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RESEARCH ENGAGEMENT AMONG NURSES AT CAN THO UNIVERSITY OF MEDICINE AND PHARMACY HOSPITAL

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ABSTRACT

Background: *Nursing research plays a critical role in advancing clinical practice and improving the quality of patient care. Despite its importance, nurses' research engagement remains limited due to a range of barriers. Understanding the research engagement and related factors can help guide strategies to enhance research implementation among nurses.* ***Objectives:*** *To evaluate the research engagement among nurses at Can Tho University of Medicine and Pharmacy Hospital and to identify related factors.* ***Materials and methods:*** *A cross-sectional descriptive study was conducted on 119 nurses using an adapted version of the "Motivations and Barriers in Nursing Research" questionnaire. Data were collected through self-administered questionnaires and analyzed using SPSS version 20.0.* ***Results:*** *The overall level of research engagement was evaluated as high (3.58 ± 0.44). Motivation and opportunity were both evaluated highly (4.00 ± 0.50 and 3.65 ± 0.50, respectively), whereas capability was rated moderately (3.13 ± 0.70). Factors significantly related to research engagement included professional qualification, research training, and research experience.* ***Conclusions:*** *Although nurses reported high levels of motivation and opportunity for engaging in research, limited research capability remains a key barrier. Enhancing educational preparation and institutional support is essential to fostering sustained and meaningful research engagement among nurses.*

Keywords: *Research engagement, nursing research, motivation, capability, opportunity.*

I. INTRODUCTION

Scientific research is becoming increasingly important in the healthcare sector, including the nursing profession. Nursing research provides the evidence base needed to inform clinical practice, expand professional knowledge, and support the development of policies aimed at improving the quality of care. While some studies have shown that nurses hold positive attitudes toward research, others suggest that many nurses are unaware of its significance and do not view scientific research as part of their professional responsibilities [1], [2]. Although awareness of the value of research is growing, actual participation among nurses remains limited [2], [3].

According to the COM-B model (Capability, Opportunity, Motivation – Behavior), behavior is determined by three interacting components: capability, motivation, and opportunity [4]. Based on this model, Cocson developed the "Motivations and Barriers in Nursing Research" questionnaire to assess these three dimensions among nurses [5]. This tool was adapted from the original "Barriers to Research Utilization" questionnaire created by Funk et al. [6].

This study aimed to evaluate the level of research engagement among nurses at Can Tho University of Medicine and Pharmacy Hospital (CTUMP Hospital) and to identify

related factors. The findings from this study provide a valuable foundation for proposing strategies to enhance nursing research activities.

II. MATERIALS AND METHODS

2.1. Participants

The study population included all nurses working at CTUMP Hospital.

- Inclusion criteria: Nurses with an official employment contract at the hospital.

- Exclusion criteria: Nurses who were not engaged in clinical or managerial roles, did not possess a valid practicing license, or were on temporary leave were excluded from the study.

2.2. Methods

- Study design: A cross-sectional descriptive study.

- Sample size and sampling: A total population sampling approach was employed using the list of nurses provided by the hospital's Nursing Department. The research team conducted a survey across all departments, including nurses involved in clinical care or management. A total of 129 questionnaires were distributed, and 119 valid responses were received, resulting in a response rate of 92.2%.

- Contents of the study:

Research engagement of nurses

Research engagement among nurses was assessed using the "Motivations and Barriers in Nursing Research" questionnaire, developed by Cocson. Originally designed for use among nursing professionals, this instrument demonstrated strong internal consistency, with a reported Cronbach's alpha coefficient of 0.94. The original version consists of 29 items covering three dimensions: capability, motivation, and opportunity [6].

To adapt the instrument for use in this study, we followed the cross-cultural translation and validation guidelines recommended by Sousa and Rojjanasrirat [7], which include six phases. The final Vietnamese version of the questionnaire comprised 22 items and demonstrated high internal consistency, with a Cronbach's alpha of 0.94.

Research engagement was evaluated across three dimensions, consistent with the original instrument: capability (7 items), motivation (6 items), and opportunity (9 items). A 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to assess engagement through a self-assessment questionnaire.

Factors related to research engagement

This study examined the relationship between research engagement and several factors, including professional qualifications, work position, research experience, and prior research training.

- Data collection and analysis:

Data collection: Using a self-administered questionnaire, participating nurses completed a survey to assess their research engagement.

Data analysis: Data were analyzed using SPSS version 20.0. Descriptive statistics, including frequency, proportion, mean, and standard deviation, were used to summarize the characteristics of the participants and their research engagement. Research engagement scores were classified into five categories: Very low (1.00–1.80), Low (1.81–2.61), Moderate (2.62–3.42), High (3.43–4.23), and Very high (>4.23). Associations between

research engagement and related factors were examined using the Mann-Whitney U test and the Kruskal-Wallis test.

- Ethics approval: The study received ethical approval from the Ethics Committee in Biomedical Research at the University of Medicine and Pharmacy, under approval number 22.035.GV/PCT-HDDD, dated November 30, 2022.

III. RESULTS

The study included 119 nurses, of whom 90 (75.6%) were female and 29 (24.4%) were male. Regarding educational qualifications, 47 (39.5%) held a baccalaureate degree, 41 (34.5%) an associate degree, 22 (18.5%) a diploma, and 9 (7.5%) a postgraduate degree. The results are as follows:

3.1. Research engagement among nurses

Table 1. Research engagement among nurses

	N	Min	Max	Mean	S.D
Capability	119	1.43	5.00	3.13	0.70
Motivation	119	1.00	5.00	4.00	0.50
Opportunity	119	1.78	4.78	3.65	0.50
Research engagement	119	1.77	4.91	3.58	0.44

Research engagement was evaluated at a high level (3.58/5). Among its components, motivation and opportunity were rated high, with mean scores of 4.00 and 3.65, respectively, while capability was rated moderate, with a mean score of 3.13.

Table 2. Classification of research engagement among nurses

Levels	Opportunity		Capability		Motivation		Research engagement	
	N	%	N	%	N	%	N	%
Very low	1	0.8	2	1.7	1	0.8	1	0.8
Low	2	1.7	26	21.8	0	0	1	0.8
Moderate	23	19.3	56	47.1	7	5.9	33	27.7
High	86	72.3	27	22.7	89	74.8	78	65.5
Very high	7	5.9	8	6.7	22	18.5	6	5.0
Total	119	100	119	100	119	100	119	100

The majority of nurses evaluated their research engagement as high (65.5%). Among dimensions of research engagement, research capability was evaluated lowest by nurses, with 21.8% of nurses rating their research capability as low, and 1.7% of nurses rating their research capability as very low.

3.2. Related factors of research engagement

Table 3. Research engagement, work position and professional qualification

	Professional qualification				Work position			
		N	Mean Rank	$p^{(*)}$		N	Mean Rank	$p^{(*)}$
Opportunity	Diploma/ associate	63	59.18	0.727	Head nurse	13	63.73	0.598
	Baccalaureate/ postgraduate	55	60.92		Staff nurse	106	59.54	

	Professional qualification				Work position			
		N	Mean Rank	$p^{(*)}$		N	Mean Rank	$p^{(*)}$
Capability	Diploma/ associate	63	40.90	<0.001	Head nurse	13	90.75	<0.001
	Baccalaureate/ postgraduate	55	75.94		Staff nurse	106	53.59	
Motivation	Diploma/ associate	63	57.94	0.362	Head nurse	13	65.81	
	Baccalaureate/ postgraduate	55	62.32		Staff nurse	106	59.29	
Research engagement	Diploma/ associate	63	52.59	0.003	Head nurse	13	76.69	0.396
	Baccalaureate/ postgraduate	55	68.34		Staff nurse	106	57.95	

(*) Mann-Whitney U

Nurses with different educational levels showed significant differences in research capability ($p < 0.001$) and overall research engagement ($p = 0.003$). Additionally, while differences in capability were observed between head nurses and staff nurses, no significant differences were found in opportunities, motivation, or overall research engagement between these two groups.

Table 4. Research engagement in relation to research training and experience

	Research training				Research participation				Research leader experience			
		N (119)	Mean Rank	$p^{(*)}$		N	Mean Rank	$p^{(*)}$		N	Mean Rank	$p^{(*)}$
Opportunity	No	64	61.95	0.497	No	64	58.43	0.585	No	106	58.25	0.108
	Yes	55	57.73		Yes	55	61.83		Yes	13	74.23	
Capability	No	64	51.53	0.004	No	64	48.38	<0.001	No	106	54.51	<0.001
	Yes	55	69.85		Yes	55	73.53		Yes	13	104.73	
Motivation	No	64	55.27	0.086	No	64	56.48	0.201	No	106	56.99	0.004
	Yes	55	65.50		Yes	55	64.10		Yes	13	84.54	
Research engagement	No	64	53.69	0.031	No	64	51.91	0.006	No	106	55.12	<0.001
	Yes	55	67.35		Yes	55	69.41		Yes	13	99.77	
(*) Mann-Whitney U												

There was a statistically significant difference in research engagement (p = 0.031) and research capability (p = 0.004) between nurses who had received training in scientific research and those who had not. Research experience was significantly related to both capability (p < 0.001) and research engagement (p = 0.006). Furthermore, experience as a research leader was significantly related to capability (p < 0.001), motivation (p = 0.004), and overall research engagement (p < 0.001).

IV. DISCUSSION

4.1. Research engagement among nurses

Overall, nurses reported high levels of motivation and opportunity to participate in research, but their research capability was only moderate. Notably, a significant proportion of nurses evaluated their research capability as low (21.8%) or very low (1.7%). Despite a

relatively high participation rate in research projects (46.2%), only 13.9% of nurses took on the role of project leader, likely due to limited research capability. The proportion of participation and leadership in research projects in our study were higher than those reported by Nguyen Thi Thuy et al. (2020), where 25.7% of nurses participated and only 2% led or served as secretaries of research projects [3]. The role of project leader demands high responsibility and requires nurses to have sufficient capability to successfully complete research. Tran Thi My Tuyet and Nguyen Hoang My Thuyen identified limited research capability as one of six major barriers to scientific research activities among nurses [8]. Similarly, Nkrumah et al. highlighted that nurses' perceived lack of knowledge to develop research proposals and conduct research is a primary barrier to their participation in clinical research [2]. Therefore, targeted interventions to improve nurses' research capability - particularly focusing on enhancing knowledge and practical skills in scientific research - are urgently needed.

In the COM-B model, motivation is identified as a core factor influencing behavior [4]. Tran Thi My Tuyet and Nguyen Hoang My Thuyen suggested that research motivation is hindered by barriers related to management and organizational culture, which may cause researchers to fear presenting or reporting their research proposals due to concerns about being judged unfairly [8]. Similarly, Nkrumah et al. found that nurses' research motivation is limited because many do not view scientific research as part of their professional role and have insufficient awareness of research tasks and the benefits of research for clinical practice [2]. Moreno-Casbas et al. also highlighted that nurses lack motivation to engage in research because they often lack the authority to implement research findings into practice [1]. Therefore, to enhance nurses' motivation to conduct research, it is essential to address factors such as increasing awareness of the importance of research in nursing practice, establishing clear regulations and policies regarding nurses' research responsibilities, and reducing external barriers that negatively impact motivation.

In addition to capability and motivation, opportunity is another key factor influencing nurses' behavior according to the COM-B model. Our study found that nurses rated their opportunity to participate in research at the hospital as high or very high (72.3% and 5.9%, respectively). This finding highlights a significant strength of the research environment at CTUMP Hospital, reflecting favorable conditions for nurses to engage in research activities. Professional workloads, limited time, and insufficient funding have been identified as significant barriers limiting nurses' opportunities to participate in research [2], [10]. Providing nurses with opportunities to observe and actively participate in research not only enhances their capability but also increases their motivation to engage in future research projects.

4.2. Factors related to research engagement

Our study revealed a significant relationship between nurses' professional qualifications and their research engagement, primarily linked to their research capability. Research capability was also related to professional position (Table 3). Nurses with higher educational qualifications demonstrated greater research engagement [2], [3]. Additionally, our study found differences in research capability between nurses who had studied scientific research and those who had not. Consistent with these findings, Asuquo et al. reported that educational background influences nurses' knowledge and attitudes toward research [9].

This study found a relationship between research engagement and research experience ($p < 0.001$). According to Asuquo et al., nurses who lack research experience often do not have the opportunity to participate in large studies [9]. Therefore, research

experience needs to be accumulated from basic activities such as participating in small studies, thereby gradually improving research capability, increasing the opportunity to participate in larger studies, and having more opportunities to learn and collaborate. Lack of research experience is a common problem for many nurses, not only because nurses lack the opportunity to participate in research, but also because of a cultural problem with a mentality of being afraid to propose research topics, especially intervention studies because they often have difficulty in finding approval to conduct these studies and are easily discouraged when initiating further studies [10].

V. CONCLUSION

Nurses at CTUMP Hospital demonstrate a high level of research engagement, particularly in motivation and opportunities to participate in research. However, research capability remains a significant barrier. Therefore, systematic training programs focusing on enhancing nurses' research skills are urgently needed. Simultaneously, nursing managers should support research engagement by allocating more time and implementing policies that promote nurses' participation in research, ultimately contributing to improving the quality of patient care.

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