (Samson, 2011).

Theory *Health Belief Model* explains there are several factors relating to the behavior of one's health and is typically used to identify the motivation of health behaviors with chronic diseases such as malnutrition (Desanti et al, 2010; Setyawati et al, 2011; Sari, 2011; Thimmreck, 2001), and the factor of parents associated with nutritional status of infants use *Health Belief Model* theory approach is not known clearly. Theory *Health Belief Model* is one theory is used to understand and identify how and where to direct the strategy for behavior change and also shed light on several important aspects of each human behavior. This theory can be used to predict or modify health behavior because it is likely the individual will commit a precaution, the handling, and can be associated with the development of chronic diseases that depend directly on the result of the conviction or health assessment (Kirscht, 1988 in Salhat 2009; Machfoedz 2006). *Health Belief Model* has six construction is perception perceived vulnerability *(perceived susceptibility),* the seriousness of the perceived *(perceived seriousness),* benefits obtained, barriers, *self-efficacy,* and cues to action *(cues to action)* (Machfoedz, 2006). Theory HBM approach expected to explain the factors of parents associated with the nutritional status of children in PHC Perak Timur Surabaya so that it can be input to the nurses who work in community health centers, a cadre of community health center or neighborhood health center in order to improve the quality

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and motivate parents to improve perception against efforts to improve the nutritional status of children, especially toddlers and counte rmeasures in improving nutritional status of infants to be more precise on objectives.

Methods

This study design used is descriptive analytic study with cross sectional approach. The target population is the parents who have children under five in PHC Perak Timur Surabaya. Population affordable is the parents who have young children (12-<60 months) settled in PHC Perak Timur and recorded a visit in PHC Perak Timur as much as 204 children. The sample size in this study of 113 respondents were parents who have young children (12- <60 months) and was recruited by sampling nonprobability with consecutive sampling technique. The independent variables are a variety of factors parents associated with the nutritional status of children which include perceived susceptibility, perceived seriousness, perceived benefits and barriers, and cues to action. The dependent variable is the nutritional status of infants.

Results and Discussion

The results showed that the majority of respondents, 95 people or 84.1% had sufficient perception of vulnerability to nutritional status of children. Perception of perceived vulnerability refers to a condition in which a person familiar with the risks to get a health problem or disease (Glandz et al, 2008). In order for someone to act to treat or prevent illness then he must feel that he is vulnerable *(susceptible)* to the disease (Notoatmodjo, 2003). In the study Suharjo et al (2004), the perceived vulnerability also includes understanding how likely respondents to get the nutritional problems or are involved in the nutrition problem. Bock (2009) also says that the nutritional status of children is also influenced by the perception of vulnerability or risk of parents on nutritional issues. Vulnerability is a subjective assessment for each individual, it can be affected by several things: age, income, ethnicity, and a person's knowledge. The age and income not related in this study. Age and income are not sufficiently able to influence the perception of the vulnerability of nutritional status. In certain respects, the young age can have the perception of vulnerability, if often exposed to considerable knowledge or information on the nutritional status. Wigati (2007), less any income that may not necessarily worsen the perception of vulnerability because someone who has something to feel vulnerable to disease problems will seek to optimize existing facilities to get treatment.

The result showed that the respondents with Javanese ethnicity have sufficient of perception of vulnerability. Sediotama (2006), view of one of the food can cause serious nutritional disorder in the family, one of the dominant influence on the perception of vulnerability is abstinence or taboo. Khasanah (2012) infant feeding has not been able to arrange themselves so that the role of parents is very important, but the cultural influence of a constraint on the nutritional status of children. In a society there are rules that determine the quality, quantity and type of food that should or should not be consumed in accordance family member status, age, gender, and specific situations. Based on Java's perspective influences eating habits and patterns typical processing, such as Javanese people consume a lot of sugary foods with gravy coconut milk and cook with the long cooking process. In the study

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Saptandari (2012), in some areas in Java, the baby should be given soft food such as porridge as well as toddlers. This suggests that the very strong ethnic influence on nutritional status of children.

Research Pratama et al (2012), there is a relationship between knowledge of the perception of vulnerability. According to Rosenstock, the health trust model is very close to health education. Notoatmojdo (2010), the knowledge possessed by individuals is one of the determinants that determine the behavior of a person to make efforts to reduce the risk of threats to health problems. The result showed that the respondents have enough knowledge and perception of vulnerability is quite as big as 71 people or 62.8%. Munadhiroh (2009), nutritional knowledge will contribute to an understanding of what the nutritional status, why should pay attention to nutritional status and nutritional status and health relationship. So a person will tend to have a perception of vulnerability (perception wrong, good and bad, positive or negative) after being given the knowledge or input on nutritional status. It shows that knowledge does have a considerable influence on the perception of a person's vulnerability in the nutritional status of children, the higher the knowledge gained better the nutritional status of infants.

Based on research at PHC Perak Timur Surabaya showed that most respondents have felt the vulnerability of the nutritional status of children so motivated to do a child's weight on a regular basis each month to the clinic to determine the development of the growth of babies. There is a relationship between the perception of the vulnerability of the elderly to the nutritional status of children. Maryani study (2012) revealed that the feeling someone at risk for a disease, the precautions that will be done the better. So it can be interpreted that the better the perception of a person's vulnerability will affect the nutritional status of children. Perceptions about the vulnerability of older people likely to develop a nutritional problems in children under five will affect the behavior of parents and prevent or seek treatment. These results are consistent with the theory Rosenstock in theoretical *Health Belief Model* which states that the perception of the risk of children suffering from malnutrition or bad will affect the actions of a person in preventive action.

The survey results revealed that most respondents as many as 86 people or 76.1% had sufficient perception of the seriousness of the nutritional status of infants. Becker (1974) in Notoatmodjo (2003), states that if the actions of individuals to seek treatment and prevention of disease will be encouraged by the seriousness of the disease on individuals or society. The results are consistent with research Fibriana (2013), the theoretical *Health Belief Model* (Rosenstock, 1982), in theory explained that in taking measures to prevent the occurrence of a disease and seek treatment is influenced by the *perceived seriousness* of perception seriousness that may be felt when suffering from a disease. This perception is an individual view of the severity of the illness. This view encourages one to seek treatment on her illness. The seriousness of this coupled with the result of a disease such as death, reduction in physical and mental functioning, disability and its impact on social life.

Similarly, the perception of vulnerability, seriousness perception is also influenced by several factors that can change, such as age, income, ethnicity and knowledge. The mean

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of the respondents have enough knowledge about the nutritional status of children and the results of cross tabulation of respondents have the sufficient knowledge and perceptions of sufficient seriousness. Knowledge about the nutritional status of respondents in this study is quite and respondents have sufficient seriousness as well. Or cognitive domain knowledge is very important for the formation of a person's actions (Notoatmodjo, 2003). Based on experience and research, found that the behavior that is based on the knowledge of more lasting than behavior that is not based on knowledge (Maulana, 2009). Knowledge of factors affecting the seriousness of the perceived high risk of nutritional status of children. Parents who are high-risk babies who have a high knowledge of the nutritional status issue will feel a very strong against the seriousness of the nutritional status of children so that the seriousness felt, parents of high-risk infants will be compelled to exercise control at the health center.

In this study there was no relationship between age and income with the perception of seriousness. WHO (1999) in Floreal study (2004) revealed that the characteristics of the age and income in this case can not affect someone in accepting a belief that would change the perception of a person is defined as belief in life experience, the daily observation and influence people around him. In this study, there were 10 respondents aged 25-36 years who had a perception of less seriousness.

Ethnic factor enough to affect the perception of seriousness. In the cross-tabulation between ethnic and found that the perception of the seriousness of the ethnic Madurese have less perception of the seriousness of the nutritional status of children. (Saptandari, 2012) said that Madura is known as a patriarchal society, where women did not have a significant position and women do not have greater consequences than men as not having access to health care access, even when pregnant naturally bring impact to the child in the form of nutrition to children. Pregnant mothers should not eat foods derived from animal (egg or saltwater fish) and vegetable (eggplant, pineapple) because it would threaten the baby. There was also a public myth that colostrum should not be given to children when colostrum can actually be useful as the immunity of the child.

It shows that there is agreement between theory and facts in the field, including preventive measures against certain diseases, which are influenced by transcription factors and lead to the perception of the seriousness of an illness that in this study the respondents have anxiety when their babies experience the nutritional problems in the current period of growth as children become thin, easy sickly and their confidence in the future danger if the nutritional status of children under five had problems, though there were some respondents who have a perception that the nutritional status of children in trouble today will have an impact to be short as adults

Based on the results of cross tabulation is known that parents have the perception of seriousness sufficient to have children with nutritional status as well as the relationship between the perception of the seriousness of the parents and the nutritional status of children because of the conviction of parents toddler that malnutrition status may cause a hazard for toddlers. Maryani research (2012), more and more people perceive that the disease experienced worsening, they will feel

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it as a threat and take preventive action. These results are consistent with the theory Rosenstock in theoretical *Health Belief Model* which states that the perception of the seriousness of the problem will affect the nutritional status of a person in preventive action. So, the more anxious or serious old man to the impacts that will occur when experiencing problems of nutrition the better the parents take action to increase the nutritional status of both children.

Results of this study found that as many as 71 people or 62.8% have a perception of the benefits and barriers sufficient to nutritional status of infants. Perception benefits *(perceived benefits)* and barriers *(perceived barrier)* is an individual assessment of the advantages and actions that hamper obtained by adopting the recommended health behaviors. Rosenstock (2005) states that an action will be influenced by beliefs about the relative effectiveness of alternatives available that are known to reduce the perceived threat of disease of the individual. Rosenstock (2005), the perception of the benefits is one's belief that the benefits of recommended behavior is greater than any obstacle. The perceived benefits associated with one's perception of the efficacy of a recommended action to reduce the risk

Similarly, perceptions of susceptibility and seriousness, many transcription factors that influence the perception of the benefits of obstacles, namely age, ethnicity, income, and knowledge. The result showed that there was no relationship between the age and income of the perceived benefits and barriers may be because certain things, according Sediotama (2006) perception is determined based on the experience gained through daily experience, the number of respondents who had a perception of the benefits of barriers less like respondents 8 and 10 found that knowledge is less and less income as well as to the nutritional status even in adult age. This proves that the knowledge factor is quite influential in terms of perceptions of the benefits and barriers to improve confidence in the act. Considerable research strategic location with high mobility because it is close to the port also encouraging increased parental knowledge about the health of children in particular nutritional staus.

The research results showed that the respondents knowledgeable enough and have the perception that quite well. Similarly, perceptions of susceptibility and seriousness, knowledge is a factor domain in the form of action, where one realizes that nutritional status is very important for the future of a toddler, then feel interested and began to weigh the good and bad efforts made to improve the nutritional status so that it starts to behave (Notoatmojo, 2006).

Respondents whose perceived benefits and barriers that are less states that have a strong obstacle in improving the nutritional status of children. From this research it was found that the majority of respondents who have children with good nutrition status does not assume that the number of family members who are many, distance PHC / Posyandu far not hamper efforts to improve the nutritional status of children and considers the perception of the benefits to be gained for the future of children is important in this case. But parents who have less barriers to assume that the lack of funding, distance PHC / Posyandu and availability of food may hinder the efforts to improve the nutritional status of children. Just as mentioned Stephenson (2004) in Purwaningsih (2011), that one of the main reasons people do not change their health behaviors because they

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think doing so would cause trouble, either psychologically or physically difficult and socially. Cross tabulation results of this study indicate that parents who have perceived benefits and barriers that enough has had a toddler with a good nutritional status and their perception of the benefits of barriers relationship of parents on nutritional status of children. Parents who feel the problems of nutritional status will have a strong perception of the perceived benefits in the event of an increase in nutritional status is better and will be encouraged to exercise control routine in PHC Timur Perak while parents who lack confidence and assume normal about the perceived benefits in the event of an increase in the nutritional status may tend to rarely perform routine control.

Factors perceived barriers that can affect parents toddlers to utilize the facilities at the health center but the Perak Timur barriers perceived probability factor is not too big influence. This is likely due to the perception of parents about the benefits of control regularly to the clinic or Posyandu greater than the perceptions of barriers. Thus, the higher the benefits perceived by parents despite the existence of barriers to the improvement of nutritional status of children, the better the nutritional status of children also.

The survey results revealed that as many as 80 people or 70.8% of respondents have a clue to behave fairly toward nutritional status of infants and declare felt strong enough motivating factor. Notoatmodjo (2003) stated that in order to get the right level of acceptance about the vulnerability, gravity, and gain the necessary action cues in the form of external factors. These factors eg messages from the mass media, advice or suggestion friends or other family members of the sick. Notoatmodjo (2003), the mass media is media that is intended for people that are mass or publicly used to arouse the *"awareness"* or awareness of an innovation that is expected to change in the perception and behavior. Notoatmodjo (2006), all health workers, in terms of the type and level is essentially a health educator *(health educator),* health education is essentially an activity or attempt to convey health messages to communities, groups or individuals, with such information can bring due to changes in the perception and behavior of the target.

Results of cross tabulation also indicates that the majority of respondents have a clue to behave fairly and have children with good nutritional status, and there is a relationship between the instructions to behave parents with nutritional status of children, meaning parents who have children with good nutrition have instructions or encouragement enough in nutritional status and driving factors in the form of messages from health professionals or the mass media have an important role in shaping the possibilities for the parents behave in this case a parent efforts on improving the nutritional status of infants.

The majority of respondents received information and advice in the form of counseling from health centers health workers to make efforts to overcome the problems of nutrition, counseling and assistance in food assistance, adherence to exercise or eat nutritious food. Respondents also get information on the nutritional status of the mass media such as television, radio and other media because it's been quite a lot of media that publish the nutritional status of children. Associated with the provision of information, friends and family are also quite

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an impact in providing *support* when implementing these recommendations. Research Yenita (2012), the findings of a qualitative study informed that parents expect to be informed of those they consider experts. Although parents sometimes went to relatives and friends to get all the information about the nutritional status, this information is considered to be less reliable or less an expert than the information provided by professionals, meaning promotive action given by health workers to have more influence on the nutritional status of children.

Conclusions

The majority of parents children aged 26-35, have Javanese and have an income of less than one million. Parents toddlers have a sufficient level of knowledge about the nutritional status of children. There is a relationship between the perception of vulnerability (perceived susceptibility) of parents on nutritional status of children, evidenced by the parents have been quite aware of the risk of the causes of problems nutritional status, there is a relationship between the perception of the seriousness of the (perceived seriousness) of parents on nutritional status of children is evidenced by the anxiety of people old when babies experience the nutritional problems, there is a relationship between the perception of the benefits and barriers (perceived benefits and barriers) to the nutritional status of children is evidenced by the more parents consider that the benefits brought about by the actions in improving the nutritional status is greater than the obstacles which received due to transcription factors such as age, ethnicity, income, and most of the level of knowledge that is pretty good about the nutritional status of children, and there is a relationship between the instructions to behave (cues to action) of parents on nutritional status of children because the majority of parents have to get health information about the nutritional status of children from health workers in health centers.

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NURSES EXPERIENCE IN THE INITIAL DECISION TO PERFORM RESUSCITATION ON CRITICALY PRETERM NEONATE

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ABSTRACT

Background: Nurses as the first responder of cardiac arrest and stopped breathing incident in premature neonates has the responsibility to decide resuscitation immediately. Accuracy and speed of initial decision making are needed to improve the success of resuscitation, many things that affect the initial decision-making in resuscitation, but studies related to the experience of nurses in the initial decision-making of resuscitation has not been widely studied. The research objective was to explore the experiences of nurses in making the initial decision to perform resuscitation in critical ill preterm neonates in neonates ward. **Methods**: The design study is qualitative interpretative phenomenological approach. Deep Interview had used open ended questions involved 6 nurses in neonatal ward. Data were collected and analyzed using thematic analyzed approach based on Braun & Clarke, 2006. **Results**: The study resulted in two themes, namely early detection of emergency and intuition nurse. Early detection of emergency can be used as consideration for the nurses to be ready to face the possibility resuscitation can occur at any time, thereby reducing the risk of death and disability in premature neonates. Intuition nurse built from experience, sensitivity and automation of action. Intuition nurse can shorten the time and accuracy of initial decision making in resuscitation. **Conclusion*:*** The initial decisions nurses in neonatal resuscitation require accurate of early detection and sharp intuition of nurse to obtain optimal results in preterm neonate resuscitation.

Keywords: resuscitation, preterm neonates, initial decision, experience of nurse

Introduction

Resuscitation is an action taken to save lives because of cardiac arrest. Neonatal resuscitation can occur in two situations, in the delivery room or in the neonatal intensive care (Karlowicz, Karotkin, & Goldsmith, 2011). Neonatal condition that most at risk of cardiopulmonary urgency in the neonatal intensive care is due to cases of prematurity. This is because the neonate organs are still immature and organs functioning improperly, especially the lungs and other cardiopulmonary system. Immaturity of the respiratory system can be events caused a respiratory distress syndrome that can lead to life-threatening breathing stopped neonate itself (Lawn *et. al.,* 2012; Kattwinkel *et. al.,* 2010).

Every year there are 15 million neonates born with condition and prevalence of premature mortality and morbidity varies from the whole country in the world. Whereas in developing countries there are 3.8 million neonates born prematurely and has a mortality and morbidity rates are still high, so that the developing countries into the causes of preterm neonate mortality in the world (Lawn et al., 2012).

Early detection of critical condition of cardiopulmonary system is one of the most

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important actions for reducing death and disability. Delay of 1 minute can reduce 10% of the life expectancy (Hunzier, *el al,* 2011). In general, nurses always be the first responder of the first occurrence from cardiac arrest and initiate early action resuscitation while waiting for the resuscitation team advanced resuscitation (Terzi, 2008). Nurses are required to have a quick response in setting and resuscitation, so that nurses have three responsibilities when caring for neonates who are at high risk of severity that can detect the early presence of critical ill in preterm neonates and prevention of cardiac arrest, begin resuscitation if there are any changes in conditions newborns can be life threatening and actively acted as a member of the resuscitation team, as well as assistance to families experiencing resuscitation (Terzi, 2008; Biban, Soffiati, & Santuz, 2009).

But research into the role of nurses in decision-making early resuscitation in preterm neonates qualitatively still rare, there is a general resuscitation research using quantitative approach. Phenomenon that occurs above, it would require an approach to explore the experience of nurses in making the initial decision to perform resuscitation in critical ill preterm neonates, so we get a more complex picture that can be searched for the best solutions for improving the quality of resuscitation were performed.

This research is important because the complexity of the decision-making early in the implementation of resuscitation. The involvement of nurses as health professionals involved in resuscitation team will certainly provide a special meaning for them. So that the general purpose of this study was to explore more deeply to the experience of nurses in decision making early resuscitation in critical ill preterm neonates.

Methods

This research is qualitative interpretative phenomenological approach (Polit & Beck, 2014; Schneider et. al., 2007; Speziale & Carpenter, 2007). Research conducted in the neonatal ward in government hospital of Lumajang. The selected participants in this study were 6 neonatal nurse who met the inclusion criteria that have a minimum education of three nursing diploma, a certificate of training NICU at least 3 months prior to the conduct of research, and willing to be a participant. Once participants sign a form willingness to be a participant, the researchers and participants agree on a time and place to do interviews. Data were collected through interviews using open-ended interview with questions for 30-60 minutes. Research in analyzed using analysis of thematic Braun & Clarke through six stages, namely familiarizing yourself with your data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report (Braun & Clarke, 2006). The research was already getting feasible ethical clearance from etic Commission of Faculty of Medicine, Brawijaya University. Researchers use the term "p" to replace the participants delivered a statement on the interview, for example p1 to participants 1.

Results and Discussion

Results of research related to the initial decision-making nurses in resuscitation in preterm neonates resulted in two themes,

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namely early detection of emergency and intuition of nurse.

Nurse early detection of emergency to be able to predict the existence of conditions that can be life threatening before the initial decision-making. This initial decision-making process is an attitude that must be taken quickly and precisely due to delays in decision-making can reduce the life expectancy of the percentage of neonates requiring intuition nurses in doing so.

The first theme of the decision-making early is early detection of emergency an assessment as early as possible to the conditions which endanger the lives of premature neonates. Early detection of urgency expressed by all participants to see a history of previous conditions. Sub-themes of the early detection of emergency consisted of neonates at risk of the condition, history of labor, referral history, and periodic observation.

Statement of the participants of the sub-theme of neonates at risk expressed by some participants stating the initial conditions of entry. The participants mentioned the condition of neonates at risk by mentioning the neonatal conditions such as preterm neonates, low birth weight, prematurity, cyanosis, severe asphyxia, severe retraction, gasping, bleeding stomach, and hypothermia. Statement of the participants can be seen from the five participants representing the other participants, namely:

> *"Usually when NPBBLR yes miss although good AS we cation 6,7,8 oxygen, not know if it's okay, what masks, or CPAP nasal or headbox, then, that from the beginning conditions are good, then arrived - arrived fell to conditions as it is usually the time yes, about once weekly then clearly affect its gestational age, ee, then the baby's weight as well, but there is also the newborns had severe asphyxia, is not directly to the oxygen, it is also much faster usual, .and condition cyanosis, indeed need resuscitation arrived - arrived gasping or arrived - arrived vomiting that usually, is, yes, the address "(p2)*
>
> *"Hypothermia is also the urgency that had to be in, should need very strict observation. If in the beginning - the beginning I thought that hypothermia baby, yes alright like babies of Perin regular, ordinary term if it is for the risk he was discharged from hypothermia to a heart condition to condition stop breathing it may still only 20% can happen, in fact it turns right instead easy baby hypothermia was easy to fall into cardiac arrest as well stop breathing as well. "(p3)*
>
> *"Yes it is if it's the title is premature?, Premature was the condition of his lungs, his heart right does not maximized yes it works, so…be retracted weight, can at any time - indeed, usually coupled with hematin, what, this condition, yes, then, NGT fluid began to green, what red, yellow so it means what has been, from the condition began, both the less so, "(p6)*

The revelation of the above participants revealed that neonates above conditions can be used as an early warning that may be at risk of falling in emergency conditions. Participants also revealed that the condition of the critical of breath and

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cardiovascular not occur suddenly but preceded by others condition such as body temperature is lower than the normal range (hypothermia), the color of bluish skin (cyanosis), gastric fluid brownish color seen in the feeding tube that is inserted into stomach (hematin/bleeding of the stomach), chest wall movement is strong and visible (retraction), suddenly stopped breathing for a moment and then breathe again (gasping). Conditions above a marker that will occur in critical cardiopulmonary of premature neonates.

The next sub-themes of the early detection of emergency is the history of labor in the preterm neonates. History tells about the history of the birth of the neonates born in the world. History of childbirth may be how the newborn is born (vacuum extraction, and section sectarian), the state of mother during the birth process (obstructed, women with high blood pressure, and women with bleeding) and neonate condition during parturition (severe asphyxia, and history since lack of oxygen in the womb).

The participants are able to assess the condition of subsequent neonatal by using the guidelines of the way neonatus born prematurely. Quote the statement of participants can be seen below

> *"Meaning, ee, spontaneously what vacuum, the LBW right if sometimes there is a vaccum, then ee, with operations also (p2)*
>
> *"Yes we see also... usually labor risks also need to be aware of for instance born with vacuum what SC operations so" (p3)*

The participant statement hinted that they are very concerned about labor history that may cause the risk of severity in critical ill of preterm neonate Result of the aid delivery process may lead to the possibility that bad for the newborn and it should be wary of.

The third sub-theme of the theme of early detection is the emergency of the condition of the mother during delivery. The condition consists of prolonged labor, obstructed, and women with high blood pressure. Some excerpts participants mentioned mother's condition at birth can affect the incidence of severity in neonates is "

> *"Then the birth process also influences such as prolonged labor, or obstructed, sometimes right could also affect, Apgar also," (p2)*
>
> *"Yes, and than also we have to know the history - a history, a history of birth, history was born, that history for, her condition in the womb I also just know, I guess right all the premature equal yes, apparently prematurely, there were mothers - women who obtained fitting assessment, his mother suffered for example, may be PEB disease that's already urgency "(p3)*

Participants statement above described that the emergency condition of preterm neonates does not occur suddenly and abruptly, but there are several factors that can influence it. A mother with a history of gravity can also cause a risk of severity of neonatal early beginning of live. This occurs because the newborn since the beginning of its birth in a state of lack of oxygen to the organs of his body.

Historical references are four sub-themes of the theme of early detection of

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emergency. Not all preterm neonates born at the hospital, some of them is a reference to health centers, private hospitals, private midwife, clinic or even give birth alone at home and then immediately taken to the emergency room. The referral process is a way to send neonates from the place of delivery to the hospital. This is done because of premature neonates not yet mature enough to live outside the womb without tools to stabilize his condition.

But in practice this referral process did not observe the requirement to submit these neonates. Some rules that must be considered in this referral process, it must be met at the time of the neonates before being shipped, during the trip and at the beginning of the ER is received at the hospital. Some of the referral process is not met, eg initial preparation before being sent which should prepare the temperature and respiratory care premature neonates. Another thing that is overlooked during the referral process, which at the time delivering neonates without equipped with breathing apparatus and without adequate thermal protection. This condition can be seen from the expression of statements made by the participants are:

> *"Eee, sometimes right there from the midwife who had no oxygen, so even though LBW, he not has oxygen, continue to be directly sent also The distances location of the point of reference also affect the condition of the neonate" (P2)*
>
> *"Then also the condition that such a referral from remote areas where the referrer not understand how ee, transport baby brought her the baby was how, that I bring for the trip as it was also the mem, what, wasting a lot of time, then, baby also, what, the longer experienced conditions - conditions like hypothermia hipoksi too long too long, during the trip, "(p3)*
>
> *"Could, right hypothermia also affects, for example if yes what, mails should be right with the right to be let alone premature warm condition, let alone from here to the far right as well hypothermia." (P4)*

Excerpt from the statement above three participants illustrates that the referral process should be in accordance with the procedures that can reduce the impact of circumstances too low temperatures and lack of oxygen in the long term.

The fourth sub-themes that can increase alertness participants in predicting the existence of gravity in neonates is the act of monitoring periodically and continuous obtained when conditions are at risk for premature neonates critical of the previously described. This can be seen from the statement following participants:

> *"Indeed we have often observed even when briefly, Heem, often we see the observation of at least 2 hours, 1 hour, much less is the condition the baby needs attention really, .often we see, so we're not missed too, saw its clinical decline was not missed (stolen) and caregivers should really how ya, Eeee often so that often clinical study again see the baby and let the baby learn that not keblendrang (abandoned) the term yes. "(P1)*
>
> *"Half an hour right we often, evaluation, check, check, vital sign yes"*(p3)

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The statement above shows that less intensive supervision led to a higher risk of death in premature neonates. Participants disclose that the late found in conditions of emergency of the smaller life expectancy.

Periodic observation is required to detect as early as possible urgency that can occur so as to minimize the complications caused by the gravity of the respiratory and cardiovascular systems. Assessment often and repeatedly for evaluation can improve the success of resuscitation (Kattwinkel *et al.,* 2010). Early detection of the critical of the cardiopulmonary system is one of the most important actions for reducing death and disability. Delay of 1 minute can reduce 10% of the life expectancy (Hunzier *et. al.,* 2011).

The second theme of the initial decisions are nurses intuitive. Activity decide an activity that is not easy, it takes a wide range of considerations and the courage to take a stand on an issue or event, so that the necessary policies and precision to decide. Nurse Intuition is the sharpness of feelings and thoughts nurses against a patient's condition so that the nurse can determine attitudes to quickly and accurately follow their hearts without having to go through a longer process in the brain.

Intuition is comprised of sensitivity nurses and automation action. Sensitivity nurse is sensitive to stimuli that is, in the initial decision-making required unpleasant sensitive to a wide range of neonatal conditions that can be predicted to experience gravity. Risk assessment neonatal conditions requiring the sensitive feelings of a nurse to respond quickly and appropriately. This is consistent with nurses statement below:

> *"As long as I maintain, for my work as a nurse in the neonatal was, in my opinion, eemm, I think it's different, working in the neonate, the same people who work in the adult yes, because it is right yeah baby, we know babies can not just talk, eeemh, Only silent, so sometimes we use the feeling "(p1)*
>
> *"by be ...are often exposed resuscitation typically more responsive, more quickly respond," (p3)*
>
> *"ee, may be faster that now yes yes yes maybe yes because it may have already learned so much, if used, such infants need resuscitation not ... yes, it's still not sure "(p2)*

The above statement expressed sensitivity to the action using the phrase feeling and sure. The phrase says feeling means inner consideration (heart) over something, it is stated that nurses who are experts not only use rational and logical but also involves the mind / heart in decision making. A nurse feeling will only arise if always trained or exposed to the same events so that nurses have a particular sensitivity more faster response than receipts logic /reasoning. While sure has a sense of feeling certainly have no doubt decisions and actions. A nurse who has expertise not only purely a hold decision-making logic/reasoning but use the feelings and convictions would be something that could speed up the decision making process to determine the immediate life-saving action.

Automation of human action is the rapid response by the incoming stimuli that are

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directly processed to obtain results. This automation mimics the way machines work directly entering data and processed quickly to get results. Skilled nurses are required to make decisions quickly and accurately because they already has the basic data collection is complete and accurate as the process that occurs in the machine. Similar statements are in accordance with the above terms expressed by the participants as follows:

> *"What can be a decisive step - a step that would be, what, precisely and carefully, mem, predict and take steps later that what really until that is also what, the sequence - the order was also prescribed pattern," (p3)*
>
> *"Quote the science base is strong, it means already know the steps, steps, like what we have been ready" (p6)*
>
> *"Iyalah, because of because it is not accustomed to, so this must be how so yes, it loading (velocity relationship) longer than the already common practice, so maybe thinking so much longer" (p5)*

Participant statements above illustrate that the expertise of nurses in the track as early as possible the gravity of neonatal nurses urgently needed as skills when working in the neonate. The words to express automation actions disclosed are patterned and loading (speed level relationship). Pattern means a system or way of working, so naturally skilled nurses who work without undue difficulty because they is used to work with the system. The second word used to describe the automation of the action is "loading" contextually that have meaning in a sentence is the speed in the relationship. The word "loading" give the sense that a skilled nurse she should have the speed to understand the events and can immediately provide a response to overcome the problems. Finesse and quick response of nurses can be useful for making decisions quickly and precisely in terms of determining the gravity of the act that requires resuscitation.

Preterm neonates have some risk due to immaturity of the organs that have had a lung that immatur thus have difficulty to ventilation and the risk for injury when given positive pressure ventilation. Prematurity organ systems in preterm neonates cause a condition that can be life-threatening, such as immaturity of the respiratory system caused RDS, the skin is thin and transparent and immaturity of the immune system also causes neonatal susceptible to infection and sepsis, and when added conditions of hypothermia, hypoglycemia and hypoxia, it will cause gravity cardiovascular requiring resuscitation (Lawn *et. al.,* 2012; Kattwinkel *et. al.,* 2010). Similarly, the low birth weight are usually associated with the condition and have the same problems with prematurity.

Asphyxia condition is a complex combination of hypoxemia, hypercapnia, and circulatory insufficiency that can be caused by a variety of perinatal risk factors (eg, placental insufficiency, placental abruption, respiratory failure, meconium aspiration, pneumothorax, blood loss, etc.). Conditions hypoxemia, hypercapnia, and circulatory insufficiency if it lasts a long time can cause permanent damage to the central nervous system, or damage to other organs that can cause failure of the respiratory system that can fall on the gravity of the respiratory and cardiovascular systems (Karlowicz *et al.,* 2011).

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Conditions cyanosis, gasping and retraction of the chest wall is a sign of respiratory distress in preterm neonates. Severe breathing problems often experienced by preterm neonates because of a shortage of surfactant. Surfactant function is to reduce the surface tension and helps to stabilize pulmonary alveolar wall so it does not collapse at the end of the breathing. The absence of surfactant causes respiratory alveoli collapse each end, which causes difficult breathing. Before the age of 34-35 weeks gestation, surfactants are often not produced insufficient quantity so as to result in atelectasis, and can progress to respiratory distress syndrome (Chapman & Cholson, 2010). This respiratory distress syndrome if not promptly treated can be increased to stop breathing that can be life threatening.

Hypothermia can be a risk factor for respiratory and critical cardiovascular, because if a baby was cold, he will begin to experience hypoglycemia, hypoxia and acidosis (Chapman & Cholson, 2010). A combination of three factors caused by hypoxic conditions is hypoglycemia, hypoxia and acidosis may stimulate increases the need for oxygen that the body tries to increase the frequency of breathing and heart rate, and if it can not adapt well due to immaturity of organ systems that premature neonates may fall on conditions respiratory failure and cardiac arrest (Karlowicz *et al.,* 2011).

How to detect the early presence of gravity in preterm neonates is of the history of childbirth. Delivery by secaria secio may risk causing respiratory depression in neonates due to the use of anesthetic drugs during delivery (Karlowicz *et al.,* 2011). Labor history with prolonged labor or obstructed at risk of neonatal hypoxic events during intrauterine, and most likely can continue in tissue hypoxia after delivery becomes a risk factor for neonatal asphyxia (Karlowicz *et al.,* 2011).

Historical references can also be used for early detection of gravity in preterm neonates. Referrals that do not conform to standards such as referring regardless of the temperature setting guidelines resulting in hypothermia, referring without using oxygen, causing tissue hypoxia and the location of a place of reference that can considerably increase the incidence of hypothermia and hypoxia in preterm neonates (Karlowicz *et al.,* 2011).

Nurses intuition consisting of sensitivity, and automation of the action. The results are consistent with previous research that nurses who are experts more quickly and accurately in decision-making than the novice nurse. This is due to expert nurses collected data on more and more focus on the problems of patients and expert nurses more proactive in data collection. The collected data was the better nurse expert in categorizing the data so that better decision making (Hoffman *et.al.,* 2009). Another opinion supporting that the decision was influenced by the intuasi is Patricia Banner opinion with his theory Novice to expert in 1982, which said that work performance is influenced by experience and education. There are five levels of experience nurses are novice, advanced, beginner, competent, proficient and expert. This intuition would be obtained if the nurse had been at the level of experts. Expert nurses, that nurses no longer rely on rules and guidelines, the nurse working becoming more fluid,

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flexible and natural to rely on intuition as already experienced the same situation, though expert nurses still rely analysis when dealing with a situation that has never faced before (Banner, 1982).

Conclusions

Early detection of emergency an assessment as early as possible to the conditions which endanger the lives of premature neonates. Early detection of urgency expressed by all participants to see a history of previous conditions. Sub-themes of the early detection emergency consisted of neonates at risk of the condition, history of labor, referral history, and periodic observation. The determination of appropriate action on the critical ill of preterm neonate nurse requires intuition built from experience, sensitivity and automation of action, so the nurse's steps in the handling of the critical ill of preterm neonate can deliver prefect outcame.

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FACTORS ANALYSIS OF DISEASES PREVENTION IN DAYCARE BASED ON FLORENCE NIGHTINGALE NURSING THEORY APPROACH

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ABSTRACT

Background: An increasing number of working mothers have an impact on the use of daycare. Children cared in daycare are at risk of contracting the disease caused by environmental aspect. Objective of this study was to analyze factors of diseases prevention in daycare based on Florence Nightingale nursing theory approach. **Methods:** This research using descriptive and explanatory study. The population was children in daycare, caregiver and environment of daycare. Samples were 13 children who met inclusion criteria, 3 caregivers and environment around the daycare. This study was conducted on 28th-29th October 2014 in An Nuur daycare Surabaya. Variables were air requirement, sunray requirement, water hygiene, food hygiene, children and caregiver's hygiene. Data were collected by observation of environment and interview with caregivers. **Results**: The result showed that there were 5 children with respiratory infection disease on a month period. Type of infectious disease was influenza. Air requirements especially in ventilation for air circulation and sun rays requirements were the dominant's factor that need to increased more. Water and food hygiene was in good condition. Children's personal hygiene was needed to increase especially in nail's hygiene. Caregiver's hygiene was in adequate condition because they have performed hand washing before and after caring the children. **Conclusion:** Ventilation and sunray requirements are the most important thing to prevent infectious disease in day care.

Keywords: daycare, infectious disease, nursing theory, Florence Nightingale

Introduction

Infectious disease is a disease that can be transmitted from one person to another, it can be by direct contact or intermediaries. Mother's role today not only as a housewife who perform child care at home, but also support the family's economy. Work performed by mothers must not change the relationship of a mother with a child. Answering the needs of mothers in replacement of custody while the mother was at work, it is now widely opened Daycare (TPA). A variety of conditions and character of children often found in a daycare and caregivers is an important factor attached to the child when the child in daycare's environment. Environmental factors that affect human health, but until now nursing model of prevention nanny's behavior in daycare can't be explained.

Research conducted by Morrow (2010) says that the daycare can be a breeding ground for the virus. In the study

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interviewed parents of 111 children aged 3 years old and under with Chronic Lung Disease of Prematurity (CLDP) about their child care attendance infections, symptoms, emergency room visits, hospitalizations and drug use. Children who attend daycare is almost three times more likely to have breathing problems at least once a week compared with those who did not attend daycare (Morrow, 2010). Contagious disease that often affects children is like chickenpox, measles, respiratory infections, rubella and conjunctivitis.

Nightingale's concept developed theory focus on environment. Murray and Zentner (1975) states that environment can be prevent, suppress or encourage an illness, accident or death, is all external conditions and influences that have an impact on the life and development of the organism. Florence Nightingale emphasized that the focus of nursing placing the patient on the best environmental conditions in accordance with the patient's condition at that time.

Methods

The design of research was descriptive and an explanatory. This type of research was applied because researchers aimed to find an explanation for a phenomenon or event that happened, so it will produce an overview of the causal relationship independent variables and related variables (Sugiono, 2006). Time approach was cross sectional. The population in this study was 25 boys, 3 caregivers and Annur Daycare Surabaya environment. Sample in this study was children, caregivers, and daycare's environment who met the inclusion and exclusion criteria. There were 13 children between 3 until 5 years old, 3 caregivers and all An Nuur Daycare Surabaya environment.

The sampling method was purposive sampling. This sampling was used to select the sample based on the number of individuals encountered by researchers who meet the inclusion criteria: 1) toddlers in foster care in daycare more than one month, 2) children were under five years old when research was conducted. The exclusion criteria in this study were: 1) infants were not included at the time of the study, 2) children who were not a member of daycare. Independent variables in this study were the environment (air requirements, lighting, hygiene: water sanitation, food's hygiene, hygiene of children and caregivers). Dependent variable in this study was the incidence of infectious diseases. Data were collected by using questionnaire adopted from Israfil (2014) and the observation chart for assessing personal hygiene of children and caregiver.

Results and Discussion

The results showed the incidence of infectious diseases in TPA An Nuur are at low risk of 92.3 %. Air unmet needs well on aspects of ventilation and air circulation in the room by the absence of window in the child's bedroom and in-room childcare. Also lighting requirements can't be fulfilled ie no light coming into the care's room so the room was dark with no lights.

The room was very dark because there is no incoming light. This is because the rooms are on the lower floor. Water cleanliness met with both preparations: water is colorless and odorless, and provided running water. Children food hygiene are

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provided in daycare can be properly maintained because the children get a place to eat alone. However, the dining room is not provided by the daycare. The cleanliness of the children was in good category, namely the hair, the clothes, but the cleanliness of nails still in less percentage

Table 1
Infectious Disease Occurrence in TPA An Nuur Surabaya, October 2014

No.	Risk	Σ	%
1.	Low	12	92.3
2.	High	1	7.7

Table 2
Air requirements in TPA An Nuur Surabaya, October 2014

No.	Question	Answer
1.	Each room has a ventilation and windows	No
2.	The child bedroom had no ventilation and window	No
3.	There are air pollution such as cigarette's smoke coming into the room care or children's rooms	No
4.	There is outdoor air pollution in childcare	No
5.	Caregiver or child wear masks covering nose when no child is sick because airborne disease	No
6.	There are air pollution around the day care as a result of a motor vehicle from outer space	No
7.	There are air pollution around the day care due to the smoke of burning rubbish	No
8.	There are air pollution around the day care as a result of the disposal plant	No
9.	There are air pollution around the day care due to the smoke from the kitchen	No

Table 3
Light requirements in TPA An Nuur Surabaya , October 2014

No.	Question	Answer
1.	Direct sunlight can get into the childcare's room	No
2.	The sun's rays are not blocked by trees or buildings	No
3.	Incoming sunlight and illuminate the room through a window, ventilation slits in the room	No
4.	Sunlight illuminates the floor of the room	No
5.	Sunlight coming into the room without any obstructions in the room such as cabinets and other furniture	No
6.	Sunlight coming into the room of more than 1 hour	No
7.	Sunlight into the room starting at 8:00 until 16:00	No
8.	Location of the ventilation or window in the middle of the wall or walls of any room	No
9.	Toddler bed room had no ventilation or window where the entry of sunlight	No
10.	Bedroom toddlers get sunshine for over an hour	No

Table 4
Water cleanliness in TPA An Nuur Surabaya, October 2014

No.	Question	Answer
1.	Water provided colorless	Yes
2.	Water provided odorless	Yes

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3.	Water is stored in a tank or container well and covered	Yes
4.	Running water to wash	Yes
5.	Disposal of waste water away from the area of childcare	Yes
6.	The water in the bathroom was clean and tidy	Yes
7.	Drinking water that used to be cooked first	Yes
8.	Drinking water is supplied in sealed containers	Yes
9.	Drinking water is provided in a clean container	Yes
10.	Each child has a personal drink equipment	Yes

Table 5
Food hygiene in TPA An Nuur Surabaya, October 2014

No.	Question	Answer
1.	Children wash their hands before eating	Yes
2.	Caregivers wash their hands before feeding a child	Yes
3.	Children use private dining equipment	Yes
4.	Children's tableware clean and dry	Yes
5.	Separate dining room available	No
6.	The dining room is clean	No
7.	The dining room is far from the washroom / toilet	No
8.	Child's eating utensils are washed with running water	No
9.	Child's eating utensils are washed with soap	No
10.	Tableware child properly dried	No

Table 6
Children hygiene in TPA An Nuur Surabaya, October 2014

No.	Question	Answer
1.	Kids clothes clean	92,3
2.	Child's hair net	100
3.	The child's fingernails clean	61,5
4.	Teeth's children clean	92,3
5.	Children bathing using clean water in the day care	100
6.	Children bathed by caregivers	92,3
7.	Children take a bath with their own soap	100
8.	Children use their own toiletries especially towels	100
9.	Children use their own ornate tool	69,2
10.	Child a bath at least 2 times a day	100

Table 7
Caregiver's hygiene in TPA An Nuur Surabaya, October 2014

No.	Question	Number (%)
1.	Caregiver's clothes clean and tidy	100
2.	Teeth's nanny looks clean	66,6
3.	Caregivers wash hands with running water	100
4.	Caregivers wash their hands with soap	100
5.	Caregivers wash their hands after cleaning up child	100

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Discussion

Daycare is an important place if we look at the conditions that exist in modern times. TPA is a solution for families, especially for mothers who became a career woman. However, something sometimes appear as a complaint on the impact of the TPA one of them is the child's susceptibility for contracting an illness. Based on the results seen in table 1 shows that the risk of contracting against an infectious disease in TPA An Nuur Surabaya are in the low category.

Low category means that children are taken care of in a daycare is unlikely to contract against infectious diseases suffered by a friend of a child care provider. This condition is supported by the lack of legislation in TPA An Nuur that parents are encouraged to care for their children at home during illness and have not been allowed for in the day care dropped off. This regulation is very important to be applied in daycare because the child is in a condition that requires more care than children who are healthy.

The results of research showed that there were 5 children who had infectious diseases for a month in the form of *Acute Respiratory Infection* (ARI) symptoms or Influenza. There was also a child who had symptoms of respiratory infection that extends in the form of cough and colds are not immediately healed. This condition can be a source of infection for other friends because the child still has a lower resistance than adults. So it is recommended that children need to get a complete immunization before come in the daycare. APHA/AAP (*American Public Health Association/ American Academy of Pediatrics*) recommends that children before being put into daycare child should has been fully immunized according to age, and continued steadily for at the daycare.

There was one child sick with fever entrusted by his parents. Caregivers said that this condition sometimes occurs because of parents returning to work after a leave of absence due to caring for a sick child. Symptoms experienced by children were not in severe condition, but the symptoms are mild. Children with mild pain may be accepted at the daycare then the child can be placed in isolation rooms. Isolation rooms should have large glass windows for natural daylight and the child does not feel trapped, because they can see their friends play.

Air requirements are things that need to be considered to reduce the risk of infectious disease events. Air requirements include the presence in ventilation and the air pollution that comes from the outside or from within the daycare, including cigarette smoke, pollution motor vehicles, factory smoke and behavior of caregivers using a mask when there is a sick child. Based on observations of researchers in An Nuur daycare Surabaya found that the room where the child is nurtured was equipped with air-conditioning facilities. This requires space in the closed condition so that no air from the air conditioner out of the room. Absence of ventilation as a means of air exchange turnover can be a trigger of increased risk from infectious disease. Social Department requires that daycare should have the air exchange in all rooms well established (Dinsos, 2005).

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Environmental aspects concern mainly Nightingale is adequate ventilation for the patient. This means that a nurse maintain the patient's inhaled air as clean as the air outside the room, without making it cold. Nightingale believes the availability of continuous fresh air is the most important principle in the treatment (Nightingale, 1969). Similarly, the conditions in the daycare as the place of care to children for more than 8 hours, daycare also must have good ventilation, creating health and clean air. This means that there must be change of air from not clean become clean.

There is no smoke pollution and contamination from the outside environment. Daycare motor vehicle fumes, factory smoke and pollution from building materials. This condition is a supportive environment for the daycare. This is because the day care is located away from the highway. The outside air is clean and free from despair motor vehicles and pollution from the industries.

Lighting requirements in An Nuur daycare is one thing that needs attention. Based on observation by the researchers, it was found that no sunlight coming into the room where the child cared. Lighting of the day time use of light. Solar light can only enter from the top floor nursery room in a short period.

Light (sunlight) is another element of handling Nightingale believed care should not be overlooked. Nightingale absolutely convinced of the value of the direct rays of the sun. Sunlight may decrease the risk of an increase in the incidence of infectious diseases due to sunlight can kill or suppress the growth of disease-causing microorganisms that are not resistant to sunlight, for example Tuberculosis is a disease that is transmitted through droplets. Social Department requires that daycare space must ensure that sunlight can get into the room as much and as long as possible (Dinsos, 2005).

Water hygiene conditions in An Nuur daycare was in good condition. The water was clean, colorless, tasteless and odorless. In addition water was also managed well for drinking. Water was cooked before being drinking. There is a bathroom for as much as two foster children. Children can use the bathroom interchangeably and children can access easily if they want to shower. Dinsos requires for the cleanliness of the bathrooms, latrines always must be supervised by the manager of the daycare. Clean water should be available in sufficient quantities.

The availability of water is also an important factor in the provision of water in the daycare. Water for hand washing, washing utensils, was available. Children have a separate drink supplied by their parents. Physical aspect from food hygiene is necessary in parenting according to Nightingale. The food provided at daycare has a good quality in a clean container and tableware own. Children wash their hands with water before meals. Similarly, the caregivers also wash their hands before feeding a child. But in TPA An Nuur still have not found a place or a separate dining room. Children eat in nurturing space for a wide range of other activities.

Availability of the dining room for children are important to note. Dinsos

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requires that daycare provide a separate dining room for children (Dinsos, 2005). The dining room which is comfortable and clean can increase the child's appetite. In addition, the availability of dining room can minimize residual or dirty conditions resulted from the residual meal that falls on the floor are not directly with nursery room. The pigswill that falls if not cleaned will invite the ants, insects, etc which can damage the health of children.

Hygiene of children in the An Nuur daycare is a good condition. Hair's hygiene, toiletries, frequency of bathing is child hygiene shared by all children. While other hygiene related to the cleanliness of nails an aspect of hygiene which has a low value. Nail's hygiene is one aspect that must be considered by parents and caregivers to prevent the onset of disease. The disease can appear because nails are not clean, for example, diarrhea, skin's diseases and other ailments. The children hygiene in An Nuur also get attention from caregivers. Caregivers bathe the children who cannot bathe themselves in the afternoon. Bath's equipment used by children is a personal toiletries. This condition can prevent the onset or emergence of disease transmission is mainly mediated by the toiletries were alternately example chickenpox. Caregivers also said that the child's toiletries such as towels are privately owned, while the soap in part to bring their own children and in part again belong to the day care used together. However, soap which is used for shower was gel, thereby reducing disease transmission.

Caregiver's hygiene is also one factor that must be considered in the implementation of daycare. The results indicate that there were three caregivers in An Nuur. From three caregiver, two of them have a good level of cleanliness. Caregiver's hygiene in this case relates to behavior of caregivers to maintain personal hygiene for children and themselves. Their personal hygiene was in good category, but not for dental's hygiene. There was one caregiver who did not have good dental's hygiene. It can also be caused by many factors, including food, hot beverages that affect teeth's condition.

Caregivers have a good behavior in the implementation of personal hygiene, such as washing hands every child when the children eat, wash their hands with running water and soap, and wash their hands after cleaning the child who defecate. Transmission of disease in the day care is determined by a host's factors, especially age from a child and the environment. Children who have not been able to urinate or defecate in closet and wipe/wash hands properly are at high risk of transmitting or contracting a gastrointestinal infection. But in An Nuur daycare, caregivers already have the awareness to wash hands with water and soap immediately before and after cleaning a child. Unwashed hands can interfere the healing process and the washes hands will eliminate harmful substances from the system quickly. Therefore nurses should wash their hands frequently and keep the patient clean (Nightingale, 1969 in Israfil, 2014).

Conclusion

The incidence of infectious diseases that often occurs in An Nuur daycare was a symptom of ARI. Category of air environmental in An Nuur daycare was clean, but air circulation is still

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insufficient. Need of sun lighting in the entire room did not meet the needs. The cleanliness of water was in a good condition. Food hygiene was in a good condition to prevent the transmission. Food was stored in a clean container and each child has feeding equipment separately. The children hygiene was in a good condition, but the cleanliness of nails was in poor condition. The cleanliness of caregivers was in a good condition such as the caregivers wash their hands before and after taking care the child.

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THE INFLUENCE OF WARM STEAM WITH PEPPERMINT AROMATHERAPY TO INCREASE THE PRODUCTION OF BREAST MILK IN SIALANG VILLAGE PALEMBANG 2015

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ABSTRACT

Background: Support and efficacy of breast milk is great, but mother always experience of any problems when do it. Mother's psychological factors are affect to increase the production of breast milk. The complementary of warm steam with peppermint aromatherapy, can be done to obtain relaxation toward the physical condition and psychological postpartum. The purpose of this research to know the influence of warm steam with peppermint aromatherapy to production of breast milk on mother's postpartum. **Methods:** The design of research is quasi experimental pretest-posttest with control group. The sampling technique research was use consecutive sampling. The samples to this research is mothers postpartum with normal childbirth, totaled 15 samples for the intervention group and 15 samples to the control group. **Results:** Data analysis to this research use different analysis mean dependent sample paired t-test. The result of statistical tests obtained p value = 0.084, so can be concluded there is no difference breast milk production between the control group with intervention group before given warm steam with peppermint aromatherapy. Peppermint aroma can make skeletal muscle relax, so blood vessels will vasodilation to increase blood flow into the breast. **Conclusion:** Statistic test results obtained p value = 0.001, it can be inferred there is difference between the production of breast milk the control group with intervention group after given treatment warm stream with peppermint aromatherapy. Therefore, mother's postpartum still need trained to able to perform a warm steam therapy with aroma peppermint independently at home.

Keywords: Warm Steam, Peppermint Aromatherapy, Production of Breast Milk

Introduction

In the basis for formation of resources quality started from an infant inside the uterus since an early age. One of things can be carried in optimize resources quality by giving breast milk and in Indonesia has statement that breast milk should be given as birth to baby was six months and continued until the two years old (Depkes RI, 2005).

Although the support and efficacy breast milk was great, but realize to give breast milk is not always easy because many mother have problems when do it. Basic Health Research in 2010 noted that in Indonesian, babies that given breast milk for 6 month only 15.3%. This figure was below global exclusive of breast milk which also low at 32.6%. The low of prevalence the provision of breast milk by mother because the less of breast milk production.

Tasya (2008) said many factors presented by mothers do not use in exclusive breast milk to the baby, because the production of breast milk was less. The psychological

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factor of mother has big role in influencing breast milk production, mothers stress, worried, don't have capable to producing breast milk and unhappiness during the period of breastfeeding will causing breast milk reduced to production (Hegar *et.al.*, 2008).

Aromatherapy is a body care technique by used or harness the essential oil that efficacious. Aromatherapy can be given by mixed with warm water (Jackie, 2010). Essential oil that put in the warm water can emit steam. This warm steam is one of hydrotherapy. Warm steam is a type of hydrotherapy where someone bath in a warm steam room. Steam get from water is heated, so steaming and pumped into the enclosed room who create heat wet. Warm steam helping poison exertion through sweat and cleaning the skin (Sutawijaya, 2010).

Benefits of aromatherapy inhalation is metabolism normalize and increase the vitality to help manage the balance of the body and stimulating therapy. One of the aromatherapy is peppermint (Muchtaridi *et al.*, 2005). The merger therapy of peppermint aroma and warm steam, this is help mother with breastfeeding feels relax. This as the trigger to increase oxytocin hormone agent to producing breast milk (Shinobi, 2008; Primadiati, 2002).

Relaxation by mother after conducted aromatherapy who experienced breast milk less production, is believed to be increasing production of breast milk in an affecting hormone system of the body with stimulate the pituitary glands (Erikar, 2010).

In Sialang Village, Sako District is residential areas which are far from health services and health school which is rarely touched by health workers. Based on the data reports by midwives practice in Sialang village, the data was obtained mother a total 507 people (100% of the total postpartum) (Government local clinic of Multiwahana, 2014). From the above information we intend to investigate the process production of breast milk through warm steam with peppermint aromatherapy on mothers postpartum

Methods

This research using a quasi-experiment in two groups. The research has done by examining the breast milk production postpartum before (pretest) and after (posttest) conducted warm steam with peppermint aromatherapy using control group.

Control group, the first day of postpartum pretest already done, then posttest done on tenth day. For the intervention group, pretest already done the first day and posttest done on the tenth. Warm steam of peppermint aromatherapy performed two days once every morning, the total intervention a mothers postpartum get five times therapy. The sampling techniques to this research use consecutive (Notoadmodjo, 2005). The samples to this research is mothers postpartum with normal childbirth who lives in Sialang Village Sako District Palembang which totaled 15 samples for the intervention group and 15 samples to the control group on inclusion criteria:

1. Willing to study
2. Normal postpartum on the first day
3. First labor
4. 20 – 35 years old

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5. Not experienced mental disorder
6. An infant not given milk formula
7. Not physical disease or complications that accompanies (normal nipples) and infant (sucking reflex (+), weight > 2500 gram)
8. Minimal education junior high school graduate.

The production of breast milk obtained by indicators baby and mother. Baby indicators include:

1. Weight of baby do not down more than 10% of born weight at the first week of birth.
2. Baby weight of two weeks at least equal to baby weight in born or increased.
3. The feces elimination 1-2 times in the first and second day, with meconium. On the 3rd – 4th day, at least 2 times greenish to yellow.
4. Elimination urine as many as 6-8 times with yellow and clear an then breast milk frequency 8-12 times a day and the baby will be quiet or sleep well for 2-3 hours after suckle.

Mother indicators include:

1. The taut breast because filled of breast milk, mother relax, good let down reflex.
2. The frequency of breastfeeding 8 times a day, mother using both of breast alternately. Right attach position, the putting is not blister.
3. Mother giving breast milk to baby without schedule.
4. Mother was look flush the breast because the breast full.
5. Breast will empty after the baby suckling until full and sleep, baby visible hard suck with slowly rhythm.

This research was conducted from September 3rd – 29th 2015. Data analysis to this research use different analysis to this research use different analysis mean dependent sample paired t-test by significant 95% (α = 0.05)

Result and Discussion

Table 1

The Average Distribution of Breast Milk Production Before and After Treatment Warm Steam with Peppermint Aromatherapy in Control and Intervention Group at Sialang Village Sako District Palembang 2015

	Breast Milk Production				p Value
	Pretest		Posttest		
	Mean	SD	Mean	SD	
Control	5.94	2.768	9.81	2.971	0.001
Intervention	8.06	3.872	13.31	2.522	0.000

Table 2

The Average Distribution of Breast Milk Production Before Treatment Warm Steam with Peppermint Aromatherapy in Control and Intervention Groups

Variable	Mean	SD	SE	p Value
Breast Milk Production				
-Intervention	8.06	3.872	0.968	0.084
-Control	5.94	2.768	0.692	

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The result of statistical tests obtained p value = 0.084, so can be concluded there is no difference breast milk production between the control group with intervention group before given warm steam with peppermint aromatherapy.

Table 3
The Average Distribution of Breast Milk Production After Treatment Warm Steam with Peppermint Aromatherapy in Control Group and Intervention Group at Sialang Village Sako District Palembang 2015

Variable	Mean	SD	SE	p Value
Breast milk production	13.31	2.522	0.631	0.001
Intervention Control	9.81	2.971	0.743	

Statistic test results obtained p value = 0.001, it can be inferred there is difference between the production of breast milk the control group with intervention group after given treatment warm stream with peppermint aromatherapy.

Discussion

Breastfeeding period need more energy and raises exhaustion because to fulfill the needs of baby, mother should be willing to give on demand. Research by Wambach (1998) in McGovern, Dowd, Gjerdingen, Gross, Kenney, Ukestad *et.al.* (2006) reported there are significant connection between breastfeeding with exhaustion ($r = 0.38$, p value < 0.05) in four times the measurement (3rd days, 3rd weeks, 6th weeks and 9th weeks of postpartum).

The results of Aini's research (2010) that mother with breastfeeding who in a state not relax condition, unsettled thoughts and depressed will make let down reflex stunted. It was caused by the release of adrenaline that inhibits work oxytocin hormone will happen vasoconstriction blood vessels so bit amount of oxytocin reaching an organ myophitellium to extort breast milk turned out. According the result of Akbari's research (2014) many mothers feels uncomfortable while do breastfeeding to their baby. It's all because sometimes mothers feel in stress. Stress condition will cause nipple fissure pain while breastfeeding and Akbari applying to dabbed peppermint on nipple surface of mothers and proved decrease nipple fissure pain while breastfeeding.

Stress experienced mother would hamper discharge oxytocin hormone who served to throw breast milk. If there were stress of mother there will be blockade of reflexes oxytocin because of the release of the adrenaline by hormone of stress that causes vasoconstriction of blood vessels alveoli, so oxytocin has little hope to achieve myophitelium organs (Hegar *et.al.*, 2008).

Aromatherapy in used by inhalation, with the presence of essential oil aroma from outside into the body by passes through the lungs distributed to blood vessels through alveoli (Buckle, 2003). This is will give positive effect for circulatory, restore nerve imbalance, facilitate the absorption of nutrition, increase the concentration, balance of soul, focus, calmness and also

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satisfaction, so it can launched breast milk production. A research has proved that aromatherapy proven can effectively reduce stress and help cure of cancer. Then Dr. Paolo Rovesti, research the effect of aromatherapy among anxiety and depression (Primadiati, 2002).

Warm steam help to exertion poison though sweat and cleansing the skin (Sutawijaya, 2010). While doing warm steam, heartbeat can increased to 50%, then the blood flows also up to 30-50% (Antara & Wartini, 2009). The smooth flow of blood brings oxygen and nutrients that is getting much flows on the breast glands and launch breast milk flow easily. Warm steam can be given aromatherapy. Aromatherapy have positive effect because it fresh, fragrant that stimulate sensory, receptors and eventually affecting the other organs so that it could be react emotion strong effect. Aroma arrested by receptors in the nose then provide further information to an area of the brain that control of emotion, memory, information. Hypothalamus is internal regulator body system, including stress reaction (Shinobi, 2008).

Tate research (1997) in Muchtaridi (2005), shown by inhalation warm steam peppermint aroma significantly can reduce nausea postoperative and pharmacological antiemetic postoperative gynecology. The function of peppermint as anti-convulsion. One of the anti-convulsion mechanism is spasmolytic or anti-seizure of contraction muscle. Peppermint have activity in vitro and reduce down strain skeletal muscle.

The active ingredients of peppermint aroma are menthol and methyl salicylic that giving calm effect. Aroma that is inhaled have fastest effect, where the olfactory receptors cells stimulated and impulse is transmitted to emotional centers of the brain (Capello, 2007).

Research by Zolandz *et.al.*, shows that peppermint aroma can increase someone cognitive perform which proved with the results of the experiment by using the cognitive with computer based as instrument and as a result of cognitive perform from the subject of recognition visual and working memory and short term memory show the test scores higher than the control group which given peppermint aromatherapy (Zolandz, 2004). It was support by the research of Ghasani (2006), that the effectiveness peppermint could increase short-term memory capable on recognition test and not capable on free recall test.

Relaxation techniques of deep breath peppermint aroma can make skeletal muscle relax that experienced spasm caused by increased of prostaglandins, so blood vessels will vasodilation to increase blood flow into the breast. Beside of this parasympathetic stimulant component nervous will reduce cortisol and adrenaline hormone level in the body which influences the level of stress someone so can increase concentration and make clients satisfied to regulate respiratory rhythm become regular. It will elevated PaCO2 levels and reduce pH levels so will increasing the oxygen levels in the blood (Smeltzer and Bare, 2002).

Conclusions

There are difference the production of breast milk between control and intervention group having given warm steam peppermint aromatherapy. The act

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of warm steam aromatherapy can be recommended for postpartum. There needs to be training for mother postpartum, using simple instrument, so that they can do it on their own home.

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FACTORS AFFECTING THE HIGH RATE OF MATERNAL MORTALITY IN JEMBER

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ABSTRACT

Background: According to the World Health Organization, maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental caution. In 2008 until 2011, Jember noted as the first rank of the maternal mortalities. The purpose of this study was to determine and analyze the picture of maternal mortality in Jember 2014 and its influence factors. **Methods**: This study was an observational analytic research using secondary data on maternal audit from 6 health centers in Jember. The analysis methods used univariate and bivariate analysis. Bivariate method used non-parametric chi-square analysis. The sampel's characteristics from 22 pregnant women showed there were 6 persons less than 20 years old, 9 persons were between 20-35 years old, and 7 persons were more than 35 years old. There was one person with a grand multipara. It can cause the dangerous pregnancy complications for both mother and infant. Almost mothers came from a low to a middle economic class families. **Results**: Bivariate analysis showed that age, education, and socio economic factors can't effect maternal deaths. It is shown by p value=0.067 (CI=95%) in educational factor. **Conclusion:** Maternal deaths can occur at any time among pre, ante, and post partum period. The pregnant women who experienced of deaths have the similar character in a high risk pregnancy.

Keyword: maternal death, factors of maternal mortality

Introduction

World Health Organization (WHO) states that the maternal mortality rate is the number of deaths during pregnancy until 42 days after delivery due to pregnancy and accompanying management and not by the result of an accidental caution. In Indonesia, East Java province occupies the top five after the provinces of West Java, Central Java, East Nusa Tenggara, and Banten. The rising trend in maternal mortality continues to occur in East Java. There were 487 cases in 2008, 535 cases in 2009, 598 cases in 2010 and 627 cases in 2011. The area of Tapal Kuda contributes the highest maternal mortality rate, particularly Jember, Banyuwangi, Situbondo, Bondowoso, and Lumajang. Based on data from Health Profile of East Java Province in 2011, Jember occupied the top rank of 38 regencies/cities in East Java. There were 54 cases of maternal death illustrate the poor state. It can be said during four consecutive years (2008-2011), Jember Regency had not shifted from the first rank (East Java Health Office, 2012).

Maternal health level is a reflection of the decline in maternal mortality. It is one of the agendas that must be fulfilled in the Millennium Development Goals (MDGs) by 2015. It is expected that the target of Maternal Mortality Rate (MMR) up to

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102/100,000 live births and the infant mortality rate (IMR) up to 23/1000 live births can be achieved in that year. Referring to the target set by MDGs, maternal mortality rate in East Java has exceeded the target. In 2013 the maternal mortality rate was 97.39/100,000 live births and in 2014 was 93.52/100,000 live births. However, the absolute number of maternal deaths in East Java in 2012 was still high; there were 449 cases of maternal death. This figure increased in 2013. 474 maternal deaths were recorded in 2013 in East Java. This is the homework of many related parties, either health department or local government as stakeholders (East Java Provincial Health Department, 2014).

Based on the study conducted by Nurul Aeni in 2013, the most influential factor of maternal death was complication of pregnancy, followed by birth complication and history of illness suffered by mothers.
Referring to the above data, it was important to identify what factors affected maternal mortality rate, especially in Jember Regency. This is quite reasonable considering that Jember Regency is an area in Tapal Kuda which is still classified as an area with poor record in maternal mortality management. It is expected that the factors causing maternal death while giving birth can soon be overcome. Thus, the number of women giving birth safely can soon be reached in line with the target, as an indicator of maternal health.

Methods

This study is an observational analytic research using secondary data on maternal mortality during childbirth of 6 health centers in Jember regency. The selection of health centers considered the external factors that indirectly affected the incidence of maternal mortality such as the distance and access to higher reference, utilization of health care facilities, the availability of complete health care facilities, computerized recording system, which had an effect on the number of visits of pregnant women, and others.

The analysis method used univariate analysis and bivariate analysis. Univariate methods consisted of an overview and characteristics of samples. Meanwhile, the bivariate methods used non-parametric chi-square analysis to determine the effect between variables.

Results and Discussion

The table below shows the characteristic data distribution of pregnant women who experienced death.

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Table 1
Characteristic distribution of sample

Sampel code	Age (years)	Education	Employment of Wife	Employment of Husband	Obstetric Status
1	18	Elementary School	Housewife	Self-employed	G1P0A0
2	42	Elementary School	Housewife	Driver	G9P5A3
3	35	Dipl-3	Housewife	Bank employees	G2P1A0
4	30	Senior High School	Housewife	Self-employed	G4P3A0
5	28	Senior High School	Housewife	Self-employed	G3P1A1
6	38	Elementary School	Housewife	Labor	G3P2A0
7	29	Dipl-1	Housewife	Self-employed	G1P0A0
8	19	Elementary School	Housewife	Farmer	G1P0A0
9	37	Elementary School	Housewife	Labor/a builder	G3P1A1
10	18	Senior High School	Housewife	Farmer	G1P0A0
11	43	Elementary School	Housewife	Self-employed	G4P2A1
12	19	Senior High School	Housewife	Self-employed	G3P2A0
13	19	Senior High School	Housewife	Farmer	G1P0A0
14	24	Senior High School	Housewife	Farmer	G1P0A0
15	30	Elementary School	Housewife	Labor	G3P1A1
16	28	Elementary School	Housewife	Self-employed	G1P0A0
17	26	Senior High School	Housewife	Self-employed	G1P0A0
18	18	Elementary School	Housewife	Self-employed	G1P0A0
19	40	Elementary School	Housewife	Labor/a builder	G3P1A1
20	38	Elementary School	Housewife	Self-employed	G1P0A0
21	36	Elementary School	Housewife	Self-employed	G4P2A1
22	39	Senior High School	Housewife	Self-employed	G1P0A0

It can be seen that from theage factor, there are high-risk ages. According to the research from Kurniawati (2014) the definition of high-risk pregnancy is a pregnant women aged less than 20 years old and more than 35 years old. As well as the grand multipara of the 22 pregnant women, those aged less than 20 years (6 persons), there are 9 persons more than 35 years old. There is only one mother with grand multipara, who had delivered more than 5 times. It can cause the dangerous pregnancy complications for both mother and infant.

In addition, almost all of mothers came from a low to a middle economic class families based on the type of husband's job, so that the type and form of support for pregnant women was still unoptimal. It also could indirectly affect the safety of mother.

Table 2
Pregnant Mother Mortality during pregnant until post partum period (Arizki et. al, 2014)

Case	Health center						TOTAL
	1	2	3	4	5	6	
Pre partum	1		1			1	3
Ante partum	2	1	1	2	1	10	17
Post partum				2			2

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Maternal deaths can occur at any time between pre-, ante- and post-partum. The causes of pre-partum includes factors of human (family, local midwife, transport), system (health centers, referral hospitals), and environment (cultural customs of pregnancy/childbirth, poor weather), which greatly affect the prognosis of patients during childbirth. Factors relating to the causes of ante-partum are divided into direct and indirect causes as listed in the secondary data table on the causes of maternal death. Causes of post-partum covered all related matters after 24 hours of birth (Rohmah, 2014).

Based on the table on the causes of maternal mortality above, pre, ante and post factors strongly support maternal deathwhile giving birth. Mother died due to pre-partum factors, which may mean that there was a delay in the handling of giving birth due to improper decision-making. Some mothers, before giving birth at the health center, first contacted traditional birth attendants (TBA); in fact, the moment of delivery by TBAs is not allowed. Some mothers gained lack of family support to decide the referral action. Besides, some mothers refused cesarean section with a variety of reasons. Most of maternal deaths in giving birth were most widely caused by ante-partum factors. 15 people suffered complications of pregnancy due to direct or indirect causes. Of the 15 women who died because of ante-partum factors, most of them were due to direct cause complications when giving birth. Meanwhile, due to post-partum factors, there were only 2 maternal deaths. This indicates that health care workers who helped birth already have competence according to the field, so the mortality after 24 hours of giving birth could be minimized.

Table 3
Secondary Data on the Causes of Maternal Mortality (Arizki et. al, 2014)

Cause of Maternal Death	Case	Amount	%
Direct	*Post partum*hemorrhage(uterin atony, retained	11	50
	placenta, birth canal rupture)	3	13,7
	Preeclampsia/eclampsia	-	0
	Infection	-	0
	Ruptured ectopic pregnancy	-	0
	Abortion	-	0
	Ante partum bleeding	2	9,0
	Retentio urine	-	0
Indirect	Heart Disease	5	22,7
	Asthma	1	4,6
Total		22	100

Based on the table above, the causes of maternal mortality in 6 health centers in Jember Regency can be divided into direct and indirect causes. Direct causes is an event that directly led to death of mother during childbirth. Meanwhile, the indirect cause is a matter that led to death of mother in childbirth but not because of the

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wrong management of birth (illnesses suffered by mother before pregnancy). The number of mothers who died because of post partum hemorrhage (uterine atony, retained placentaas well as the birth canal rupture) was 12, while 3 people died as a result of *preeclampsia/eclampsia*. The remaining 2 people died due to ante-partum bleeding. Due to with indirect cause, 5 people died from heart disease. A mother died after suffering from asthma since before pregnancy.

An American study (Nawal, 2008) said that "Approximately 529,000 women die from pregnancy-related causes annually and almost all (99%) of these maternal deaths occur in developing nations. One of the United Nations' Millennium Development Goals is to reduce the maternal mortality rate by 75% by 2015. Causes of maternal mortality include postpartum hemorrhage, eclampsia, obstructed labor, and sepsis. Many developing nations lack adequate health care and family planning, and pregnant women have minimal access to skilled labor and emergency care. Basic emergency obstetric interventions, such as antibiotics, oxytocics, anticonvulsants, manual removal of placenta, and instrumented vaginal delivery, are vital to improve the chance of survival."

Bivariate analysis shows effect between any variabel. Age, education, and socio economic factors can not effect maternal deaths. It is shown by p value (0,067) > α (0,05) in educational factor.In Unesco's report, the researcher examined that "whether a causal relationship exists between maternal education and maternal mortality. Despite considerable evidence in favour of a causal relationship between education and a range of other health behaviours and outcomes, and a significant gradient between maternal mortality and education across time and countries, no comprehensive study exists to examine whether this relationship is—at least in part—causal. By forming a large panel of data consisting of 108 countries over 20 years, and by examining three natural experiments resulting in plausibly exogenous expansions in education, we present considerable evidence that increases in maternal education causally reduce the likelihood of dying in child birth. The size of this relationship is considerable. Our preferred estimates suggest that a country moving from 0 to 1 years of education will reduce maternal mortality by 174 deaths per 100,000 births, while moving from 7 to 8 years results in a smaller, but still significant,15 death per 100.000 births"(Bhalotra, 2013).

In the other hand, a long time series period study was conducted by National Institute of Statistic from 1957-2007 declared that increasing education level on women can reduce maternal mortality rate favourably. After 50 years study period, the MMR decreased from 293,7 to 18,2/ 100.000 live births (93,8%). The effects of women modulated eduaction level are on fertility rate, birth order, delivery skilled by attendant, clean water and sanitary acces (Koch, *et al*. 2012).

Conclusion

Based on research, there are many important value that could be share as the conclusion. Maternal deaths can occur at any time between *pre,ante,and post partum.* The pregnant women who experienced of deaths have the similar

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character in high risk pregnancy. Social economic factors can support indirectly the safety of mother due to childbirth.

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VIDEO MEDIA BASED LEARNING OF WOUND CARE IN DIABETIC ULCER

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ABSTRACT

Background: Learning process is very important to transfer knowledge from teachers to students. In terms of wound care, learning process will be more understandable if it is accompanied by a video of wound care performed by nurse to patient either in a real situation or a role play setting. This research aimed to facilitate and transfer science of nursing to others especially for nursing students**. Methods**: This study used product design and instructional media which produced video based learning about wound care in diabetes ulcer. Some applications were applied in making the video, including Microsoft office, video converter and application for editing video files. **Results:** Video that was created contained wound care of diabetic ulcer with the duration of 25 minutes 37 seconds. The video included review of diabetic wound ulcer, causes, the incidence of injury, assessment and physical examination to determine the diagnosis or problem. **Conclusion:** Video media based learning can be used to transfer knowledge from teacher to student. Socialization of video product design methods also need to be done considering that this method is still relatively new.

Keywords: video media based learning, wound care, diabetic ulcer

Introduction

The element in teaching and learning process is students with all of their characteristics who are trying to develop themselves optimally through learning activities. Learning process is very important to distribute or transfer knowledge from the educator or lecturer to students. Appropriate methods will affect the success of the learning process (Kozma, 2014).

Along the development of science and technology, distance learning is regarded as one of learning method that is viable. The system combines informatics and video learning. The selected topics are very diverse and adjusted as necessary. According to Boyle & Greenberg (2005), learning process will be more understandable if it is accompanied by a video. In terms of wound care, learning process will be more understandable if it is accompanied by a video of wound care performed by nurse to patient either in a real action or a role play method.

Increasing number of diabetic patients admitted to hospital with ulcers makes health workers should actively participate in the treatment. The prevalence of diabetic foot ulcers is 4-10%, which is more common in elderly patients. As many as 60-80% ulcers will heal on its own, 10-15% will remain active and 5-25% will be ended on amputation within a period of 6-18 months since the first evaluation (Mike, Jeff, & Hester, 2011).

Good wound care techniques should be disseminated both to nurses and students as prospective nurses, so that patients will receive optimal care whether in hospital care or self-care such as home care. Another problem arises when the education condition is getting busy, such

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as busy schedule of the teachers which make them cannot teach as schedule set. Since other activities are also important which cannot be abandoned, it needs a solution to overcome the problems.

Methods

The method used a product design which produced video media based learning. This study applied multiple applications in the video making process, such as PowerPoint (Microsoft Office), xilisoft converter (Video Converter) and Camtasia Studio 8 (application for editing and composing video or merging video files), and Personal Computer (PC) or Laptop to create and install the application (PC use ASUS x200m). This required knowledge and creativity in order to attract the attention of video users.

The first step was making the material displayed in the slide with power point and animation, and transitions were added to enhance the appearance. Second step was creating video with video recording alone about wound care of diabetic ulcer. After the video was finished, then doing the video conversion to change the format and file size accordingly. Third step was doing a voice recording while running power point. This voice recording could be done manually or automatically. The device needed a microphone and earphones. The last step was editing and merging between PowerPoint files, audio and video, and added features and sound according to the needs and desires, and made with an attractive design. After the video media learning was completed, it was uploaded on YouTube, blogs, wordpress and another media to maximize the benefits of video media learning.

Results and Discussion

Video that was created contained wound care of diabetic ulcer with the duration of 25 minutes and 37 seconds. Video included review of diabetic wound ulcer, causes, the incidence of injury, assessment and physical examination to determine the diagnosis or problem.

Video media based learning about wound care in diabetic ulcer was done on a mannequin while maintaining the principle of sterile and do according to the standard procedure. Below is a screenshot of video media with the title of wound care in diabetic ulcer.

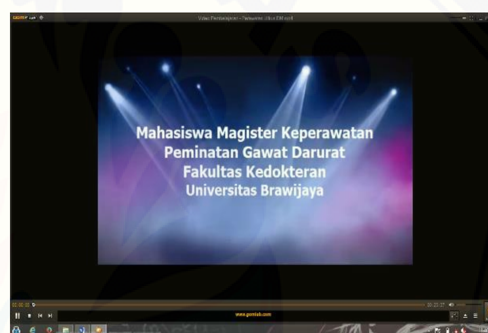

Figure 1. Screenshot of initial appearance

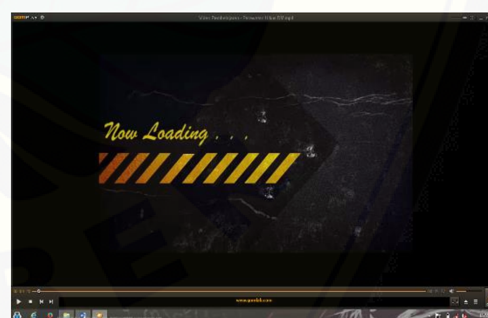

Figure 2. Screenshot of opening display

Cover and introduction contained the title or subject of video and the identity of video maker, accompanied by an animation.

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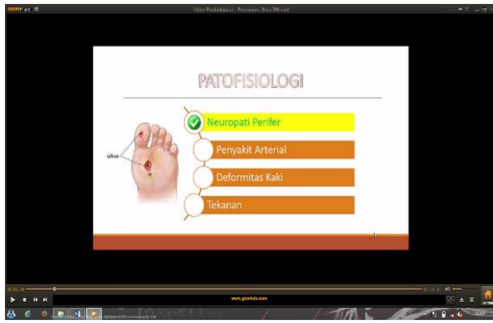

Figure 3. Screenshot of review 1

Figure 4. Screenshot of review 2

Topic which was explained consisted of definition, pathophysiology, medical history, physical examination, laboratory tests, radiological examination and treatment of diabetic ulcer and video of wound care.

Figure 5. Screenshot of wound care practice 1

Figure 6. Screenshot of wound care practice 2

Video of wound care practice consisted of standard operating procedures ranging from the preparation of tools and materials, pre-interaction phase, interaction phase, working phase and termination phase. Wound care was done on a phantom.

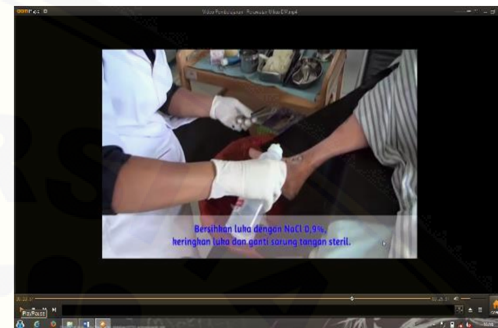

Figure 6. Screenshot of wound care practice 3

Figure 8. Screenshot of cover display 2

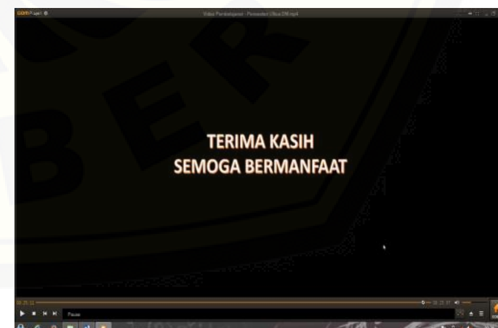

Figure 9. Screenshot of cover display 2

The session was closed with gratitude words, a biography of video maker, and year of video making and copyright

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The video has been uploaded on wordpress, blog and youtube. Twelve of 34 visitors liked the video and they gave good comments and suggestions, such as "instructional video media is good, but the duration is too long and the sound is so low".

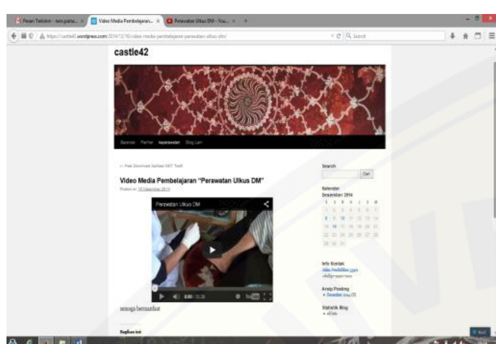

Figure 10. Screenshot view at wordpress

Figure 11. Screenshot view on youtube

Video media based learning of diabetic wound care is very useful both for nurses and nursing students. Instructional video media is very important in education, especially at institutions that have good facilities. Some lecturer may have a busy schedule, so they cannot attend lectures in the class as schedule set. Research conducted by Zhang Zhou, Briggs, & Nunamaker (2006), a method of design product; video media based learning is one of solution to resolve the issue. By video media learning, the teacher who cannot attend the class still can convey the lessons to students.

Students can directly download the lessons to understand the course at that time. Video can be downloaded either through blogs (wordpress) or YouTube where the video was uploaded. In terms of wound care, the teachers can deliver the video of wound care to the students on the internet, so it will need short time in browsing process. The answers and responses can be written through electronic media such as e-mail, skype and other chat applications, so that the essence and purpose of the learning process can still be achieved.

Based on the documentation made by Liu, Liao, and Pratt (2009), some of the components needed to perform video-based learning are a person with an interest to make the product design of video, internet and network connection hardware such as a PC (personal computer) or laptop. The people is very important, because the core of all product design is the creator. They must understand the video media based learning, how to make it, what is needed in the making process, and have the imagination and creativity so that users will be interested.

Internet network connection is required in the process of uploading and downloading the video, so it can be easily accessed by people without interaction and contact with the video makers. Applications that can be used to upload and download are Internet Explorer, Mozilla Firefox, Google Chrome and others. Hardware such as a PC (personal computer) or laptop is needed to make the video media based learning. Additional applications are a video player application such as GOM Player, Media Player Classic, KM Player, VLC Player, and Windows Media Player (Wijayanto, 2010).

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There are some files that sometimes cannot be opened by a video player application. This happens because the format of the video is not compatible with the format provided by a video player application. In addition, the video is too large can also cause such problems. The problem may also be caused by RAM (Random Access Memory) and processors in the PC or laptop which is too small. Files that cannot be opened because of incompatible formats can be solved by using the converter application. This conversion requires an additional application, such as Xilisoft Converter. Xilisoft Converter will convert video format according to the needs, along with a file size that is not too big. Reduced file size will affect the image quality of the video (Mike, Jeff, & Hester, 2011)

Conclusion

Video media based learning can be used in learning process to transfer knowledge to others either within the health care practitioner or non-health and education. Informing about video based learning is necessary because the method is still relatively new. Facilities for video media based learning also need to be considered since it requires modern information systems and technologies.

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LEARNING MEDIA ABOUT ALDRETE SCORE ASSESSMENT USING AUDIO VISUAL

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ABSTRACT

Background: Aldrete Score is very important in managing patients post general anesthesia especially in recovery room. Health workers especially who work in surgical room or recovery room have to know about this assessment, in order to understand assessment. Aldrete Score needed a media to help understanding easily and interesting. This paper will describe of video making process in the design to create a learning media about Aldrete Score. **Methods:** This paper reported making process of a learning media project about Aldrete Score, steps and evaluation of the video result. **Results:** This media created through the stages of the process multimedia developing was formulated by Luther, which includes six steps, they are: concept, design, material collection, assembly, testing and distribution. Learning media consists of videos taken with camera and power point application, then all of the videos converted to Mp4 format and then processed by using Camtasia Studio 8 application program. The end result of the learning media is a video with 7 minutes and 33 seconds duration. The video as a media of learning is easy to understand and quite interesting, but needs to be made more interesting by using better tools in making the video and power point design. **Conclusion:** the learning media about Aldrete score will be provided to improve competency of nurse and promote patient care. This video will be better with technical support as a better camera for the video prolog. Power point was used can be improved more by background creating or improvement with attractively template, choice of color combination and to add object animation.

Keywords: Learning Media, Aldrete Score, Audio-visual

Introduction

Aldrete Score is an examination in post general anesthesia patients which need in surgical examination procedure. It is one of methods have to do in post general anesthesia patient when observed in recovery room. In this time the examination used to evaluate patient condition to discharge from the recovery room (post anesthesia care unit/PACU) and back to ward or still need more time for observation in this room (Philips, Haesler, Street and Kent, 2011).

Aldrete Score access five elements, consist of respiratory, oxygen saturation, awareness, circulation and activity. The score range of each elements is from zero (0) as minimal score and two (2) for maximal score. Aldrete score formulate from sum of the five elements score, finally it’s ranged score from zero to ten. This is a simple guidance how to asses for five elements Aldrete Score (Wiley et al., 2002 in Phillips et al., 2011);

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No	Elements	Score
1	Breathing	
	• Spontaneous, unlabored respirations	2
	• Dyspnea	1
	• Apnea	0
2	Oxygen saturation	
	• > 92% on room air	2
	• Need O2 to maintain saturations >90%	1
	• <90% with O2 supplementation	0
3	Consciousness	
	• Fully awake	2
	• Response to stimulus	1
	• No respond	0
4	Circulation	
	• BP ±<20% of preanaesthetic level	2
	• BP ±20%-50% of preanaesthetic level	1
	• BP ± >50% of preanaesthetic level	0
5	Activity	
	• Able to move 4 extremities	2
	• Able to move only 2 extremities	1
	• Not able to move extremity	0

BP: Blood Pressure

This examination is very important, so that become a demand of each nurse, especially who work in surgical installation or recovery room to understand it. Learning media can help them in studying about it, so need to make a simply and interesting learning media about Aldrete Score.

One of media can be used to give information about Aldrete Score is multimedia approach with video assessment. On research was doing on students of computer network engineering program in Universitas Negeri Makassar resulted that output of students which given an audiovisual media better than which given conventional method (Haryoko, 2009). Some research resulted that transfer information with audio only accept 40%, if use visual will be better. This is shown that combining both methods will be more effective to accepted (Daryanto, 2011).

Unanimously agreed that audio-visual materials are very important and useful in education because the normal learner in so far as the functions of his preceptor mechanisms are concerned, gains understanding in terms of multiple impression recorded through the eye, ear, touch and other series. This is to say that audio-visual materials are the equipment through which that function can occur, that is does not occur in isolation, rather through a balance pattern from any preceptor mechanism that are stimulated by external occurrences, but lack of supporting infrastructures and human factors are hindrances to the use of audio-visual aids in the college (Ashaver & Igyuve, 2013).

Methods

This paper reported making process of a learning media project about Aldrete Score. The making process of this audiovisual learning media used guidance from Luther. It consisted of six steps: concept, design, material collection, assembly, testing, and distribution (Binanto, 2010), also evaluation of the video was resulted from this process.

Results and Discussion

Steps in making learning media project about Aldrete Score:

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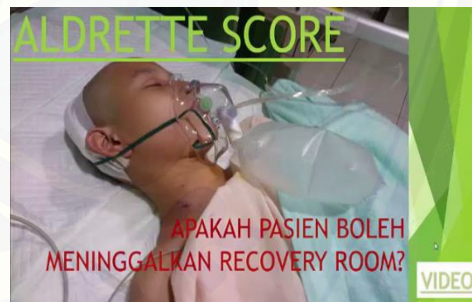
1. Concept
   Concept making with formulating Aldrete Score theory as topic in this audiovisual learning media. Also formulate concept about kind of media will be used, that making a video as learning media that include of some video and power point with audio descriptions.
2. Design
   This learning media will design to result a simply, short and interesting video, also easy to understand. This video will be uploaded on website http://youtube.com with duration 5-8 minutes. This video consisted of a short video about assessment using Aldrete Score in recovery room, and using power point application about Aldrete Score with audio description on video power point form. It content a video prolog for beginning and epilog for closing media.
3. Material collection
   This learning media was collected with some steps, for example: recording demonstration about assessment Aldrete Score, making power point with Aldrete Score assessment as topic and then recording video for prolog and epilog.
4. Assembly
   Video about Aldrete Score assesment demonstration was recorded in recovery room, surgical installation at hospital, use camera 18 Mpx at Nokia phone mobile. Then, this video was converted to MP4 form with Xilisoft video converter ultimate 6 applications from Xilisoft Corporation 2014, and edited use Camtasia Studio 8 Application from Techsmith corporation 2014 production with some cutting at several worst parts and adding sound background.

Pict. 1: Video about Aldrete Score assessments in hospital.

Further learning media is making power point, with Power Point Microsoft Office 2013 application program, using template and animation at the program in order to make it more interesting, adding some pictures and photos for helping students to understand more easily, adding some audio descriptions in power point about Aldrete Score power point by menu add-in at power point application, then rendering to MP4 video form and edited by use Camtasia Studio 8 application program from Techsmith corp. 2014.



Pict. 2: making power point media with Power Point Microsoft Office 2013

Prolog in this learning media used union of some short videos. A part of Prolog was made with Camtasia Studio 8 program like animation, sound background and text. It also was made by webcam that used Crystal Eye Webcam Application at Acer ACPIx86-based PC Computer, this video then to be converted to MP4 with Xilisoft Converter Ultimate 6 application. Epilog

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for this learning media is short videos. It was made also with Camtasia 8 program consist of animation, sound background and text. Like prolog video, it also to be converted to MP4 Form with Xilisoft Converter Ultimate 6 application.

The final process of making this learning media by combining all of videos (prolog, Aldrete Score assesment, power point and epilog video). Those videos were combined and edited again in order to get more harmonic sound background and animation especially at transition of video change. The final step is to produce video MP4 form as result a learning media about Aldrete Score.

All of these process used computer (Laptop) Acer with processor Pentium (R) Dual-core CPU T4200@2.00GHz.

Pict. 3: Prolog video of learning media

5. Testing
   Testing to outcome of this learning media by presentation in front of lecturers and several students of postgraduate nursing program. This is doing for evaluate whether the learning media suitable to exposed and to be a good learning media.
6. Distribution
   Furthermore, the learning media about Aldrete Score was uploaded to http://www.youtube.com and also pass through writer wordpress at http//:www.wordpress/marnos7878 in order to have more accesses for getting knowledge. More advantages from uploaded this learning media is to get some critics or suggestions to improve it.

Outcome of the audiovisual learning media is a learning video with duration 7 minutes and 33 seconds. It consisted of prolog which 55 seconds, content which 6 minutes and 13 seconds, and 25 seconds duration of closing. The content of audiovisual learning media consisted of video about assessments for Aldrete Score in recovery room during 40 seconds and power point video exploration about Aldret Score during 5 minutes and 10 seconds. This learning media was upload on http://www.youtube.com.

Nurses' central role in the management of patients in the PACU setting, anesthetists often delegate the responsibility for evaluation of patient suitability for discharge to the PACU nurse. Guidelines for the management of patients in the PACU and assessing their readiness for discharge have been implemented internationally are often focused on anesthetists and suitability for discharge from PACU delegated to nurse (Phillips el al., 2011). Nurses have to understand how to asses and determine when a post general anesthesia patient suitable to discharge from PACU. For helping nurse or nursing students to understand it was made a learning media video.

This learning media video is simple, so easy to understand and so interesting and original. According to Daryanto (2011) suggest that video is one of effective

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media for help learning process, whether it is mass learning, individual learning, or group learning. Duration and form of video is flexible, because can arrange by needs. It's also can use as non-printed learning material that reach and complete of information, because of this information can be transferred to students directly. Besides, video can add as a new dimension for the learning process, because the characteristic of video can expose the moving picture for students and sound of situs. It will make students feel like in the someplace with the setting of video.

Writer got some critics about this learning media and most of those about prolog that used webcam, the critic see from tool and take of it is not good enough, and give an advice for use better camera and more method too. Power point of learning media also got some critics that make for better with more interesting appearance and more variant about its template.

Learning media making have to care some matter, according to Mukminan (2008) in Nurseto (2011) for develop learning media should attention for VISUALS principles, that stand for; Visible, Useful, Accurate, and Structured. Critic and prolog on video recorded that use webcam tool can accepted, because using tool with not maximize quality. Riyana (2007) adjust that making a video media related to technic aspect, that's camera, taking pictures, lighting technic, editing and voice. Power point making have to more interesting, that need remember about tips in power point making. According to Nurseto (2011) some tips are:

a. Use simply background, contrast and consistent, avoid complicated background that disturb and fully.
b. Use consistent character, simply and clear, don't use complicated and continued character.
c. Use your visualization to communicate your message, don't use transcription except perforce.
d. Use maximal features of power point like picture, video, animation and sound, but don't affluent.
e. Make by yourself about your background or template in order to more interest and clear.
f. Choose color for background that opposite with text or contrast.
g. Choose color for more beautiful appearance and more focus in presenting, but don't over to avoid crowded view and disturb content. Use contrast and harmonic color.
h. Maximum color combination in one slide is consisting of three colors.
i. Choose clear and resolute character, for example Arial, Tahoma or Verdana, don't use character and font that more difficult to read.
j. Use measurement of font minimum 24 for sentences and minimum 40 for title.
k. Avoid more than 6 sentences and 25 words in one side.
l. Choose powerful word.

Some interesting tips in making power point, the clear lack of writer and not yet doing and can be doing for better is making about interesting background and template, choosing more interesting color combination and adding animation objects for reduce of text domination. Instructors identified as "Experts" and "Facilitators" more often used pictures, photos, charts, graphics, and sound in their slides compared to instructors with other Grasha-Riechman styles. Best practices for using PowerPoint slides are suggested. The way

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PowerPoint decks are used appears to be more important to student learning than the number of slides used. The range of the number of slides used (one to more than 30 per hour) suggests that as many as one slide every two minutes can be part of an effective teaching technique. However, best practices dictate that instructors (1) use no more than three bullets points or 20 words per slide; (2) add visual elements to text slides; (3) include devices such as questions and discussion topics in slides; and (4) when student engagement declines, cut out non-essential slides (Brock and Jogleker, 2011).

Distribution of this learning media was uploaded on online media to share this information, because the integration of new media tools and online information resources in the construction of knowledge, and in line with the characteristics of international parameters, in this stage of technological convergence. Using information and communication technology is a methodological innovation based on student centered learning, the student can analyze of values and construction of multimedia documents (Logroño, 2010), so we should be thinking about using all media for delivering information.

Using media like video about Assessment Aldrete Score in education process for nurses or nursing students can be provided to help them understand this assessment. This understanding will improve competency of nurse, consist of knowledge and skill about patient management in PACU (recovery room), promote patients care and reduce to length of stay patients in PACU.

Conclusion

This learning media is simple, original, short and clear and variety in use of learning resources, so it's easy to understand and interesting. This video will be provided to improve competency of nurses in order to increase quality of patient care in PACU. This learning media will be better with technic support with using more perfect camera in recording prolog process in order to get more perfect and interesting result. Power point was used can be promote with making interesting background and template, choosing for color combination and adding animation object.

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EFFECT OF COGNITIVE BEHAVIOUR THERAPY (CBT) TOWARD PATIENTS WITH RISK FOR VIOLENCE AND HALLUCINATIONS IN dr. RM SOEDJARWADI KLATEN MENTAL HEALTH HOSPITAL

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ABSTRACT

Background: Most of patients diagnosis in dr.RM. Soedjarwadi Klaten mental health hospital are schizophrenia. They were treated because of their symptoms such as violence behavior and hallucination (43, 48%). CBT is effective for reducing symptoms and signs of violence behavior and hallucination in schizophrenia. This study aimed to describe the effect of CBT for changing the cognitive, affective and psychomotor patients with risk for violence behavior and hallucination who treated in inpatient ward dr.RM.Soedjarwadi Klaten mental health hospital. **Methods:** The design used in this study was Quasi Experimental Pre-Post Test with Control Group. Purposive sampling was used for taking respondents. A number of 56 respondents were divided into 28 cases and 28 control group. Data were analyzed by dependent and independent t-test. **Results:** CBT decreased symptoms of risk for violence behavior and hallucinations for patients (p-value < 0.05). The ability of adaptive cognitive, affective and behavioral patients who have treated with CBT were increased significantly (p-value of <0,05) Decreasing symptoms of risk for violence behavior showed around 48% and hallucination around 47%. Increasing the ability of cognitive, affective and behavioral patients with violent behavior and hallucinations up to 57%. **Conclusion:** CBT was recommended as a therapeutic nursing intervention for patients with risk for violence behavior and hallucinations in dr. RM.Soedjarwadi Klaten mental health hospital.

Keywords: Schizophrenia, risk for violence behavior, hallucinations, cognitive behavior therapy (CBT).

Introduction

Schizophrenia is a severe mental health disorder with violent behavior and hallucinations as the main problem of their behavior. Ministry of Health (2003) noted that 70% of Indonesia's largest psychiatric disorder is schizophrenia. Mental health hospital Dr.RM.Soedjarwadi Klaten have patients who were treated with the risk for violence behavior, hallucinations and low self esteem up to 27.98%, patients with risk violence behavior and low self-esteem around 28.54%, patients with the risk for violence behavior and hallucinations were 43,48% (reports from each ward of mental health hospital Dr. RM. Soedjarwadi Klaten, 2013). Mental health nurse give cognitive behavior therapy as treatment for schizophrenia patients with hallucinations and risk for violence behavior (Varcarolis, Carson & Shoemaker, 2006). The research have been conducted by Fauziah (2009) shown that 13 patients with schizophrenia who have experience of being treatment with CBT can shown that their symtomps violence behaviors that CBT can improve

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the cognitive abilities of 60% and 66% of the patients's behavior. Wahyu (2010) in his study of 28 patients who had hallucinations of schizophrenia found that cognitive behavior therapy (CBT) can reduce the symptoms of hallucinations by 34.5%, while the ability to control hallucinations increased to 18%. This shows that CBT is effective in reducing symptoms of signs of violent behavior and hallucinations in schizophrenia patients.

Methods

Quasi Experimental Pre-Post Test with Control Group was used in this study. The case group was patient schizophrenia that Cognitive Behaviour Therapy (CBT) was given to them by mental health nurse speciaist. The sampling technique used in this research is purposive sampling. Respondents were 56 people which it was consist of 28 people into a control group and 28 people as a case group. Statistical analysis used univariate, bivariate analysis of the dependent and independent sample t-test, and Chi-square test to explain data analysis.

Results and Discussion

Characteristics of a patients with risk for violence behavior and hallucinations as case group in this study shown that sex males up to 24 (85.7%), high school education 11 (39.4%), respondents who they don't have any job were 16 (57.1%), unmarried status were 15 (53.6%). And the demographic data of control group were sex male were 19 (67.9%), high school education up to 12 (42.9%), and number of respondents who they have job were 16 (57.1%) and marital status as married were 50 %.

The average age of schizophrenia patients with risk for violence behavior and hallucinations in the intervention group and the control group were 32.4 years old or they were in the productive ages (the age range of 18 years as early adulthood to 55 years as the age of late adulthood). Frequency of hospitalization in mental health hospital of patients with risk for violence behavior and hallucinations were less than 3 times.

CBT can reduce signs and symptoms of patient with risk for violence significanly. Cognitive response patients have been decreased from 15.25 to 10.29 (p value = 0,05), emotional response have been decreased from 18.68 to 11:25 (p value=0,05), behavioral responses were significantly decreased from 16.00 to 10:36 the p value ≤ α 0:05, social response patients dropped dramatically from 19.48 into 12.68 with p value ≤ α of 0.05 and the physiological responses of patients have been decreased significantly from 8.46 to 5:21 to 0:05 p value ≤ α and composites decreased patients Violence Behavior significantly from 77.86 to 49.79 that shown by p values 0:05 (p value ≤ α). Based on the results of statistical tests above it can be concluded at α 5% there is a significant reduction in symptoms (low category), both from the response of cognitive, emotional, behavioral, social, physiological and composites patients violent behavior with violent behavior after they have been given CBT therapy.

CBT could decrease signs and symptomp of patients with hallucinations significanly. Cognitive response patients have been decreased from 10.29 to 8.25 (p value ≤ α

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0.05); emotional responses of patients decreased significantly from 8.29 to 4.18 (p value ≤ α 0.05), behavioral responses have been decreased significantly from 7 , 79 to 4.79 with a p value ≤ α 0:05, social response patients have been decreased from 7.93 to 4.00 with a p value ≤ α of 0.05 and the physiological response of patients have been decreased significantly from 8.39 to 5.71 with p value ≤ 0:05 α and composite Behavior patients Violence have been decreased from 40.64 to 23.75 with 0:05 p value ≤ α. Based on the results of statistical tests above it can be concluded at α 5% there is a significant reduction in symptoms (low category), both from the response of cognitive, emotional, behavioral, social, physiological and composites patients violent behavior with violent behavior after CBT therapy have been given to them.

Changes in cognitive abilities, affective and schizophrenic behavior on patients with nursing problems of violent behavior after being given CBT

a. Cognitive changes : In this study is able to increase from 23.32 to 41.07
b. Affective changes : In this study is able to increase of 17.14 to 29.93
c. Changes in behavior : In this study is able to increase of 22.32 to 37.32

Based on the multiple linear regression correlation is known that age and marital status affect the patients's increased ability patients behavior with violent behavior and hallucinations (p value <0.05), with the value of r=0447 (the relationship being). Age and marital status affect the increased ability of the patients's behavior amounted to 19.9% (R2 = 0.199). These results indicate differences in ability between the mating behavior of the patients with no mating of 6903 after being controlled by the age factor. Patients who married her ability is greater than unmarried after controlling age.

Rueckert (2000) suggest that CBT therapy can significantly reduce the anger, guilty feeling and low self-esteem. Beck said that the emotional and behavioral difficulties experienced by a person in his life due to the way how they interpret their experiences. The application of CBT in this study were trained patients recognize the events that occurred in his life including unpleasant events. Patients are also taught to recognize the feelings that arise from the way the patients to interpret the events that happened and the actions taken after experiencing these feelings. Through CBT therapy patients are trained to be able to evaluate themselves by identifying events that never happened, irrational thoughts that interfere incurred related to the incidence and affects the patients's feelings so well behaved not actually undesirable. Patients are trained to change the minds of irrational becomes rational mind so that the feeling of getting better and show adaptive behavior.

Patients will eventually realize that interpret unpleasant incident may negatively interfere with the feeling that will be pushed to do good violent behavior directed at oneself, others and the environment. This incident caused the patients group were not trained how to prevent anger with positive thinking and rational in the face of the disturbing events

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as well as how to practice changing negative behaviors with positive behavior is more acceptable to other people and the environment.

CBT influence on reducing the symptoms of hallucinations in this study together with the response assessed on the symptoms of violent behavior are symptoms of cognitive, emotional, behavioral, social, and physiological. A decrease in the symptoms of hallucinations patients in this study is quite high and reaches a low level. This study proves that with CBT for symptoms of hallucinations can be decreased significantly even if the patients has another problem, namely violent behavior. Rogers et al. (1990 in Birchwood, 2009) says that violent behavior often occurs due to the content of hallucinations in the form of an order to hurt himself or others. The threat of violence can be prevented if the patients do get optimal CBT treatment.

Stuart (2009) states CBT therapy aims to change the irrational beliefs, reasoning errors and negative statements about the existence of the individual. CBT focuses on changing the interpretation of the patients to the incident or event. Interpretation does not correspond to reality will lead to changes in emotion and behavior toward maladaptive. Frogatt (2005) also confirmed that CBT is based on the concept that emotions and behavior is the result of a thought process. The symptoms of hallucinations patients may decline due principally CBT therapy serves to change the thinking function of the patients in a positive direction and eventually cause a pleasant feeling. Feelings that arise from positive thinking will make the patients behave constructively so that even though the patients is experiencing hallucinations but the event was not to make the patients think negatively about him. Acts of violence are often carried out by the patients schizophrenia not only because of command hallucinations but can be caused by negative interpretations of himself as a result of having hallucinations. Negative assessment of her patients are especially common in patients who have chronic hallucinations.

Improving the ability of cognitive, affective and behavioral patients Results showed that there was a significant increase in the ability of cognitive, affective, and behavioral patients in the group given CBT after intervention. The patients's ability cognitive, affective and behavioral after getting higher CBT is at a high level before the intervention while the average capacity of the patients is at a low level. Bloom (1956 in Kasan, 2005) classifies the purpose of providing education into three domains, namely cognitive, affective and psychomotor. Bloom theory underlying the assessment of the ability of a patients in this study. Cognitive abilities include intellectual aspects such as knowledge and thinking skills, the ability affective emphasis on the feelings and emotions. The ability of the latter is the behavior of emphasis on aspects of motor viewed from the patients's ability to implement CBT like to write in the workbook and the schedule of daily activities.

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Increased ability significant patients group given CBT therapy because during the implementation process of therapy patients are always motivated to exercise independently the tasks of the home (home work) are evaluated continuously by using a daily activity schedule, workbooks, and report cards patients development , Exercise is very important in the learning process. This statement is in accordance with that proposed by Notoatmojo (2007) which states exercise is the improvement potential of existing personnel by repeating a particular activity. Exercise is an activity which is expected to become a habituation or familiarization. Familiarization will make patients become self-sufficient in the face of events or unpleasant events including hallucinations events that can trigger violent behavior.

Improving the ability of the patients to therapy CBT can also be affected by the process of establishing new behaviors through behavior modification. Researchers applying the principles of behavioral theory to provide reinforcement (reinforcement) positive to positive behaviors that do patients and provide negative feedback to the unwanted behavior. Videbeck (2008) suggests behavior modification is a method that can be used to reinforce the desired behavior or response by providing feedback both positive and negative. Researchers also apply the principle of economy tocen the form of giving the gift of personal hygiene tools if desired behaviors performed by the patients after collecting at least 50% points star for one week. This is in accordance with the principles put forward by Stuart and Laraia (2005) which states that specialist nursing actions that can be given to the patients with violent behavior of one of them is the token economy. Token economy in the process of implementing CBT is one type of contingency contracting where reinforcement is given in accordance with the desired behavior (Townsend, 2009). Giving token economy and reinforcement motivates the patients to implement the desired positive behavior so that ultimately the ability of cognitive, affective and behavioral therapy CBT patients after the increase which is expected to be entrenched in the patients's life even if the token is not given.

Characteristics of patients who contribute. The result showed that the age of the patients associated with an increase in the ability of the patients's behavior. Jean Peaget (1980 Fontaine, 2003) with a cognitive theory states that individuals build cognitive abilities through self-motivated action on the environment. Adult age in its development, including formal operational period. Characteristic of this period is to obtain the ability to think abstractly, reason logically, and draw conclusions from the available information. Ability at this developmental period that makes patients better understand and be motivated in implementing CBT therapy. Patients in the development stage are able to analyze that CBT therapy is given if executed properly in everyday life will help him in the face every stressors experienced.

The result showed that marital status contributed to the improvement of the ability of the patients's behavior. Patients who were married increased ability

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behavior towards cognitive behavior therapy is greater than unmarried after controlled by age. Individuals who are married have a claim to be against his family. These responsibilities may motivate them to improve relationships with others including the grind to achieve the welfare of the family. CBT therapy is one way for them to re-execute its role in the family so that such obligations can be carried back.

Conclusions

Results from this study indicate that data demographic of the 56 respondents in this study shown the average of age were 33.21 years old with the youngest 18 years old and the oldest 55 years old, sex, more men, the job status were unemployement, educational status most of them were high school level, most of them unmarried status, the frequency of hospitalized an average of 2 times. Based on the results of statistical tests it can be concluded at α = 5% there was significant reduction of the signs and symptoms (low category), both from the response of cognitive, emotional, behavioral, social, physiological and composites patients with violent behavior after being given CBT therapy. While the symptoms of hallucinations occurred both a significant reduction of the response of cognitive, emotional, behavioral, social, physiological and composite symptoms of hallucinations in the group who did not receive CBT treatment after the group receiving CBT therapy intervention. For the ability of respondents it can be concluded at α 5% increase in cognitive ability, affective, and behavioral patients violent behavior and hallucinations up to 108.32 after receiving CBT which is at a high skill level. patients's age and marital status affect the increased ability of the patients's behavior with violent behavior and hallucinations (p value <0.05), with the value of r 0447 (the relationship being). Age and marital status affect the increased ability of the patients's behavior amounted to 19.9% (R2 = 0.199). These results indicate differences in ability between the mating behavior of the patients with no mating of 6903 after being controlled by the age factor. Patients who married her ability is greater than unmarried after controlling age.

Based on the results of this study, CBT can be given to patients with mental disorders. For increasing ability of mental nurse in using CBT can be given by provide CBT training to mental health nurses. For supporting CBT therapy, Standard Operational Procedure (SOP) is needed to guide practices of CBT intervention at Dr. RM. Soedjarwadi Klaten Mental Health Hospital.

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