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ORIGINAL ARTICLE

Development of a Patient Safety-training Program for Health Workers in Indonesia: Perspectives of Health Workers and Hospital Stakeholders

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ABSTRACT

Introduction: Various patient safety training has been developed internationally to further enhance the awareness and knowledge of patient safety for health professionals. However in Indonesia, the existing training is not established based on the needs of health workers. Therefore the study aim was to explore the insights from health workers, Provincial Health Office/City Health Office (PHO/CHO) and professional organizations regarding patient safety training by using the WHO's framework in designing training. **Methods:** This study was qualitative research with a cross-sectional design using focus group discussion involved 16 participants from public and private hospitals, CHO/PHO and professional organizations in East Java. Data analysis was performed using thematic analysis to identify coding or themes that emerged from the focus group discussions. **Results:** Through consensus, the patient safety training were grouped into basic and advanced level training. Program related to effective communication was important topics that need to be prioritized especially from the hospital's perspective. While from the hospital stakeholders perspective, topics related to building patient safety culture is prioritized. Practice-based learning is considered as better training design instead of knowledge-based. **Conclusion:** In conclusion, this study succeeded in identifying the needs associated with training in patient safety. There are various viewpoints from health professionals and hospital stakeholders on the criteria of patient safety training for health workers that need to be considered in developing training.

Keywords: Patient safety, Training program, Needs assessment

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INTRODUCTION

Patient safety is a global concern however not all people or health workers recognize or realize the importance of the issue. Various patient safety training has been developed internationally to further enhance the awareness and knowledge of patient safety for health professionals. The important effects of patient safety training and education in enhancing patient safety have been seen in some literature (1–6).

At national, local, regional and hospital levels, the distribution of patient safety information that is fair

and open to all hospitals is very critical, but this is still a problem in Indonesia. Specific patient safety organisations, such as the Commission of Hospital Accreditation (CHA) or the Indonesian Hospital Association (IHA), typically deliver patient safety training. However, most of the training was performed in the capital city and other cities, or as in-house training offered as required by the hospital.

The previous study established a lack of structured regulatory mechanisms for training, education and practice for health workers in Indonesia (7). Furthermore, the existing training is not established based on the needs of health workers. For health workers, the government has not planned structured patient safety training which can be used by all hospitals in Indonesia. Training needs need to be acknowledged, as this would significantly promote the systematic provision of continuing

professional development and the improvement of identified skill deficits (7). This situation is in contrast to the Malaysian government, which has an official patient safety website and also has a structured patient safety program in hospitals for new health workers (8).

Implementing patient safety has its challenges at the hospital level and there are concerns related to awareness of patient safety at the hospital level (9,10). In addition, awareness is also a dominant factor that affects the effective execution of patient safety initiatives as set out in the hospital's six patient safety objectives (11). For this reason, in relation to patient safety training, we agree that there is a need to recognise the needs of health workers. The goal of the study was to explore health staff, PHO/CHO and professional organizations' insights into patient safety training by using the WHO's framework in designing training (12).

MATERIALS AND METHODS

Study Design

This was a qualitative research that involved focus group discussions with health professionals, PHO and CHO, and professional organizations such as the Indonesian Association of Doctors (IDA), the Indonesian National Nursing Association (INNA), the Indonesian Association of Midwives (IMA), and the Indonesian Association of Pharmacists (IPA). We followed the WHO's four phases of developing patient safety training (12) which consisted of identification of training needs, determination of objectives and outcomes, training program design also monitoring and evaluation. We especially gained insight from the participants on training materials and design according to the WHO's framework.

Setting

This study was conducted in East Java province, Indonesia. The participants involved in this study were from seven public and private hospitals in Surabaya, one CHO, one Province Health Office (PHO) and five professional organizations in East Java. The list of organizations could be seen in Table I.

Professional organizations such as IDA, INNA, IMA and IPA have been chosen purposively, as they have a close partnership with health workers working in hospitals in terms of education and training. Professional organizations, for example, have been active in providing a related field with leadership, setting requirements for education, practice and professional competency assessment. They are also partnering with governments and other stakeholders for health policy implementation (13).

Meanwhile, one of the tasks of the Department of Human Resources of the Department of Health at District / City level was the registration, accreditation and certification by legislative regulations of city-scale health workers (14). On the other hand, according to the Regulation of the Governor of East Java, the Provincial Health Office formulated the strategy, coordination carried the coordination, provided technical guidance, monitoring, evaluation and reporting of human resources including in hospital (15).

Participants

The participants were members of the organizations, who were chosen using a non-probability or convenience sample in which respondents were selected on the basis of their convenience and availability (16). The invitation letter was sent to all participating organizations to participate in the Focus Group Discussion (FGD). Through the letter, we asked the organizations to send one or two staff who recognize or work in the field of patient safety training.

Data Collection

To gain an in-depth understanding of social issues, FGD has been commonly used as a qualitative tool. We followed the FGD stages established from previous studies (17). At the stated time in Surabaya, we invited the participating organisations to attend the FGD. The participants who attended the FGD finalized the consent of the participant to join the study as approval.

For group 1 and group 2, the FGD was performed by ID and MA at different times. A few days in advance, the FGD guide and a list of topics were sent to FGD

Table I: The participant's group for FGD

Focus group discussion's participants	Invited	Organisations attending and the categories	Number of Participants
Health workers from public and private hospitals	Seven government and private hospitals	A Hospital (public hospital)	2
		B Hospital (university owned hospital)	2
		C Hospital (private hospital)	2
		D Hospital (public hospital)	1
		E Hospital (public hospital)	1
Hospital's stakeholder groups	Five professional organizations, one Provincial Health Office and one City Health Office	Indonesian National Nurse Association (INNA)	1
		Indonesian Midwives Association (IMA)	1
		Indonesian Pharmacist Association (IPA)	2
		Indonesian Doctors Association (IDA)	1
		Provincial Health Office (PHO)	1
	City Health Office (CHO)	2	
Total participants			16

participants to familiarize the participants with the questions. The list of topics and recommendations for interviews was adapted from patient safety training established by the Institute for Health Care Reform (18) and the multi-professional version of the WHO patient safety curriculum guide (12). FGD was conducted in the language of Indonesia. The process was voice-recorded and then transcribed before we conducted the analysis process.

Data Analysis

Data analysis was carried out using thematic analysis that included the concept of coding, themes, and the identification of the pattern by commonalities, relationships, theoretical structures, or concepts of explanation (19). In data analysis, we followed six steps, including preparing and organizing data, identifying the general concept, establishing coding, creating categories or themes, presenting data, and interpreting the results (16).

The FGD was transcribed and translated by ID, specific quotations were selected and coded which then regrouped into themes by ID and TR. Both ID and TR had a doctoral degree and previous qualitative data analytical experience. Example of codebook could be seen in Table II.

Ethics Statement

This study has obtained ethical approval from the Faculty of Nursing Ethics Committee at Universitas Airlangga No-1430 KEPK. All participants have signed informed consent as a form of approval.

RESULTS

The FGD was held in two sessions in August 2019. The first group were health workers from public and private hospitals with total eight participants. For the second session we invited eight participants from the hospitals' stakeholder groups that consisted of CHO, PHO and professional organizations. We discussed the perspectives of the participants regarding the four phases

of patient safety training development.

Stage 1 - Identification of Training Needs

In the first stage, by addressing patient safety issues that are deemed relevant, we established patient safety training needs. The findings revealed hospital participants focused more on efficient communication, patient safety tools, risk management, and clinical leadership concerns. The expression of some participants were: *Actually, there are so many patient safety training being offered, but it is very difficult to change patient safety culture. Maybe because of the knowledge, because not all staff participated maybe have not reached 20% of the employees. [Hospital A, participant 1]*

The topic that is considered important, in addition to Clinical Leadership, is the application of techniques related to effective communication. [Hospital B, participant 1]

The participants from hospitals highlighted effective communication as one of the important topics that needs to be prioritized.

Communication is very important to avoid misinformation, miss-communication, so that patient safety is considered as a culture, we could not let communication become the caused medication errors [Hospital A, participant 2].

The important topic in our opinion is effective communication. Usually, those who understand are nurses, but the doctor in charge of care lacks understanding. In the future, it will be highlighted on the topic of effective communication that focuses on doctor in charge of care. All nursing care providers are expected to have participated in effective communication training. So that patient safety has become a culture. It is hoped that there will be a standard module related to effective communication for a doctor in charge of care. [Hospital A, participant 1]

Effective communications between care providers

Table II: Example of Codebook

Code	Description	Example
Effective communication	Participant direct or indirectly refers to effective communication for health workers at hospital, why it is important or how it could cause error	<i>The topic that is considered important, in addition to Clinical Leadership, is the application of techniques related to effective communication. [Hospital B, participant 1]</i> <i>Communication is very important to avoid misinformation, miss-communication, so that patient safety is considered as a culture, we could not let communication become the caused medication errors [Hospital A, participant 2].</i>
Safety culture	Participant describes the importance of patient safety culture	<i>Actually, there are so many patient's safety training being offered, but it is very difficult to change patient safety culture. Maybe because of the knowledge, because not all staff participated maybe have not reached 20% of the employees. [Hospital A, participant 1]</i>
Training categories	Participants described the topics and categorized its level	<i>Maybe there need to be two patient safety-training categories, that is basic and advanced. The health workers need to understand the basic concept in patient safety, also the indicators, quality, monitoring, and reporting. But for the three basic things, every health worker must realize and commit to improve patient safety. [IPA, participant 1]</i>
Training design	Participants provides example of the design of the training	<i>Example of using workshop, the trainees were asked to report an incident so they learn how to fill the reporting form. For example, if there is a wrong route medication error case in the pharmacy unit, so during the training, the standard reporting form was copied and then the trainees are asked to complete the form. [IPA, participant 1].</i>

with families, communities and among nursing care providers. At our hospital, [the communication] has not been 100% [effective] yet. [Hospital D, participant 1]

While participants from health offices and professional organizations were having more concern related to patient safety awareness, personal motivation, commitment, or how to develop a culture of patient safety, professional organization responsibilities, enhancement of service practices, and reporting of incidents were also listed.

Some participants reported:

The first topic is the quality of health services. The second one is the implementation of a patient safety standard that includes seven steps to patient safety and patient safety goals. Next is quality improvement and incident reporting. [PHO, participant 1].

Yes, I think knowledge is important, but it also depends on our awareness that our profession plays an important role in patient safety. [IPA, participant 1]

All participants agreed on the categorization of patient safety topics into basic and advanced level training. As one participant reported:

Maybe there need to be two patient safety-training categories, that is basic and advanced. The health workers need to understand the basic concept in patient safety, also the indicators, quality, monitoring, and reporting. But for the three basic things, every health worker must realize and commit to improve patient safety. [IPA, participant 1]

The agreed categories of the topic could be seen in Table III.

Table III. Grouping of patient safety training topics

Training category	Topics
Basic level training	Effective communication Teamwork Reporting an incident How to build a patient safety culture
Advanced training	How to analyze incidents Leadership Risk management Partner with patients and their families

Stage 2 - Determination of Objectives and Outcomes

Participants agreed that training should generally increase participants' awareness, boost post-training attitude, training success and the potential to alter participants' work behaviour, as defined by one participant:

The training objectives must include improvements on the cognitive, attitude and performance aspect of the trainees. [Hospital B, participant 2].

Stage 3 - Training Program Design

We continued by defining the training design that is

considered suitable and successful. At first, participants said that the training offered by some organizations for patient safety was all more about adding knowledge and lack of practice.

It seems that the training that has been done is more theoretical. Especially from IHA. [Hospital D, participant 1]

The participants suggested various methods for training including simulation, case study, demonstration, and workshop where the trainees are emphasized to practice directly. As one participant commented:

By using workshop, the trainees were asked to report an incident so they learn how to fill the reporting form. For example, if there is a wrong route medication error case in the pharmacy unit, so during the training, the standard reporting form was copied and then the trainees are asked to complete the form [IPA, participant 1].

The participants also preferred the training to be given in the form of project-based learning and group-based training. The training must also use different media, such as case studies or videos, where participants will analyze case studies or videos or use actual hospital issues to be used as quality improvement initiatives.

Stage 4 - Monitoring and evaluation

Some participants expressed the challenge in monitoring and evaluation of the results of the training.

We observe the staff upon returning from training whether there is an increase in knowledge or there is an application [of knowledge]. However, the [evaluation] system in each unit is different and there is no synchronization with other units so it is difficult to do. [Hospital D, participant 1]

For implementation, monitoring will be carried out, for example, regarding compliance in implementing regulations and procedures. But we do not include that [topic] in training because it will make the training longer, but it is important [PHO].

Monitoring and evaluation are difficult ... Once again, innovation is needed so training is provided not only in the form of theory and socialization. [IDA].

DISCUSSION

We identified many patient safety issues from the training needs assessment that are important to the needs of the participants. The topics were divided into two basic and advanced training levels. Ideally, all hospital health staff engage in patient-safety training at least at the basic level, while other health workers with positions such as the unit head and members of the patient safety team need to undergo advanced-level training.

There was a difference in the topics considered important for each group, as the hospital participants focused more on technical factors. Both hospital respondents agreed on the value of successful communication. Communication was a priority issue, particularly from the point of view of health workers, because the currently available training did not cover the technique of effective communication, either between care provider, care provider and family.

Some international literature, such as the Institute for Health Care Reform (18) and the WHO multi-professional edition patient safety curriculum guide (20), referred to the more comprehensive topics. Research has shown that good communication can decrease drug injection administration errors (21). One proven method of successfully enhancing patient safety in hospitals is by applying efficient contact between nurses and other health workers (22). Meanwhile, the hospital stakeholders focused more on developing the culture of safety through dedication, inspiration and awareness of the roles of professionals in improving patient safety.

Both groups decided that training based on experience is preferable and considered more efficient than knowledge-based training. A simulation, case studies, presentation, and workshop were the suggested teaching methods as the strategies for successful training. It is anticipated that the result of the training will influence improvements in the degree of cognitive learning, post-training attitude, and the efficiency of training and transition efficiency. The theory of evaluating and reviewing this training adopts the theory of the Integrated Model of Training Evaluation and Effectiveness (IMTEE) (23).

Monitoring and assessing the effects of the training was found difficult and complicated to do. Literature, however, has provided many frameworks that could be implemented, such as the commonly used Kirkpatrick method that uses four parameters, including trainee response, learning, transition or actions, to assess the outcome of training (2). Another alternative is to use the fidelity framework defined to assess the training of supervisors (24). The assessment of training may also be based on competency, educational objectives and learning goals (18). Monitoring and assessment of the outcome of the training need to be determined before the training starts. Depending on the period, the monitoring of the training starts within two days after the completion of the training, and after two years, to see whether the training has resulted in a return on investment (18). Finally, if only the health professional has undergone sufficient training and gained the most up-to-date information, the safety of patient care can be guaranteed (26).

This study has several possible drawbacks. The study was conducted in the province of East Java, and the findings might not be generalized to other Indonesian provinces. In addition, the opinion of the participants should not

be taken as the organization's perspective. Despite these constraints, our analysis revealed important knowledge that needs to be considered about the patient safety training needs of health workers.

CONCLUSION

This study succeeds in identifying the needs associated with training in patient safety. There were various viewpoints from health professionals and hospital stakeholders on the criteria of patient safety training for health workers. The patient safety training was grouped into basic and advanced level training by consensus, while the monitoring and assessment metrics were determined. The key to a successful training program begins with good training preparation itself, from the analysis of training needs, the creation of training objectives that become the basis for the assessment of training and the ability to perform training monitoring and assessment within the stated period. It is recommended that hospitals avoid thinking about training as a one-time educational intervention, which is often successful, to increase the effectiveness of training. It is important to track and measure the efficacy of the training to ensure that awareness has changed into practice as it is to create a positive culture at the level of the hospital and work unit.

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participants to familiarize the participants with the questions. The list of topics and recommendations for interviews was adapted from patient safety training established by the Institute for Health Care Reform (18) and the multi-professional version of the WHO patient safety curriculum guide (12). FGD was conducted in the language of Indonesia. The process was voice-recorded and then transcribed before we conducted the analysis process.

Data Analysis

Data analysis was carried out using thematic analysis that included the concept of coding, themes, and the identification of the pattern by commonalities, relationships, theoretical structures, or concepts of explanation (19). In data analysis, we followed six steps, including preparing and organizing data, identifying the general concept, establishing coding, creating categories or themes, presenting data, and interpreting the results (16).

The FGD was transcribed and translated by ID, specific quotations were selected and coded which then regrouped into themes by ID and TR. Both ID and TR had a doctoral degree and previous qualitative data analytical experience. Example of codebook could be seen in Table II.

Ethics Statement

This study has obtained ethical approval from the Faculty of Nursing Ethics Committee at Universitas Airlangga No-1430 KEPK. All participants have signed informed consent as a form of approval.

RESULTS

The FGD was held in two sessions in August 2019. The first group were health workers from public and private hospitals with total eight participants. For the second session we invited eight participants from the hospitals' stakeholder groups that consisted of CHO, PHO and professional organizations. We discussed the perspectives of the participants regarding the four phases

of patient safety training development.

Stage 1 - Identification of Training Needs

In the first stage, by addressing patient safety issues that are deemed relevant, we established patient safety training needs. The findings revealed hospital participants focused more on efficient communication, patient safety tools, risk management, and clinical leadership concerns. The expression of some participants were:

Actually, there are so many patient safety training being offered, but it is very difficult to change patient safety culture. Maybe because of the knowledge, because not all staff participated maybe have not reached 20% of the employees. [Hospital A, participant 1]

The topic that is considered important, in addition to Clinical Leadership, is the application of techniques related to effective communication. [Hospital B, participant 1]

The participants from hospitals highlighted effective communication as one of the important topics that needs to be prioritized.

Communication is very important to avoid misinformation, miss-communication, so that patient safety is considered as a culture, we could not let communication become the caused medication errors [Hospital A, participant 2].

The important topic in our opinion is effective communication. Usually, those who understand are nurses, but the doctor in charge of care lacks understanding. In the future, it will be highlighted on the topic of effective communication that focuses on doctor in charge of care. All nursing care providers are expected to have participated in effective communication training. So that patient safety has become a culture. It is hoped that there will be a standard module related to effective communication for a doctor in charge of care. [Hospital A, participant 1]

Effective communications between care providers

Table II: Example of Codebook

Code	Description	Example
Effective communication	Participant direct or indirectly refers to effective communication for health workers at hospital, why it is important or how it could cause error	<i>The topic that is considered important, in addition to Clinical Leadership, is the application of techniques related to effective communication. [Hospital B, participant 1]</i> <i>Communication is very important to avoid misinformation, miss-communication, so that patient safety is considered as a culture, we could not let communication become the caused medication errors [Hospital A, participant 2].</i>
Safety culture	Participant describes the importance of patient safety culture	<i>Actually, there are so many patient's safety training being offered, but it is very difficult to change patient safety culture. Maybe because of the knowledge, because not all staff participated maybe have not reached 20% of the employees. [Hospital A, participant 1]</i>
Training categories	Participants described the topics and categorized its level	<i>Maybe there need to be two patient safety-training categories, that is basic and advanced. The health workers need to understand the basic concept in patient safety, also the indicators, quality, monitoring, and reporting. But for the three basic things, every health worker must realize and commit to improve patient safety. [IPA, participant 1]</i>
Training design	Participants provides example of the design of the training	<i>Example of using workshop, the trainees were asked to report an incident so they learn how to fill the reporting form. For example, if there is a wrong route medication error case in the pharmacy unit, so during the training, the standard reporting form was copied and then the trainees are asked to complete the form. [IPA, participant 1].</i>