INVESTIGATION OF SOME CORE COMPETENCIES OF MASTER OF NURSING IN VIETNAM

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SUMMARY

Objectives: *To investigate some core competencies of the master of nursing to propose the prioritized competencies in the master of nursing program in Vietnam.* ***Subjects and methods:*** *240 masters of nursing were enrolled in a cross-sectional and descriptive study with a convenience sampling method. These nurses autofilled the survey form on google form in order to assess the core competency group based on a 5-point Likert scale and on Cronbach's alpha score.* ***Results:*** *According to the respondents, 4 groups of core competencies with 38 specific skills had a high average score and passing rate. These 38 items in four groups of competencies were arranged appropriately, meeting the requirements of high internal consistency.* ***Conclusion:*** *Those core and specific nursing competencies had a high level of necessity. Therefore they should be included in the learning outcome standards of master of nursing programs.*

* Keywords: Core competency; Master of nurse (MN).

INTRODUCTION

The nursing staff is an indispensable human resource in the health care system [1]. Nursing competency is a key to the achievement of universal health coverage.

Since the 1990s, upon identifying the functions and roles of nurses, the Ministry of Health has coordinated with Vietnam Nurses Association to study and develop the basic competency standards for Vietnamese nurses, which were issued in 2012 [1]. Based on the basic competency standards of Vietnamese nurses, the Ministry of Health and the Ministry of Home Affairs have promulgated standards of nursing job titles, which specify standards for nursing titles of class II, class III, and class IV associated with the qualifications of nurses [2]. However, these standards are only set for ranking human resources management but have not set forth the competency requirements for each nursing class associated with each nursing training level.

At present, there are four levels of nursing education in Vietnam, including diploma degree, associated degree, bachelor degree, and postgraduate degree (master and doctoral degree, and level 1 specialist of nurse). All of these staff nurses are working at higher educational institutions, vocational training, medical facilities, health centers, and human health resource at all levels. Thus, it is important to clearly define nursing competencies to establish a foundation for the nursing curriculum at different levels of education.

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In this study, we focus on identifying the core nursing competencies at the master's degree level (hereinafter referred to as masters of nursing to distinguish them from nurses with master's degrees in other sciences). They are also the core subjects for the training of nursing human resources. This research is conducted: *To investigate the necessity of some core competency groups of masters of nursing in Vietnam and to propose the prioritized competencies in the master of nursing program in Vietnam*.

SUBJECTS AND METHODS

1. Subjects

The subjects in this study consisted of 240 masters of nurse (including those who graduated from Vietnam programs or international programs).

2. Methods

* Study design: This is a cross-sectional descriptive study, using a convenience sampling method, of which sample size n = 240.

* Procedure:

The research team sent the autofill forms on Google form to the masters of nurse who are working at medical facilities, higher educational institutions, and vocational training in Vietnam in 2021.

A 5-point *Likert scale was used to measure the necessity of each competency item*. Satisfactory level (pass level) in this study was determined when the level of teaching, proficiency, and necessity was rated by the subjects from score level 4 or higher.

4 competency groups, including specific competencies, are identified based on the standards for nurse's level 2 specified in the standards for nursing of the Ministry of Health and the Ministry of Home Affairs [1], and on the nursing management personnels' interviews from the Ministry of Health, Vietnam Nurses Association, nursing lecturers at some universities, a number of nursing masters working at educational institutions and health facilities. In addition, some competencies make reference to the regulations from the required competencies of nursing masters and resident nurses built by the *American Association* of *Colleges* of *Nursing* in 2011 [8], the nursing competencies in master's degree, resident hospital of the Philippines [9], Thailand [10].

Group 1: Nursing professional competency (patient care practice) includes the following 15 specific competencies;

Group 2: Competency of nursing management and professional development consists of the following 10 specific competencies;

Group 3: Competency of practice - making legal policy and professional ethics is composed of the following 3 specific competencies;

Group 4: Competency of teaching, training, and scientific research consists of the following 10 specific competencies.

All of the above-mentioned competencies were surveyed based on training trends, proficiency levels, and training needs.

Data collection: The respondents autofilled the Survey form in the period time from August 20, 2021 to October 20, 2021; There were a total of 240 respondents,

Data analysis was performed using SPSS 20 software, of which statistic significance was $p < 0.05$ with confidence intervals of 95%.

RESULTS

1. General characteristics of the study subjects, their working environment, and colleagues

General characteristics:

Table 1: General characteristics of participants.

Characteristics		Value (n=240)
Gender	Male	48 (20%)
	Female	192 (80%)
Mean age ($\overline{X} \pm SD$)		35.9 ± 4.8 (27 - 49)
Duration of service (years)		12.8 ± 4.8 (4 - 33)
Duration of having master's degree in nursing ($\overline{X} \pm SD$)		3.3 ± 2.7 (1 - 14)
Workplace	Education institution	171 (71.3%)
	Non Education institution	69 (28.7%)

The number of female nurses was nearly 4 times higher than that of males, with a mean age of 35.9 ± 4.8 years (ranging, 27 - 49 years old). The years of experience among these study subjects was 12.8 ± 4.8 years (ranging from 4 to 33 years), the years of getting the master's degree in nursing was 1 - 14 years with a median of 3.3 ± 2.7 years.

There are 71.3% of the participants was working at universities and vocational schools (education institutions), which is three times higher than those who were working at non-educational institutions, including hospitals (central level, provincial level, district level, and international hospitals)

2. The necessity of competency groups

Table 2: Group of nursing professional competency (patient care practice).

Professional competency items (group 1)	Mean score (SD)			%	Difference between 2 places of work (Sig.)	Corrected item - Total correlation and Cronbach's alpha
	Place of work					
	Non Educational institution (n = 69)	Educational institution (n = 171)	Both (n = 240)			
Competency 1.01	4.48 (0.72)	4.48 (0.75)	4.48 (0.74)	91.7	0.990	0.633
Competency 1.02	4.64 (0.59)	4.51 (0.72)	4.55 (0.69)	92.1	0.190	0.710
Competency 1.03	4.58 (0.69)	4.49 (0.66)	4.52 (0.67)	91.7	0.357	0.796
Competency 1.04	4.58 (0.67)	4.49 (0.65)	4.52 (0.65)	92.9	0.343	0.806
Competency 1.05	4.51 (0.68)	4.47 (0.62)	4.48 (0.63)	93.3	0.711	0.763
Competency 1.06	4.45 (0.72)	4.29 (0.82)	4.34 (0.79)	87.1	0.168	0.734
Competency 1.07	4.65 (0.64)	4.47 (0.72)	4.52 (0.70)	90.8	0.075	0.787
Competency 1.08	4.55 (0.69)	4.43 (0.74)	4.46 (0.73)	91.7	0.236	0.789
Competency 1.09	4.54 (0.68)	4.46 (0.67)	4.48 (0.67)	92.5	0.404	0.787
Competency 1.10	4.59 (0.60)	4.46 (0.76)	4.49 (0.72)	90.4	0.180	0.822
Competency 1.11	4.59 (0.63)	4.50 (0.66)	4.53 (0.65)	92.1	0.360	0.819
Competency 1.12	4.41 (0.88)	4.40 (0.73)	4.40 (0.78)	89.6	0.984	0.671
Competency 1.13	4.46 (0.74)	4.42 (0.66)	4.43 (0.68)	91.7	0.661	0.796
Competency 1.14	4.51 (0.69)	4.43 (0.69)	4.45 (0.69)	91.3	0.450	0.788
Competency 1.15	4.49 (0.69)	4.52 (0.64)		92.9	0.767	0.795
Total	68.03 (8.21)	66.84 (8.40)	67.18 (8.35)	91.4	0.317	*0.959*

There was no statistically significant difference in the mean score of assessing the necessity of professional competency between the 2 groups of the educational institution and non-educational institution with $p > 0.05$. The passing rate achieved over 95% in 15/15 items (*Table 2*). 15/15 items witnessed a correlation coefficient greater than 0.3 and Cronbach's alpha of 0.959.

Table 3: Group of managing and developing professional competency.

Management competency items (group 2)	Mean score (SD)			%	Difference between 2 places of work (Sig.)	Corrected item - Total correlation and Cronbach's alpha
	Place of work					
	Non Educational institution (n = 69)	Educational institution (n = 171)	Both (n = 240)			
Competency 2.01	4.35 (0.76)	4.30 (0.79)	4.32 (0.79)	88.3	0.698	0.693
Competency 2.02	4.51 (0.66)	4.42 (0.68)	4.45 (0.67)	92.9	0.368	0.708
Competency 2.03	4.45 (0.72)	4.24 (0.84)	4.30 (0.81)	86.3	0.071	0.718
Competency 2.04	4.51 (0.72)*	4.25 (0.81)*	4.32 (0.79)	87.9	0.020	0.699
Competency 2.05	4.46 (0.68)	4.46 (0.65)	4.46 (0.66)	91.7	0.935	0.824
Competency 2.06	4.51 (0.61)	4.36 (0.71)	4.40 (0.68)	89.6	0.123	0.776
Competency 2.07	4.67 (0.59)	4.67 (0.55)	4.67 (0.56)	95.4	0.942	0.591
Competency 2.08	4.52 (0.66)	4.49 (0.65)	4.49 (0.65)	92.5	0.694	0.670
Competency 2.09	4.58 (0.63)	4.61 (0.61)	4.60 (0.61)	94.2	0.695	0.571
Competency 2.10	4.52 (0.58)	4.45 (0.66)	4.47 (0.64)	92.9	0.435	0.694
Total	45.07 (4.84)	44.25 (5.37)	44.48 (5.23)	91.2	0.268	0.917

A statistically significant difference in the mean score of assessing the necessity of the managing and developing professional competency between the 2 groups of the educational institution and non-educational institution was found in 01 out of 10 competencies (p < 0.05) the competency 2.04 (use health workforce - human, physical and financial resources for effective patient care). The overall passing rate achieved 91.2% (*table 3*). 10/10 items had a correlation coefficient greater than 0.3 and Cronbach's alpha of 0.917.

Table 4: Competency of practice - making policy and doing professional ethics.

Practice competency (group 3)	Mean score (SD)			%	Difference between 2 places of work (Sig.)	Corrected item - Total correlation and Cronbach's alpha
	Place of work					
	Non Educational institution (n = 69)	Educational institution (n = 171)	Both (n = 240)			
Competency 3.01	4.57 (0.65)	4.46 (0.71)	4.49 (0.69)	91.3	0.269	0.808
Competency 3.02	4.55 (0.69)	4.49 (0.72)	4.50 (0.71)	90.0	0.522	0.779
Competency 3.03	4.42 (0.72)	4.35 (0.73)	4.36 (0.73)	87.9	0.468	0.679
Total	13.54 (1.81)	13.29 (1.94)	13.36 (1.90)	89.7	0.358	0.871

There was no statistically significant difference in the mean score of assessing the necessity of practice competency between the 2 groups of the educational institution

and non-educational institution (p > 0.05). The overall passing rate achieved 89.7%. All three items had a correlation coefficient greater than 0.3 and Cronbach's alpha of 0.871.

Table 5: Competency of teaching, training, and researching.

Teaching, training, and researching competency (group 4)	Mean score (SD)			%	Difference between 2 places of work (Sig.)	Corrected item - Total correlation and Cronbach's alpha
	Workplace					
	Non Educational institution (n = 69)	Educational institution (n = 171)	Both (n = 240)			
Competency 4.01	4.49 (0.72)	4.43 (0.67)	4.45 (0.68)	91.7	0.500	0.706
Competency 4.02	4.43 (0.65)	4.36 (0.64)	4.38 (0.64)	92.1	0.432	0.754
Competency 4.03	4.53 (0.65)	4.51 (0.62)	4.52 (0.63)	93.8	0.759	0.781
Competency 4.04	4.57 (0.58)	4.49 (0.59)	4.51 (0.59)	95.8	0.346	0.769
Competency 4.05	4.55 (0.56)	4.44 (0.66)	4.47 (0.63)	93.3	0.215	0.747
Competency 4.06	4.49 (0.63)	4.47 (0.61)	4.46 (0.61)	93.8	0.776	0.773
Competency 4.07	4.61 (0.59)	4.58 (0.60)	4.58 (0.60)	95.0	0.729	0.765
Competency 4.08	4.61 (0.60)	4.64 (0.56)	4.63 (0.57)	95.4	0.672	0.743
Competency 4.09	4.55 (0.65)	4.56 (0.62)	4.56 (0.63)	92.5	0.906	0.754
Competency 4.10	4.52 (0.63)	4.47 (0.66)	4.48 (0.65)	92.1	0.564	0.784
Total	45.36 (5.11)	44.94 (5.03)	45.06 (5.05)	93.5	0.560	0.940

There was no statistically significant difference in the mean score of assessing the necessity of teaching, training, and scientific research competency between the 2 groups of the educational institution and non-educational institution (p > 0.05). The overall passing rate achieved 93.5%. All ten skills had a correlation coefficient greater than 0.3 and Cronbach's alpha of 0.940.

3. Degree of priority given to competency groups in the master's degree nursing training program
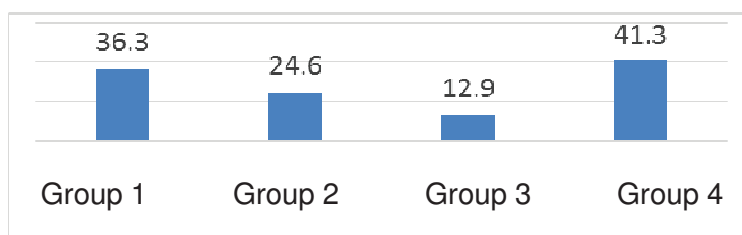
Chart 1: Group of competency needs to be trained in the master's degree nursing training program according to the degree of priority.

It can be seen from chart 2 that group 4 is given the top priority (41.3%), followed by group 1 (36.3%), group 2 (24.6%), and group 3 (12.9%).

DISCUSSION

1. General characteristics of the study subjects, their working environment, and colleagues at the workplace

From table 1, we can see that the number of female nurses was nearly 4 times higher than that of males with a mean age of 35.9 ± 4.8 years (ranging, 27 - 49 years old), which was also suitable for the findings of the needs to be trained in the master's in the specialized nursing program of the Nam Dinh University of Nursing and University of Medicine and Pharmacy during 2017 - 2018 [7] and suited with the current situation of students attending the bachelor's degree nursing training program, that is, the female students was ten times more than male students [3]. The years of experience among these study subjects were 12.8 ± 4.8 years, the years of getting the master's degree in nursing were 1 - 14 years with a median of 3.3 ± 2.7 years, with 5.8% of participants having over 8 years.

More than 70% answered that they were working at educational institutions, and around 80% of them had the job position requirements of lecturers and teachers of nursing training programs. This is in line with the job position requirements of lecturers and teachers of nursing training programs at university and college as regulated by the Ministry of Education and Training 2017 [4] and with the goal of developing nursing specialized master's degree training programs in order to provide lecturers-leveled nursing staff for training institutions with adequate skills and qualifications.

2. The necessity of skills among 4 groups of core competency in this study

* Group of nursing professional competency:

According to a 5-point Likert scale, the average score obtained from the respondents was 4.3 - 4.5; the passing rate over 85% was observed in 15 out of 15 competencies, with a high proportion of 90% in 13 competencies. The overall passing rate was 91.4%.

In terms of the participants' workplace, including educational institutions (universities, vocational schools, working as lecturers for nursing students) and non-educational institutions (hospitals and health centers), there were not many differences in mean score of assessment. This is very consistent with long-term learning requirements, knowledge improvement. Professional knowledge in the master's degree training program always accounts for a high part of the total volume of the whole course (about ¾ of the total volume), which provides advanced knowledge about professionals, and specialized knowledge.

* Group of managing and developing professional competency:

The necessity of management competency assessed by the masters of nursing in this study was demonstrated in a mean score of 4.3 - 4,6 on a 5-point Likert scale, of which the response of agreement achieved 86.3% - 94.2%, with an overall rate of 91.2%.

Generally, no difference was found in the assessment of necessity by 2 groups

working in educational institutions and hospitals or health centers. However, competency 2.04 (using health workforce (human, physical and financial resources) for taking care of patients appropriately) shows a higher score of assessment in a group working in hospitals or health centers than in educational institutions with statistical significance $p < 0.05$. With the reality of the job, the group working directly at hospitals, patient care facilities or as managers, closely attached to the task of taking care of patients compared to the group working in the educational institutions. However, as nursing human resource trainers and managers, it is also necessary for nurses working in educational institutions to understand this competency to be able to properly instruct and train the right content to nurses in the future.

* Group of practice competency - making policy and doing professional ethics:

The mean score of the necessity of practice competency assessed by the masters of nursing in this study was 4.0 - 4.6 on a 5-point Likert scale, of which the passing rate achieved 87%.

There was no statistically significant difference in an average score of necessity assessment between groups working at educational institutions and non-educational institutions ($p > 0.05$). In general, this is a new group of competencies, rarely implemented so far, except for practice competency (3.03) according to professional ethics standards. Although the lectures of working as medical practitioners under the provisions of the law are included in the curriculum content, they are mainly integrated in related lesson contents and are not yet included as a separate module, equipping legal understanding and law compliance. As a matter of fact, it is difficult to clarify law regulations, even for senior doctors and nurses.

* Group of competency of training, teaching, and scientific research:

According to a 5-point Likert scale, the average score was 4.38 - 4.63; a passing rate of over 90% was observed in all specific competencies.

This group of competencies was highly appreciated by the masters of nursing. This is quite suitable for our confirmation in another study on identifying some competencies that need to be trained in the previous master's degree nursing training program [4] and for the requirements of the standard master's degree program issued by the Ministry of Education and Training [9]. Vietnam Nurse Association confirmed: "nursing research is an integral part of medical research, which is an essential requirement in the development of the nursing profession; advances in nursing research will help nurses make scientific interventions and policies instead of subjective insights or unscientific habits; Therefore, nursing research will contribute to improving the effectiveness of health care for the people [6]. In terms of the workplace, there was no statistically significant difference in the mean score of assessing the teaching level, proficiency, and necessity between groups working at educational institutions and non-educational institutions.

All special competencies of each competency group had corrected item - Total correlation greater than 0.3 and Cronbach's alpha of 0.9, which obtained high internal consistency.

3. The degree of priority given to the groups of competencies in the master's degree program in nursing

According to the survey, the top priority was given to the group of teaching, training, and scientific research competency with 41.3% of respondents, followed by the nursing professional competency (36.3%), group of management - professional development competency (24.6%), and competency of practice - making legal policy and professional ethics (12.9%). This finding is suitable because three-fourths of the respondents are working in educational institutions. Therefore, the competency of teaching, training and scientific research needs much attention. Additionally, this competency group has the highest passing rate and is much applied to the nursing of both educational institutions and hospitals as well as health centers. The group of competencies 1, 2, and 4 has been included in the main 3 criteria of the standards for nursing [1]. For the group of competency (3) alone, although the degree of priority given to this group is not high, its content on law compliance (developing policies of nursing) and professional ethics has been included in every task of the nursing and nursing curriculum.

CONCLUSION

The average score of all four groups of competencies, including 38 specific skills evaluated by the masters of nursing, is relatively high (mean 4.0), and the agreement rate of all groups achieve over 89%;

- The specific abilities in four groups of competency are arranged appropriately, which acquired the high internal consistency (Cronbach's alpha of 0.87 to 0.94).

- The top priority is given to the competency of teaching, training, and scientific research, followed by the competency of nursing professionals, that of management - professional development. However, the least prioritized competency is practice - making legal policy and professional ethics.

The mentioned four groups of nursing competency are core competencies with a view to developing the masters' skills in nursing and learning outcomes standard of the MN programs in the future.

The arrangement of 38 specific skills should be added into learning outcomes standards of the master of nursing programs together with criteria for acquired skill measurement.

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