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Community-based occupational health promotion programme: an initiative project for Indonesian agricultural farmers

Community-based occupational health promotion

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Tantut Susanto

Department of Community, Family and Geriatric Nursing, Universitas Jember, Jember, Indonesia

Iis Rahmawati

Department of Maternity Nursing, Universitas Jember, Jember, Indonesia, and

Wantiyah

Department of Adults Nursing, Universitas Jember, Jember, Indonesia

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Abstract

Purpose – Occupational health promotion programmes targeting the Indonesian agricultural farmers (AFs) are limited. This action research aimed to involve the AFs in the research and development of community-based occupational health promotion (COHP) programme, which is tailored to meet their perceived needs for preventing health problems related to occupational workplace.

Design/methodology/approach – This study employed the qualitative action research approach. The participants ($n = 136$) were farmers from seven regions in the rural areas of East Java, Indonesia. The COHP was examined from public health centres (PHCs) in seven regions through eight steps, including recognition, analyses, planning, communication, preparation, implementation, evaluation and continuity of programme, for eight weeks. Data were collected through focus group interviews and examined using qualitative content analysis.

Findings – The findings revealed that the participants not only lacked health status but were also required to promote a comprehensive programme for occupational health and safety. The health problems of AFs were identified as the lack of nutrition and high blood pressure, which are related to un-ergonomic condition during work, limited use of personal protective equipment, high stress and workload. The lack of support for AF groups to prevent health problems and to access health services was a key theme for all the participants. Therefore, self-help group as social support was designed to solve the health problems among AFs.

Originality/value – The COHP, through action research, provided a change strategy for AFs to manage and promote occupational health and safety within their practice. The study findings could be used in the development of a framework for PHCs in delivering occupational health and safety practices in the agricultural sectors.

Keywords Occupational health, Agricultural farmers, Public health centre, Focus group, Action research

Paper type Research paper

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Background

Indonesia's economic performance in 2011–2015 showed an increasing pattern, particularly the agricultural sector which exhibited a positive growth of 3.31% per year. In 2015, the contribution of agricultural sector to the total gross domestic products of Indonesia was 10.28% (Ministry of Agriculture Center for Agricultural Data and Information System, 2016). The majority of Indonesia's labour force work is found in informal sectors in rural areas, particularly in the agricultural sector (Susanto *et al.*, 2017). In addition, agricultural farmers (AFs) face a high risk of health problems, which is caused by the interaction between the farmers and their work environment (Susanto *et al.*, 2016). As the population of agricultural sectors plays a key role in Indonesia's economic performance, the AFs need treatment to maintain health and overcome lifestyle-related health problems (Smigielski *et al.*, 2013). Public health nurses (PHNs) have the responsibility to conduct health promotion, disease prevention and control, wellness and workplace health risk programmes (Anderson and McFarlane, 2011). Therefore, PHNs could design community-based occupational health promotion (COHP) programmes at the worksite. They are excellent resource persons for establishing community partnership to promote the quality of life of AFs through their public health centres (PHCs).

The Indonesian Ministry of Health implements a programme in PHCs to empower labour in informal sectors through preventive and promotive intervention (Ministry of Health Indonesia, 2008), which is known as post-occupational health services to protect the labourers' healthy life problems caused by factors in the workplace environment (Ministry of Health Indonesia, 2006). However, during the implementation, the programme features a limitation in conducting a partnership intervention in the community, particularly the partnership between the PHNs, the AFs groups, community health volunteers and the agriculture department, resulting in health problems among AFs.

The prevalence of various health problems among AFs in Indonesia, which include underweight (28.5%), overweight (10.6%), anaemia (62.6%) and joint and bone pain (50.3%) conditions (Susanto *et al.*, 2017), is related to the sociodemographic environment, biological and psychological conditions and workload. Meanwhile, an agricultural nursing model could be developed to reduce the factors affecting farmers in rural areas (Susanto *et al.*, 2016). In this study, we designed a modified programme for AFs, known as the COHP programme, through action research approach.

According to a systematic review, COHP could improve the quality of community life and engagement with communities in an ongoing process of social change (Merzel and Afflitti, 2003). Active participation in the community development and mental health promotion process enhances health and empowers the community (Trentham *et al.*, 2007). Meanwhile, community-based programming promotes childhood health with collaboration between occupational therapy and community partners (Kugel *et al.*, 2017). Therefore, the COHP programme in this study should be implemented for AFs.

The COHP programme is designed based on health promotion in the workplace and typically falls within three basic programme types: awareness programmes which increase the employees' level of knowledge and interest, behavioural change activities that help participants develop healthier behaviours and supportive environments that create work opportunities to encourage healthy lifestyles (Anderson and McFarlane, 2011). Through action research, the COHP was implemented between the PHNs and AFs in the PHC areas (Vanderwal *et al.*, 2011). The COHP was examined from seven regions of PHCs through eight steps: recognition, analyses, planning, communication, preparation, implementation, evaluation and continuity to promote the occupational health promotion programme (Ministry of Health Indonesia, 2012). The AFs recognise the need to improve their knowledge, attitudes and skills related to maintain health and overcome life-related health problems in the agricultural sectors. The healthy life of AFs was determined by the work environment,

which impacts their quality of life (Kowalska *et al.*, 2013). On the other hand, the AFs have limited access to health services and community-based prevention and promotion services as a strategy to achieve the equality of care in this population (Low *et al.*, 2015).

Furthermore, PHNs should work together with AFs to promote a healthy life and environment for the AF populations. To our knowledge, no study focused on the COHP among AFs by employing action research approach. Thus, this study aimed to explore how AFs can be engaged to create a promotion programme (COHP) to identify and reduce health problems and their impacts on agricultural sectors through eight steps: recognition, analyses, planning, communication, preparation, implementation, evaluation and continuity. In this study, we sought to help AFs articulate and critically reflect on their experiences, meaning and values around the issue of health problems in occupational workplace. Therefore, they could use their learning in each step of COHP to guide the development of prevention strategies in their own workplace.

Methods

Design and sample

This study employed a qualitative participatory action research approach. This work also used focus group interviews and involved AFs in the research and development of COHP programme, which was tailored to meet their perceived needs for preventing health problems related to occupational workplace, for eight weeks. This method was designed to facilitate the emergent processes of collaboration and dialogue that can motivate, increase self-esteem and generate community solidarity (Polit and Beck, 2010). We selected action research as a method of inquiry because it offers a dynamic process for joint learning and problem solving. Action research as a form of inquiry is comparable to the participants' experience of the nursing process, which is a systematic sequence of assessment, planning, implementation and evaluation (Wepa, 2003). The experiences, meaning and values around the issue of health problems, which were determined by strategic selection, were explored through eight steps: recognition, analyses, planning, communication, preparation, implementation, evaluation and continuity during the COHP.

We contacted the managers (PHNs) of PHCs with high proportions of the AFs in seven regions in East Java, Indonesia. All managers permitted the researchers to conduct the study in their areas. Then, the PHC managers invited the AFs through flyers, which were distributed to seven regions, to participate in this study. In total, 136 AFs agreed to participate in this study. From the 136 AFs who participated in this study, 11–25 AFs were from the seven regions described in Table 1. Participants were recruited for four focus group interviews in each region with three to six individuals per group. Participants and their managers received oral and written information concerning the study. Participation was voluntary. This study was approved by the Ethical Committee of Research Center Department in Indonesia.

Measures

This study was conducted through eight steps for eight weeks. The duration of programme activities differed depending on the AFs before moving on to the next activities. Figure 1 illustrates the conceptualisation of the programme. The programme activities were used based on the guidelines of health promotion programme in occupational workplace (Ministry of Health Indonesia, 2012).

The participants and the researchers collaborated to follow each step. In each step, we conducted a farmer group meeting (FGM) in the PHCs. In the meeting, we invited 136 AFs for the focus group discussion. In this meeting, we discussed with the participants how to explore

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Table 1.
Characteristic of participants that attended COPH programme (*n* = 136)

Characteristic of participant	Region A	Region B	Region C	Region D	Region E	Region F	Region G
Number of participant (<i>n</i>)	16 (11.8)	11 (8.1)	26 (19.1)	14 (10.3)	20 (14.7)	24 (17.6)	25 (18.4)
<i>Age</i>							
Median (years)	48	50	48	50	52	48	50
<i>Gender (n / %)</i>							
Male	11 (68.8)	8 (72.7)	20 (76.9)	9 (64.3)	18 (90.0)	20 (83.3)	19 (76.0)
Female	5 (31.2)	3 (27.3)	6 (23.1)	5 (35.7)	2 (10.0)	4 (16.7)	6 (24.0)
<i>Length of works</i>							
Median (years)	8	11	9	12	11	10	8
<i>Education level (n / %)</i>							
Elementary school	7 (43.7)	4 (36.4)	8 (30.8)	5 (35.7)	4 (20.0)	3 (12.5)	8 (32.0)
Junior high school	7 (43.7)	6 (54.5)	10 (38.4)	5 (35.7)	9 (45.0)	12 (50.0)	6 (24.0)
Senior high school	2 (12.6)	1 (9.1)	8 (30.8)	4 (28.6)	7 (35.0)	9 (37.5)	11 (44.0)

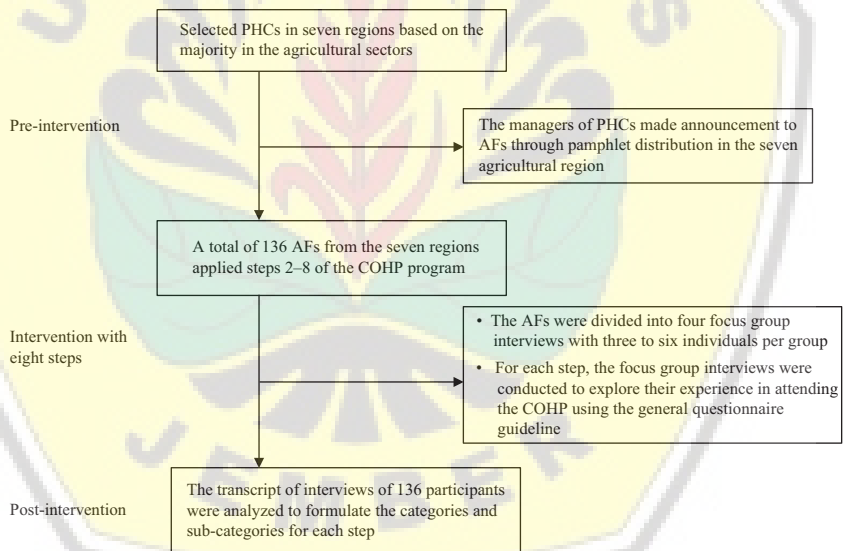


Figure 1.
Conceptualised COHP program including steps one to step eight

their experience, meaning and values during the steps. The authors led the discussion processed in this study. [Table 2](#) illustrates the programme activities of this study. The discussion guide for the investigation of the AFs during the COHP programme was based on the following questions: What are your health and life-related health problems in agricultural sectors? What do you do to solve such problems? What are your barriers or limitations to achieve a healthy life in agricultural sectors? What is your experience during follow-up of the COPH programme? What is your need or expectation based on your experience to continue the programme? The meeting lasted from 60 min to 90 min.

Steps	Activity	Weeks	Description
Step 1	Recognition	1	This activity was conducted to identify the health status, health conditions, overview of the disease and work behaviour of farmers
Step 2	Analyses	1	This activity aimed to determine the relationship between the risk factors of knowledge and behaviour of farmers to formulate a structured intervention for corrective actions regarding their health, the magnitude of their health problems, the amount of losses incurred by farmers owing to their health problems and the funds available for farmer groups
Step 3	Planning	2	These planning activities were carried out to set together with the representatives of farmers and FGM their targets, to develop a process for achieving the targets and to establish the indicators of success of farmer group activities
Step 4	Communication	3	Plans have been drawn up to communicate with the management of farmer groups and farmers involved in FGM and to support high-level management of farmer groups to achieve the goals set.
Step 5	Preparation	3	Prior to the program, the farmer groups performed several steps to prepare for the smooth implementation of COHP. These steps included the following: supporting the management in writing to farmer groups and individual farmers, establishing farmer groups along with the description of their duties and responsibilities, coordinating the relevant components, developing a plan of action, preparing materials, facilities and infrastructure COHP and setting up a reporting format and documentation
Step 6	Implementation	4-7	COHP was implemented through the combination of various means of health education, training and work in a healthy behavioural intervention, individual or group sessions (counselling, discussions, simulations and games), consultation/facilitation of farmer groups, practice of healthy behaviours (performing physical activity in agriculture, consumption of healthy food, the use of personal protective equipment and stretching) and assuming an ergonomic position for when at the farm
Step 7	Evaluation	8	This activity aimed to identify the predetermined objectives of COHP to successfully fund and support the programme and effectively and efficiently set the pace/next short-term and long-term phases of the program
Step 8	Continuity	8	The COHP program was continually developed based on the needs of AFs, and the unsuccessful programmes were re-analysed for existing problems and improved

Table 2. Description of steps on COHP programme

Analytic strategy

The characteristics of participants were analysed using descriptive statistic. A qualitative content analysis was conducted based on the semantic relationships between the variables, particularly the association of each meaning and the significance of each phenomenon experienced by the participants (Streibert and Carpenter, 2011). The recordings from the interviews were transcribed verbatim, but the sentence construction and grammar were subsequently modified to improve readability. Three authors were involved in analysing the interviews to achieve a common understanding and reinforce the level trust and credibility (Graneheim and Lundman, 2004).

Textual descriptions used in the qualitative study included the use of categories listed by each participant, transcripts of the interview, the use of the results which vary from each participant, a narrative or story and establishing the keywords found by the interpretation of the researchers and participants (Wood and Hendricks, 2017). After the transcribed manuscripts were read several times, they were then sorted into units of meanings. The

scripts were then sorted into the units followed by a deep-sense abstraction and encoding. Various codes were then investigated into the same or different meanings and then organised into categories and sub-categories. The categories identified in this study reflect the contents of the study and the categories that have been identified from each stage of the COHP programme. The validity of research data is based on the principle of credibility, transferability, dependability and confirmability (Streubert and Carpenter, 2011) of the AFs that were involved in the eight steps of the COHP programme.

Results

The results from focus discussion in seven regions were analysed and divided into categories and sub-categories. The analyses were performed based on the eight steps of COHP programme in this study. Each step generated categories and sub-categories related to the AFs' experiences in following the COHP programme (Table 3).

At each stage in the programme implementation activities, which were facilitated by the research team as leaders in FGM, the AFs independently identified their health problems. Each phase in this programme occurs in a series, where farmers begin to identify health problems. Then, they formulated an action plan to solve the problem, take action together in their groups, and evaluate the activities that have been carried out. Therefore, each phase of this programme is an activity carried out from, by and for farmer groups as a form of partnership in a COHP programme. The success of each activity phase in this programme was assessed from the readiness of each programme activity through a joint meeting forum.

This section presents the categories and quotations from the interviews to illustrate the findings in each step.

Recognition

According to the informants, they understand that they are experiencing health problems caused by the work environment on the farm. Therefore, several diseases that are often experienced by farmers in the agricultural environment occur. The informants realise that the health problems which arise are related to unhealthy behaviour.

We realised over time and age... our sick condition and its severity depending on the problem and the type of work.

... that many experienced diseases, such as joint pain or gout, occasionally through pain in the spine, resulting in their poor work performance.

... high blood pressure, weakness and occasional exhaustion also occur due to the lack of adequate nutrition.

... become sick because of work and the high workload, especially in the case of crop failure, which causes stress. However, if we do not work, we cannot earn money for our family.

Analyses

The analysis of the interviews indicated that the AFs perceived four health problems related to agricultural sectors: low health status, lack of awareness to maintain ergonomic conditions, less use of personal protective equipment and stress and workload. These problems are related to their low knowledge and limited resources to protect the problems.

We experience health problems, including malnutrition, high blood pressure or pain in the bones and joints, because of daily work that lasts the whole day and occasionally continues until late at night.

Steps of COHP	Categories	Sub-categories
<i>Recognition</i>	Understanding to solve health problems in the workplace	<ol style="list-style-type: none"> (1) Awareness of the low health status (2) Incidence of diseases related the workplace environment (3) Lack of healthy life behaviours
<i>Analyses</i>	Low health status of the farmers	<ol style="list-style-type: none"> (1) Inadequate nutrition and irregular mealtimes (2) An increase in blood pressure with specific symptoms (3) Pain on the bone and joints (4) Limited access to healthcare services
	Lack of awareness to maintain ergonomic condition	<ol style="list-style-type: none"> (1) Lack of knowledge to maintain the health position during work (2) Imbalance in constant stretching and relaxation during work
	Rare use of personal protective equipment	<ol style="list-style-type: none"> (1) Limited resources for personal protective equipment (2) Limited socialisation for discussing the use of personal protective equipment in informal agricultural sectors (3) Lack of knowledge on the use of personal protective equipment for pesticides
	Stress and workload of the farmers	<ol style="list-style-type: none"> (1) Imbalance between rest, sleep and workload (2) Excessive work days (3) Limitation of farmer groups to support member activities
<i>Planning</i>	Maintaining the health condition	<ol style="list-style-type: none"> (1) Providing health education to improve the healthy lifestyle for farmers (2) Conducting meetings to discuss the use of personal protective equipment (3) Setting a programme to address the physical and psychological needs of farmers
	Access to healthcare services	<ol style="list-style-type: none"> (1) Screening programme in primary health centres (2) Diagnoses of health diseases related to the occupational workplace (3) Treatment of the diseases occurring in the occupational workplace
	Continuity of treatment	<ol style="list-style-type: none"> (1) Rehabilitation of farmers suffering from occupational diseases (2) Return to work of farmers after rehabilitation
<i>Communication</i>	Communication and coordination between the programme and the department	<ol style="list-style-type: none"> (1) The cooperation between occupational health programme and the others programme in PHCs related to agricultural sectors (2) Inter-sectoral coordination between the health department and agriculture department to maintain farmer group activities
<i>Preparation</i>	Organising the occupational health programme	<ol style="list-style-type: none"> (1) Developing a comprehensive management system for the programme (2) Preparation of material, equipment and infrastructure of the programme (3) Preparation of the format of reporting and documentation of the programme
<i>Implementation</i>	Activities to support and reduce health problems in the agricultural workplace	

Table 3. Main categories based on the eight steps of COHP programme
(continued)

HE 120,1	Steps of COHP	Categories	Sub-categories
80	<i>Evaluation</i>	Analysis of the progress of occupational health promotion	<ol style="list-style-type: none"> (1) Providing health education to farmers with topics focussing on nutrition, ergonomic condition, the use of personal protective equipment, sleep, rest and management of stress workload (2) Formation of health occupational post among farmer groups (3) Teaching and recruitment of health volunteers in informal agricultural sectors (4) Consultation about health problems among agricultural farmers
	<i>Continuity</i>	Maintaining the continuity of COHP programme	<ol style="list-style-type: none"> (1) Identifying the achievement of occupational health services goals (2) Assessment of programme benefits for the farmers <ol style="list-style-type: none"> (1) Programme development based on community needs (2) Re-analyses of health problems and implementation of new activities to solve such problems

Table 3.

We need to use special work clothes, but we lack the money for purchasing shoes, gloves, gowns, goggles and protective headgear.

We cannot conduct meetings to discuss the use of personal protective equipment in our work in clinics given the time of fertilisation and spraying of pesticides. Meanwhile, our traditional farmers have limited funds for the procurement of these tools.

When working in the fields. . . the tools used, such as manual hoe, are simple and traditional. From time to time, we carry the harvest in our head, bending our shoulder or back. . . thus, we occasionally experience spinal pain.

We start working in the fields before sunrise, continue until breakfast, take a brief lunch break in a paddy hut and then continue working until the afternoon. We perform the same routine every day.

When we arrive at home, we must prepare for our activities for the next day, including feeding the cattle and cleaning the stables. As a result, we sleep late but wake up early for work. . .

A group of farmers is present in each area, but they rarely solve health problems. Instead, they focus on agricultural issues. Thus, developments in the field of health are needed.

Planning

The informants began planning to address the health problems identified in the analysis. The farmers wanted to achieve health education and prevention of health problems, address the need for periodic inspection of health centres on their health status and provide ongoing services which should be referred to a hospital or nursing home.

Health education and training activities regarding the healthy lifestyle of farmers are needed in health centres to avoid the diseases caused by agricultural farming.

Periodic socialisation and assistance on personal protective equipment and healthy lifestyle are needed by farmers working in the fields.

PHCs, through village health posts, should provide periodic inspections to detect health problems among farmers and seek for their treatment and referral to hospitals if necessary.

Several farmers who suffer from accidents while working require a long treatment period. Thus, they contemplate about how soon they can complete their rehabilitation in order for them to return to work.

Communication

Health promotion programmes for farmers, according to the informants before the programme was implemented, should involve communication with the various parties in the community. Cooperation and coordination between departments and between programmes in the clinic need to be developed.

In numerous health centres implementing a health care plan, the programme for solving health problems of farmers should be coordinated.

PHCs can cooperate and coordinate with the Department of Agriculture in developing farmers' health posts in every area. Thus, primary care health could be equitable and sustainable for farmers.

Preparation

According to the informants, farmers need well-planned and thorough preparation in implementing health promotion programmes.

I felt that a number of programmes were implemented, but they could not be sustained due to the lack of a mature management system.

Resources and infrastructure in the management of funds and programmes should be prepared, and how the programme system is reported in health centres must be regulated.

Implementation

The informants felt that in implementing the COHP programme, several activities need to be conducted, such as health education involving participation in the intervention group activities, thus indicating the need for empowerment of groups and partnership among farmer groups. In this study, we identified the need for health education of AFs. The topic of health education for the AFs was nutrition, ergonomic situation, the use of personal protective equipment, sleep and rest and management of stress workload. Therefore, in the agricultural sectors of rural areas, the AFs are supported with post-health occupational programme among farmer groups. These groups are facilitated by health volunteers in informal agricultural sectors who teach and offer consultation for health problems among the AFs.

Socialisation and health education at the village or community level will help farmers in the prevention of occupational diseases that can be acquired in farms.

Event group processes, such as social support groups or self-help groups, need to be established between farmers to help them overcome the problems among their groups.

Farming communities need to be empowered as a training cadre to recruit agricultural health volunteers who can help farmers.

A partnership must be established between clinics, the Department of Agriculture and farming communities in terms of various targeted, efficient and effective health activities.

Evaluation

According to the informants, health promotion programmes that have been implemented should be evaluated in terms of the achievement of the work programme and benefits for farmers. Through programme evaluation, farmers evaluate health promotion activities through self-awareness and self-acceptance related to health problems related to the work

environment of farmers. In addition, satisfaction with programme implementation is evaluated through group meeting activities.

After attending the programme, the AFs maintained their nutrition to maintain their body mass index. During their work, the AFs maintained ergonomic position and used personal protective equipment to prevent injury. Then, after working for a long day, the AFs attempted to balance their sleep and rest and manage their stress workload.

After following this COHP programme, I experienced a number of benefits although the programme implemented was short. These programme resulted in impacts that improved the farmers' knowledge and understanding of healthy living in the interests of the farming community.

We could maintain our health based on agricultural activities for farmers, including how to acquire adequate amounts of nutrition, how I must work with the right condition and the use of specific equipment to protect ourselves.

We attempt to sleep right after working for a long day and reduce our stress before sleeping. If we become exhausted while working in the farm, we also take a rest or a nap.

Continuity

The COHP programme which has been running for eight weeks, according to the informants, must be followed up and developed to address the public health problems of farmers.

I feel that such a programme must be continually developed, because the farmer community becomes actively involved in projects ranging from excavation problems, plan development and solving problems together with other groups of farmers. Thus, this programme is of, by and for the farmers themselves.

Discussions

In the present study, the occupational health promotion programme aided AFs in the rural areas. The findings indicate that the COPH programme was used to assess the health problems, formulate the occupational health diseases related to the workplace, plan interventions and implement activities and was evaluated by the farmers. This programme used the resources from farmer groups to conduct self-assessment and further develop the programme. The COPH is effective and efficient in solving the health problems related to the agricultural workplace and environment. This result is consistent with the findings of a previous study in the context of health promotion programme for farmers and fishermen with type-2 diabetes in Taiwan (Chen *et al.*, 2011).

In this study, the participants were encouraged to recognise the health problems related to agricultural workplace. The informants were aware that health problems were onset because of the lack of knowledge and limited resources. The farmers identified the problems through self-assessment and analysed them. These findings are consistent with those of previous studies indicating that farmers are self-confident and have self-efficacy to improve their health (Syson-Nibbs *et al.*, 2009). These results indicated that the AFs need a supporting system to identify their health problems through self-reflection in their workplace environment. Self-help group could be designed as a primary strategy to identify health and life problems related to the agricultural workplace and environment.

Participants perceived that the common health problems in agricultural sectors include malnutrition, high blood pressure and low back pain. This finding is consistent with that of previous studies in the context of agriculture in Indonesia (Susanto *et al.*, 2017). These findings may explain the relation of the AFs' health problems to the knowledge on the management of stress and workload, maintenance of ergonomic position, the use of personal protective equipment and limited nutritional intake. These findings are consistent with those

of a previous study suggesting that problems in the workplace are related to stress in workplace (Das, 2014), ergonomic position (Padmanathan *et al.*, 2016) and safety in workplace (Vanderwal *et al.*, 2011). This finding suggests that health education related to diseases in the agricultural sectors should be disseminated among the farmers.

The activities of COPH programme in this study have improved the AFs' self-care to manage their health problems through promotive, preventive and protection activities. These findings are consistent with those of previous studies in the context of the community health promotion project for garlic farmers, which are effective and can be recommended as a nursing intervention for health promotion of garlic farmers (Kim and Ock, 2011). The AFs are involved in the empowerment and partnership programme to maintain the sustainability of the programme. Community-based education could promote the health status of country market farmers (Jones and Siegrist, 1999). This result suggests that health promotion programme should be implemented in the community of farmers to improve their quality of life.

Furthermore, the implementation of COHP requires coordination and cooperation to ensure its continuity. This finding is consistent with that of a previous study indicating that assisting with farm tasks as a method of health promotion effectively sustains the programme (Aizaki *et al.*, 2016). The AFs need to communicate their problems through inter-sector and inter-programme between the agriculture department and primary healthcare centres in their areas. These findings indicate that post-healthcare services should be established to serve healthcare in agricultural areas.

Implication for practices

The COPH programme can increase the awareness and participation of farmers in health promotion programmes. Therefore, this model can be developed in increasing participation and community empowerment in occupational safety and health programmes in agriculture. Health education related to farmer health and the environment of agricultural work can provide the knowledge, attitudes and life skills in farmer occupational health. Meanwhile, providing support through monitoring and evaluating activities in the community needs to be achieved continuously and sustainably for PHCs to improve the quality of life AFs (Susanto and Widayati, 2018).

Limitation

This study features certain limitations. Firstly, the action research approach impedes the foregrounding of participants' experience and their full participation. Therefore, a mixed method approach should be used for the future research to identify the prevalence of health problems and the experience of farmers during the health promotion programme to solve their problems. Secondly, this study was conducted in rural agricultural sectors in which the participants are known as informal workers. Thus, the findings could not be generalised or applied to others formal workplace environments. The structure of the steps of the COPH programme in this study presents a potential threat. Therefore, the future research should be mixed with theoretical framework models of health promotion to guide to the next project.

Conclusion

The findings indicate that the COHP through action research provides a change strategy for AFs to manage and promote of occupational health and safety within their practice. The AFs assessed their health problems and become aware of their occupational health issues, including malnutrition, high blood pressure, low back pain, non-ergonomic condition, stress and workload. Therefore, in the implementation of the COPH programme, the AFs are involved in community activities, including health education, groups processes, empowerment and partnership to access comprehensive healthcare services in PHCs. These findings could be used to develop a framework for PHCs in delivering occupational health and safety practices in the

agricultural sectors. We suggest that further studies should focus on the continuing structural steps used to blend a framework model on health promotional programme with mixed method approach to solve the agricultural health problems.

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Corresponding author

Tantut Susanto can be contacted at: tantut_s.psik@unej.ac.id

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