Original Article

Determining Nursing Research Priorities in Lao People's Democratic Republic: A Modified Delphi Study

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ABSTRACT

Background: Determining research priorities is important not only to support evidence-based nursing practice, but also to direct nursing research based on the needs of each country. However, there is no single study identified in Lao People's Democratic Republic that sets research priorities in nursing. **Objective:** This study was to gain consensus from experts on the priorities of nursing research in Lao People's Democratic Republic. **Methods:** A modified Delphi study was used, which consisted of three rounds. A focus group discussion was used in round I. In round II, the results of content analysis in round I were electronically presented to all participants and asked them to rate the importance of each topic using a 5-point Likert scale. In round III, the results of round II were presented using mean score, and the participants were again asked to rate each topic using the same scale. **Results:** The top five priorities include: (i) evaluation of the implementation of nursing documentation based on nursing process, (ii) developing and updating standard of nursing practice for typical diseases, (iii) development of professional nurses and preceptor competency, (iv) motivational system and nurse satisfaction and their effects on nurse performance, and (v) utilization of evidence-based practice to improve nursing practice. **Conclusion:** The results of this study serve as an input for developing nursing research agenda in Lao and enhancing international research collaboration that focuses on health system and nursing management.

KEYWORDS: *Consensus, Delphi technique, Focus groups, Nursing research*

INTRODUCTION

Nursing profession is the biggest group of health workforces in Lao People's Democratic Republic (Lao PDR),[1] and significantly influences the effectiveness and efficiency of health care services. The development of nursing requires a focused plan of research endeavor, which therefore, the identification of research priority in nursing is needed. Setting research priority in nursing is considered as the key strategy to direct nursing research for nursing science development.[2] It is also one way of translating scientific knowledge into nursing practice. However, nursing research priority is dynamic in response to the development of health-care system, nursing, and patient outcomes.[3]

Determining research priority has become an international trend since the beginning of the 1980s in the purpose of dissemination of the results of nursing research at the international, national, regional, and

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institutional levels.[4] The research priority is essential to support the best patient care with evidence-based standard.[5]

Several countries have developed nursing research agenda fit with the context of health care environment in each country proposed by nurse scholars, professional organizations, or federal governments. For instance, the United Kingdom set research priorities for respiratory nursing,[6] and Ireland set research priorities in developed research priorities in pediatric nursing in acute setting.[7] Research priorities have also been set in diverse areas such as nursing education,[4] mental health nursing,[2] oncology nursing,[8] clinical nursing,[3] and nursing informatics.[9] However, there is no single study focusing on the identification of research priority in nursing in Lao PDR.

Lao PDR is Southeast Asian country located at the heart of Indochinese peninsula, and bordered by Myanmar, China, Vietnam, Cambodia, and Thailand. The country covers 236,800 km², with approximately 7 million people of different ethnicities live in its 18 provinces.[10] Lao PDR has made good progress over the past 20 years, with GDP growth averaged 7.7% over the last decade to reduce poverty, hunger, and improve education and health outcomes.[11] Life expectancy at birth rises steadily to reach 67 years in 2017.[11]

However, maternal mortality rate in the country remains high, with 197/100,000 live births in 2015, as well as the rise of communicable and noncommunicable diseases,[12] which indicated that the country needs to accelerate investments in human capital, provide an overarching strategy to guide improvements in service delivery to provide long-term chronic care and support, and ensure that all Lao people can get its benefits.

Today, there are 2008 diploma nurses, 1120 bachelor nurses, 7 nursing specialists, 100 master nurses, 1 Doctor of Nursing Practice candidate, and 1 Doctor of Nursing (PhD), working for the development of the health of people in Lao PDR. Nursing education has been developed gradually and continuously. The Ministry of Health of Lao PDR is responsible for managing and authorizing the establishment of nursing institutions.[13]

In regards to research development, only master degree programs in nursing institutions require their students to conduct research for graduation. There is no research scheme for students in diploma and bachelor nursing program, as well as for nurses in hospital settings. In addition, lack of research use is identified in nursing practice. Thus, the development of research among nurses and nursing students should be addressed.[14]

Objectives

This study aimed to prioritize research topics as perceived by nurses, nurse leaders, and managers to advance evidence-based clinical practice for the best nursing outcomes and policy development.

METHODS

Study design

This study employed Delphi technique to determine nursing research priorities in Lao PDR. The Delphi approach aims to gain consensus from a panel of experts by asking their opinion using a focus group discussion (FGD) and a series of questionnaires in a specific issue for the purpose of goal setting and policy investigation.[15]

In this study, this technique was chosen because it facilitated obtaining consensus from a large panel of experts in a broad geographical region while allowing for anonymity, eliminating the potential for influential leaders to dominate the process. Moreover, because the survey was administered electronically, individually, and in rounds, participants had the option of changing their mind after considering the group opinion. The study has been conducted on May 2017.[15]

Participant recruitment

To determine the nursing research priorities in Lao PDR, a total of three rounds of Delphi technique were used. The inclusion criteria of experts are all directors of nursing, clinical nurse specialists, nurse managers (all grades), health-care providers, nursing staff, and other heath stakeholders who are closely involved in all levels of health services. We selected experts using a purposive sampling from all elements of organization to gather all perspectives in nursing. In addition, to represent Lao PDR, the experts were from public and private hospitals.

Procedure

In round I, we contacted all experts by sending a formal invitation letter for FGD in a university setting. FGD was conducted among experts in a meeting room in the university to identify and discuss research priorities in nursing education, nursing management and nursing services. The principle investigator used open-ended questions for FGD, such as "what are research topic priorities that you think is important in nursing education, management and service?" and "why do you choose that topic?" The experts were also allowed to write research topics in a blank paper. The FGD was implemented in 1–2 h, and all processes were audio recorded and transcribed verbatim.

FGD was done in two rounds, the first round consisted of four informants from nursing education conducted in

a meeting room in a university, and the second round consisted of nine informants in a hospital meeting room, which include Deputy director of hospital, Chief of nursing department, Deputy chief of nursing department, and Head nurses of general medical ward, bone and plastic surgery ward, gastrointestinal ward, and emergency unit. There were 13 experts participated in this round. A qualitative content analysis was used by the researchers in this round, followed by member checking with all experts.[16]

In round II, the researchers presented the results of round I using electronic form sent directly to the participants' E-mails and invited them to rate the importance of each topic on a 5-point Likert scale, ranging from 1 = unimportant, 2 = of little importance, 3 = moderately important, 4 = important; and 5 = very important. There were 20 informants recruited in round II, which 13 informants were from round I, and the other 7 informants were selected using a snowball random sampling [Table 1].

In round III, the results of round II were again presented electronically, and invited all 20 participants to rate each topic using the same 5-point Likert scale.

Data analysis

Data from round I were analyzed using a qualitative content analysis, as outlined by Van Manen.[16] The steps include: (1) to read the interview or FGD transcripts carefully and repeatedly, and holistically to understand the whole meaning, and then highlight important or meaningful words or statements to the objective of the study; (2) to develop key words or concepts with the texts; and (3) every key words, statements, and concepts are re-analyzed, compared, and contrasted to select or discover essential themes or statements.[16] The results from this round were sent to all experts for member checking to ensure the trustworthiness of the data.

Data from round II and III were analyzed using descriptive statistics to produce a mean score and ranking for each category. Using a mean score to collapse response has been used in numerous Delphi studies.[15]

Ethical consideration

This study has been ethically approved on September 1, 2015 by University of Health Sciences, Lao PDR with approval number of 3809/UHS. The researchers confirmed that each respondent has obtained an appropriate informed consent. All participants were informed about the objective of the study and assured that participation in the study was voluntary. Moreover, they were free to withdraw from the study at any time. The researchers guaranteed the confidentiality of their data and also ensured them that their information would be published anonymously.

RESULTS

The majority of participants were female (75%) with age between 40 and 49 years old (60%). Of the total number of participants, 40% were teachers, and 70% had a master degree in nursing science. The areas of employments were likely to be equal related to surgical nursing, hospice nursing, obstetrics, and recovery. The average of experience in nursing was 21 years, and the average in current position was 9.5 years [Table 1].

Round I involved FGD about the research topic priorities in nursing. There were thirteen experts participated in this round, and 58 research topics were generated. Using a latent content analysis approach, 58 topics were compared, contrasted, and combined, which resulted in 16 topics. Each topic was analyzed based on the comments of the experts. For example, an expert said, "We need to explore the effectiveness of 24-h working shift on quality of nursing care as the nurses out there only use 8-hr or 12-h shift. In fact, 24-h shift is too much and not healthy." Another expert said, "Our nursing documentation is more likely not in line with nursing process, but just to write down the physician orders. We need to evaluate our nursing documentation system." A member check was done in this round, and resulted in 14 topics. One topic was deleted due to the

Table 1: Characteristics of respondents (*n*=20)	
Demographic information	*n* (%)
Age (years)	
30-39	2 (10)
40-49	12 (60)
50-59	6 (30)
Gender	
Female	15 (75)
Male	5 (25)
Area of employment	
Surgical medical nursing	6 (30)
Hospice nursing	4 (20)
Obstetrics	5 (25)
Operation/recovery	5 (25)
Job classification	
Registered nurse/midwife	4 (20)
Nursing administrator	4 (20)
Nursing teacher/educator	8 (40)
Other	4 (20)
Educational level	
Bachelor of nursing science	5 (25)
Master of nursing science	14 (70)
PhD of nursing science	1 (5)
Year of experience in nursing (mean)	21
Year of experience in current position (mean)	9.5

topic ("Creating and developing nurse association in Lao PDR") was not considered as a research topic, which resulted in a total of 13 research topics.

In round II, the 13 research topics identified from round I were sent to all participants electronically. The participants were asked to rate the importance of each priority on a 5-point Likert scale. The top five topics in this round were (i) evaluation of the implementation of nursing documentation based on nursing process; (ii) developing and updating standard of nursing practice for typical diseases; (iii) development of professional nurses competency based on their levels (under diploma, diploma, and bachelor) and its evaluation, and development of preceptor competency and its evaluation; (iv) motivational system and nurse satisfaction and its effects on nurse performance; and (v) utilization of evidence-based practice (EBP) to improve nursing practice. The lowest ranked research topic was screening system (triage) in emergency department. There was no additional topic in round II.

In round III, the 13 research topics identified in round II were again sent to the respondents electronically to their E-mails. Respondents were asked to rate the importance of each priority similar with the round II. The higher mean score indicates more important. However, there were no changes or additional topics in round III, which were agreed by all participants. Thus all mean scores in each topic remained the same [Table 2].

DISCUSSION

The first research priority was the need to evaluate the implementation of nursing documentation based on nursing process. All informants agreed that nursing documentation is important, as literature also stated that nursing documentation is essential to ensure vital information about patient's condition and provide evidence of outcomes of nursing care.[17] Nursing documentation can also be used for quality assurance purposes.[18] However, the main concern in this study was that nurses often transfer patients' information orally, instead of using a written nursing form. The nursing written communication system is often seen as burdensome.[18] As a consequence, there is a possibility that nursing documentation is a devalued aspect of nursing care.[18] In addition, the nursing documentation implemented by nurses is likely not based on nursing process. Therefore, its evaluation related to the value and the process of nursing documentation is necessary.

The second priority was likely to focus on developing and updating standard of nursing practice for typical diseases to guide and direct professional nursing practice. Lao PDR has a professional standard for nursing practice for some diseases, but it may not be enough to capture the diverse practice settings and ever-changing diseases today.[19] Developing nursing standards is also basic in providing patient-centered care, and this standard should be applied at all times to all nurses in all practice roles.[20] This priority is however closely related to the role of professional nursing association to develop standard of nursing practice and nursing competency, but until today, nursing association does not exist, which reflects another issue among nurses in Lao PDR.

The third priority was the development of professional nurses' and preceptors' competency. This topic remains crucial as competency is the basis of most professional practice frameworks.[21] The informants said that there are many educational levels of nurses in Lao PDR, such as under-diploma, diploma, and bachelor level with the

Rank	Research priorities	Mean ± SD
	Table 2: Prioritization of research topics after three Delphi rounds	
1	Evaluation of implementation of nursing documentation based on nursing process	5 ± 0
2	Developing and updating standard of nursing practice for typical diseases	4.75 ± 0.44
3	Development of professional nurses' competency based on educational levels (under diploma, diploma, bachelor) and its evaluation; and development of preceptor competency and its evaluation	4.75 ± 0.44
4	Motivational system and nurse satisfaction and its effects on nurse performance	4.70 ± 0.47
5	Utilization of evidence-based practice to improve nursing practice	4.65 ± 0.59
6	Promoting the capacity of nurse researchers	4.60 ± 0.60
7	Effect of 24-h shift on quality of nursing care and nursing and patient outcomes	4.55 ± 0.69
8	Particular assessment for in-service training needs	4.50 ± 0.69
9	Barriers and challenges of nurses in utilizing informatics	4.45 ± 0.60
10	Developing nursing outcomes indicators and its evaluation	4.45 ± 0.51
11	Improvement of English proficiency in nursing profession	4.30 ± 0.57
12	Effect of positive practice environment on nurse performance	4.05 ± 0.60
13	Screening system (triage) in emergency department	4.05 ± 0.51

SD: Standard deviation

same competency in their clinical practice; therefore, competencies of nurses should be distinguished in each level. Competency refers to the effective application of nursing knowledge, professional skills, and attitudes, which can be demonstrated regularly and continually in an individual's daily activities, applied in the scope of nursing practice that appears at competency level, and measured differently in each individual.[1] Lao PDR has developed the national competencies for licensed nurses, which consist of core competencies (service mind, management, leadership, and achievement motivation) and functional competencies (nursing ethics, using nursing process, teaching and counseling, proactive service, and analytical thinking).[1] However, these competencies are general for all nurses in all levels. In addition, this study also emphasizes on the development of competency for preceptors who supervises nursing students and staff nurses to apply nursing theory into clinical practice.

The fourth priority was the motivational system and nurse satisfaction and their effects on nurse performance. All informants agreed that nurses should be given more attention, as they are the largest group in the health workforce. It is essential to provide better strategies to increase nurses' work motivation in order to improve the quality of care. The work motivation, together with nurses preferences and work-related factors such as working conditions and incentive systems, increases nurses satisfaction and determines nurse's performance.[22,23] When nurses work for their own sake, they are considered to be intrinsically motivated, while if nurses work for instrumental reasons, then they are considered to be externally motivated.[24] Our results actually focus on three topics-motivational system, nurse satisfaction, and nurse performance, which are considered interrelated each other.

The fifth priority was likely to focus on the use of EBP to improve nursing practice. All informants rated this as an important topic as they are fully aware that there is a lack of the utilization of evidence-based nursing practice. There should be reasons to explore why it exists, and to understand how to improve EBP. Is that due to lack of time, poor access to facilitation and information, or lack experience in using computers or any other reasons? However, a study states that the EBP makes nursing care become more dynamic and individualized, which leads to effective clinical judgment. When EBP is used to define best practice rather than to support existing practices, then nursing knowledge will be developed.[25] Basically, this topic is closely related to the topic of standard or guideline of nursing practice, which requires evidence-based perspective.

The other research priorities were related to the capacity of nurse researchers. One topic was related to lack of numbers of nurses who can conduct research studies, and another topic was related to the effect of 24-h working shift on quality of nursing care and nursing and patient outcomes. The participants stated that it seems very common for nurses to work in 24-h shift, which might be due to shortage of the number of nurses. However, this could be the main cause of the circadian rhythms disruption, which influences the physical and psychological well-being of nurses and therefore leads to poor performance.[26,27]

The other research topics were closely related to nurse performance, including the assessment of nurses training, the identification of barriers and challenges of nurses in the use of informatics that is related the use of evidence-based, and developing nursing outcomes or key performance indicators. In addition, the findings also addressed the need for the improvement of English proficiency, which agreed by all informants that nurses are a part of ASEAN Mutual Recognition Arrangement for free mobility between ASEAN countries and share best practice among them.[28] Last, our findings also identified the need to introduce of positive practice environment concept and to evaluate its effect of nurse performance, as well as to determine the effectiveness of screening system (triage) in emergency department in hospital setting, which is also closely related to the competency of nurses.

Although the Delphi methods allow for prioritization, definitional issues of the research topics might not have been sufficient due to lack of the number of informants that might not represent the whole country. However, all informants selected in this study represent nursing education, professional organization, hospital management, research and clinical practice. Future study needs to validate and compare these results with bigger sample size and scope in Lao PDR.

CONCLUSION

The majority of priorities are well aligned and concentrated on management-based nursing research such as nursing documentation, nurse performance, standard of nursing practice, competency, staffing, nurse satisfaction, motivation, nursing outcomes, key performance indicators, EBP, nursing informatics, positive practice environment, and screening system management. For future research, it ought to discover strategies to address these prerequisites. Funding for forthcoming research should be coherent with these priorities, which were identified by experts. This study generated a set of research directions that should be

viewed as a positive step toward the goal of health-care system and professional nursing. As such, this study offers fundamental insight into areas furthermost significance for emphasis and funding as acknowledged by nurse research experts in Lao PDR.

Conflicts of interest

There are no conflicts of interest.

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