

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

¹Eko Prasetya Widiyanto, ²Indah Winarni, ³Ali Haedar

¹Nursing Academy of Lumajang Government; eko.akperlumajang@gmail.com

²Faculty of Cultural Sciences, Brawijaya University

³Department of Emergency Medicine, Faculty of Medicine, Brawijaya University

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 interprofessional 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).

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

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

didn't know how to lift the patient..."(P5)
"...actually the people are willing to help but they do not know what to do..." (P1)

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..." (P1)

"Actually BCLS 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..." (P1)

"... 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 ..." (P1)

"..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

estimating blood volume, not by calculating the exact measures (Jacob, et al., 2010. Sjolín, 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 & Puspongoro, 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).

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 support 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).

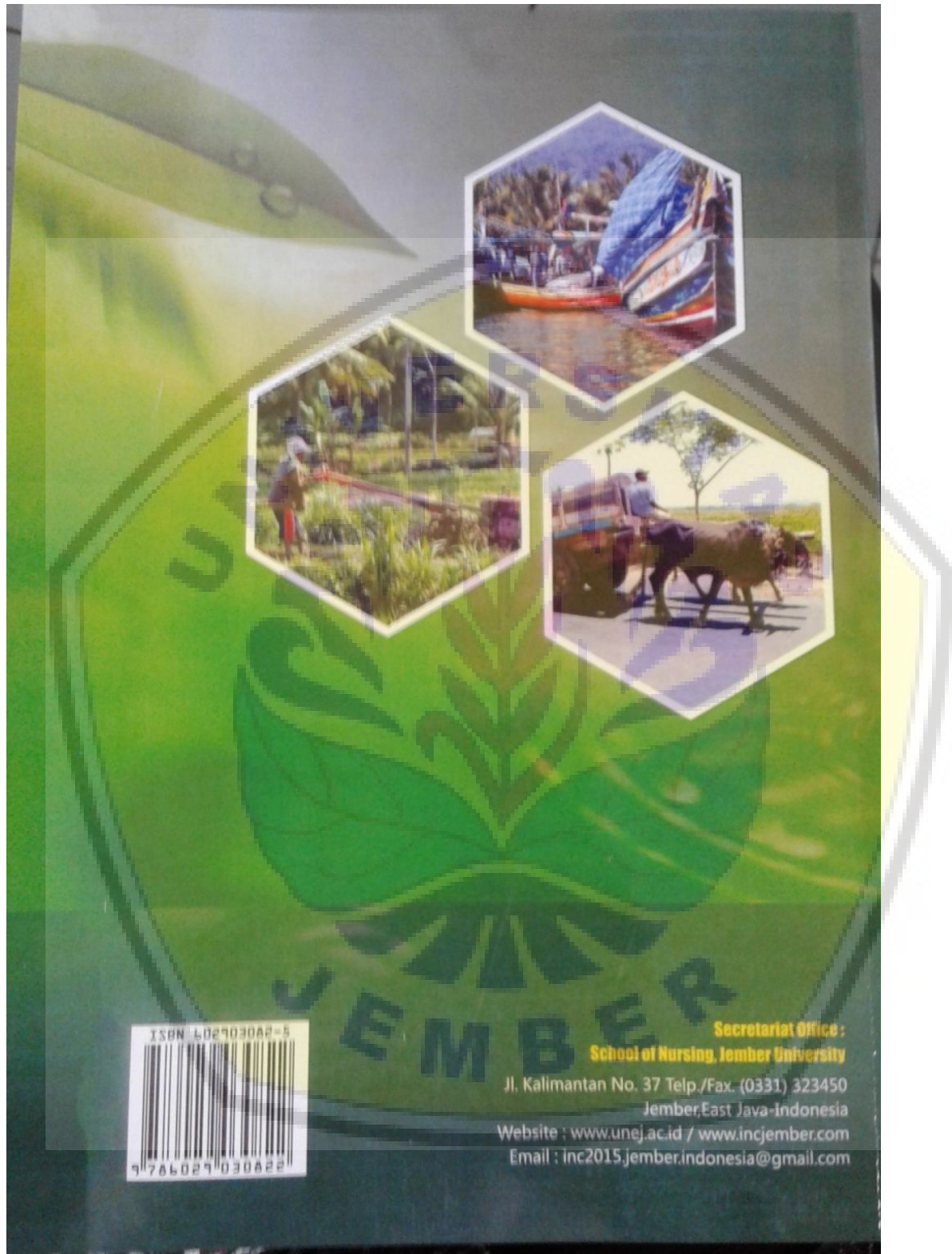
Conclusion

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.

References

- Alzghoul, N. M. (2014). The experience of nurse working with trauma patients in critical care and emergency settings : a qualitative study from scottish nurse perspective. *International journal of orthopaedic and trauma nursing*, 13-22.
- Martin & Meredith. (2012). *Advanced Trauma Life Support* (9 ed.). USA: American College of surgeons.
- Blackwell, T. H. (2012). Emergency Medical Services: overview and ground transport. In *Surgical Clinical* (pp. 2433-2441). USA: Elsevier.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3, 77-101.
- Campbell, J. E. (2011). *International Trauma Life Support for Prehospital Provider* (7 ed.). USA: Pearson.
- Charlton, S., o reilly, G., & Jones, T. (2011). Emergency care in developing nations : The role of emergency nurses in galle, sri lanka. *Australasian Emergency Nursing Journal*, 69-74.
- Cole, E. (2009). *Trauma Care*. USA: Wiley Blackwell.
- Ebben, R. H., Vloet, L. C., Schalk, D. M., Mintjes, J. A., & Achterberg, T. V. (2014). An exploration of factors influencing ambulance and emergency nurses protocol adherence in the netherlands. *Journal of Emergency Nursing*, 125-130.
- Elliot, M., Crookes, P., worrall, L., & Page, K. (2011). Readmission to intensive care : a qualitative analysis of nurse perception and experience. *Journal of Heart and Lung*, 299-309.
- ENA. (2008). Role of the registered nurse in prehospital emergency medical service. *Emergency Nurse Association*.
- Freeman, L., Fothergill, F., & Rashotte, J. (2014). The experience of being a trauma nurse : A Phenomenological

- study. *Intensive and Critical Care Nursing*(30), 6-12.
- Harmen, A., Giannakopoulos, G., Moerbeek, P., Jansma, E., Bonjer, H., & Bloemers, F. (2015). The Influence of Prehospital time on trauma patients outcome : a systematic review. *Injury*.
- Jacob, A., Grady, M. S., & Heuer, G. G. (2010). Initial resuscitation, prehospital care, and Emergency Room Care in Traumatic Brain Injury. In H. R. Wim, *Neurological Surgery Vol 4 6th ed* (pp. 3390-3396). USA: Elsevier. 11
- Kidher, E., Krasopoulos, G., Coats, T., Charitou, A., Magee, P., Uppal, R., et al. (2012). The effect of prehospital time related variables on mortality following severe thoracic trauma. *Injury*, 1386-1392.
- Norden, C., Hult, K., & Engstrom, A. (2014). Ambulance nurse experience of nursing critically ill and injured children: a difficult aspect of ambulance nursing care. *International Emergency Nursing*, 75-80.
- Pitt, E., & Pusponegoro, A. (2005). Prehospital care in Indonesia. *Emergancy Medical Journal*, 22, 144-147.
- Polit, D. F., & Beck, C. T. (2012). *Essensial of Nursing Research Methods, Appraisal & Practice*. Philadhelpia: Mosby.
- Roudsari, B. S., Nathens, A. B., Cameron, P., Civil, I., Gruen, R. L., Koepsell, T. D., et al. (2007). International comparison of prehospital trauma care systems. *INJURY*, 993-1000.
- Santana, M. J., Straus, S., Gruen, R., & Stelfox, H. T. (2012). A qualitative study to identify oppurtunities for improving trauma quality improvement. *journal of critical care*, 738e1-738e7.
- Sjolin, H., Lindstrom, V., Hult, H., Ringsted, C., & Kurland, L. (2014). What an ambulance nurse needs to know. *International emergency nursing*.
- Smith, G. (2008). Prehospital emergency care in south east asia : three cities . *Journal of Emergency Primary Health Care*.
- Svensson, A., & Fridlund, B. (2008). Experince of and actions towards worries among ambulance nurses in their professional life: a critical incident study. *International Emergency Nursing*, 35-42.
- Silvalilla, M., Dradjat, R.S., Andarini, S. (2014). Faktor-faktor yang mempengaruhi pemilihan alat transportasi medis. Tesis. Malang: Fakultas Kedokteran. Universitas Brawijaya.
- Tazarourte, K., Cesareo, E., Atchabahian, A., & Sapir, D. (2013). Update on prehospital emergency care of severe trauma patients. *Annales Francaise the anesthesia and reanimation*, 477-482.
- Townsend, C. M., Beauchamp, D. R., Evers, M. B., & Mattox, K. L. (2012). Management of Acute Trauma. In R. S. Martin, & J. W. Meredith, *Sabiston Textbook of surgery* (pp. 430-470). USA: Elsevier.
- Who. (2005). *Prehospital Trauma Care System*. Geneva: WHO Press.



Secretariat Office :
School of Nursing, Jember University

Jl. Kalimantan No. 37 Telp./Fax. (0331) 323450
Jember, East Java-Indonesia
Website : www.unej.ac.id / www.incjember.com
Email : inc2015jember.indonesia@gmail.com