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Original Research

CURRENT STATUS OF NURSING SCIENTIFIC RESEARCH AT THONG NHAT HOSPITAL IN THE PERIOD 2021-2023

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ABSTRACT: To describe the current situation and analyze some factors affecting participation in scientific research of nurses at Thong Nhat Hospital in the period 2021-2023. A cross-sectional descriptive study was conducted on 335 nurses in clinical departments and in-depth interviews with Hospital Leaders, Department/Office Leaders, Department Head Nurses and nurses. The rate of nurses participating in scientific research is 25.37% (n=85). Of the 85 nurses participating in research, the rate of participation in 2 or more topics is 45.88%. Nurses are project leaders in 16.4%. Scientific research activities of nurses are mainly data collection (85.9%), accounting for the highest rate compared to other activities. The number of scientific articles with the participation of nurses is low, accounting for 13.46% (21/156 articles in 3 years). Factors affecting nurses' participation in scientific research: professional qualifications, work position, knowledge, attitude, skills in scientific research, scientific research training activities participated. The proportion of nurses participating in scientific research is low, and their main activity is data collection. Professional qualifications, working position, knowledge, attitude, and skills in scientific research, funding, the role of hospital leaders/department leaders, reward policies for science and technology, and annual competition review activities are factors that influence nurses' participation in scientific research.

Keywords: Scientific research; nurses

1. INTRODUCTION

Evidence-based medical practice is becoming increasingly important and modern worldwide. Nurses, with the advantage of being the first and closest point of contact with patients, can always identify issues directly affecting patients. Therefore, participation in scientific research (SR) is a necessary skill helping nurses learn and master knowledge and techniques in healthcare to enhance patient recovery. Evidence-Based Practice (EBP) involves selecting the best available results combined with clinical experience [1]. Globally, in China, the rate of nurses participating in SR activities is only 7.9% (nurses leading projects account for 4.1%), in Ghana it is 36.1% (project leaders 1.9%) [2], and in Nigeria it is 25.9% (project leaders 9.2%) [3].

In Vietnam, scientific research is also one of the standards stipulated in the basic competency framework for Vietnamese nurses issued by the Ministry of Health. Currently, there are not many studies on the status of nursing scientific research. A study by Nguyen Thi Thuy conducted at Vietnam-Sweden Uong Bi Hospital in the period 2015-2019 showed a low rate of nurses participating as principal investigators (11.60%) [4]. To explore this issue, we conducted the study "Describe the current status of scientific research by nurses at Thong Nhat Hospital in the period 2021-2023 and some influencing factors" with the following 2 objectives:

1. Describe the current status of scientific research by nurses at Thong Nhat Hospital in the period 2021-2023.

2. Analyze some factors affecting the current status of scientific research by nurses.

2. SUBJECTS AND RESEARCH METHODS

2.1. Research Subjects:

Quantitative research: Nurses in clinical departments, with ≥ 1 year of work experience.

Qualitative research: Hospital Leaders, Head of Nursing Department, Training Department; Heads/Deputy Heads of clinical departments, and nurses.

Exclusion criteria: Subjects not consenting to participate, on maternity leave, studying, or with less than 1 year of service.

2.2. Research Design:

Cross-sectional descriptive study combining qualitative and quantitative methods.

2.3. Sample Size:

Quantitative method: Convenience sampling including all nurses in clinical departments with >1 year of service (n=335).

Qualitative method: Purposive sampling for in-depth interviews: Hospital Leaders; Department/Office Leaders, Department Head Nurses, and nurses from clinical departments.

2.4. Research Variables:.

Quantitative Variables: General information about research subjects.

Qualitative Variables: Number of scientific research projects involving nurses per year. Proportion of projects where nurses are principal investigators. Proportion of projects where nurses are members. Proportion of domestic/ international scientific articles involving nurses.

Factors related to nurses' participation in SR: Relationship between personal factors and SR participation (age, gender, qualifications, work experience, knowledge-attitude-skills in SR). Relationship between SR training activities and SR participation (training format, number, duration of courses, course content, nurses› evaluation of courses). Relationship between workload, work position, and SR participation.

2.5. Procedures:

Quantitative data collection: Researchers created an online questionnaire via Google Form and sent the link to Head Nurses and Staff Nurses.

Qualitative data collection: Conducted in-depth interviews via phone or face-to-face (recorded) using specific question sets for each target group.

2.6. Research Tools, Data Collection:

Questionnaires and in-depth interview guides were developed based on references from Nguyen Thi Thuy [4].

2.7. Data Analysis Methods:

Quantitative data processing: Data was cleaned, entered into EpiData 3.1, and analyzed using SPSS 20.0 for descriptive statistics.

Qualitative data processing: Recorded interviews were transcribed, coded, analyzed by theme, and representative opinions were selected for illustrative quotes.

Multivariate Logistic Regression was performed (including dependent variable, independent variables, categorical variables, continuous variables) to determine influencing factors and analyze their relationship to nurses' SR participation.

3. RESULTS

3.1. General Characteristics of Research Subjects

Table 1. General Information of Research Subjects (n=335)

General Information	Number	Percentage (%)
Age Group		
< 30 years	37	11.04
30-45 years	252	75.22
> 45 years	46	13.74
Gender		
Male	44	13.13
Female	291	86.87
Professional Qualification		
Intermediate Diploma	34	10.15
College Diploma	97	28.96
University Degree	194	57.91
Postgraduate Degree	10	2.99
Work Experience		
< 10 years	85	25.37
10-20 years	186	55.52
> 20 years	64	19.10
Work Position in Department		
Management	12	3.58
Administrative	25	7.46
Patient Care	298	88.96

The research subjects were predominantly aged 30-45, primarily involved in patient care (75.22%). Females constituted the majority (86.87%). Work experience was mainly 10-20 years. Most subjects held a university degree (57.91%).

Table 2. Current Status of Nurses' Participation in Scientific Research (2021-2023)

Content	Total (n %) / Details (n=85)
Participated in SR	
Yes	85 (25.37%)
No	250 (74.63%)
Number of Projects Participated In (n=85)	
1 project	46 (54.12%)
≥ 2 projects	39 (45.88%)
Role of Nurse in SR Project (n=85)	
Principal Investigator	14 (16.47%)
Secretary	0 (0.00%)
Member	77 (90.59%)
Level of Projects Nurses Participated In	
Hospital/Institutional Level	85 (25.37%)*
Provincial/Ministerial Level	1 (0.30%)*
National Level	1 (0.30%)*
Activity of Nurse in SR Project (Multiple responses possible)	
Discussing & selecting research questions	29 (31.52%)
Searching & reviewing literature	20 (21.74%)
Selecting research design	20 (21.74%)
Selecting data collection methods	24 (26.09%)
Calculating sample size & sampling method	14 (15.22%)
Writing research proposal	22 (23.91%)
Conducting pilot study	10 (10.87%)
Data collection	79 (85.87%)
Data analysis	15 (16.30%)
Writing article/report	18 (19.57%)

Note: Percentages for project level are calculated based on total nurses (n=335).

The rate of nurses participating in scientific research was 25.37%. Among the 85 participating nurses, 13.73% participated in 1 project, and 11.64% participated in ≥2 projects. The rate of nurses being principal investigators was 16.47%, while research members accounted for 90.59%. The rate of nurses participating in hospital/institutional level projects was 25.37%, provincial/ministerial level was 0.30%, and national level was 0.30%. The main activity was data collection, accounting for 85.87%.

3.2. Factors Related to Nurses' Participation in Scientific Research

The results show that professional qualifications and work position are factors affecting nurses' participation in scientific research. The difference is statistically significant with $p<0.001$. Other characteristics such as gender, marital status, number of children, age group, and years of work experience showed no association or influence on the participation rate in scientific research ($p>0.05$).

Table 3. Some Factors Related to Nurses' Participation in Scientific Research

Characteristic	Participated in SR (n=85) n (%)	Did Not Participate (n=250) n (%)	p-value	OR (95% CI)
Age Group:				
< 30 years	6 (7.06%)	31 (12.40%)	0.175	0.54 (0.18-1.37)
≥ 30 years	79 (92.94%)	219 (87.60%)	(Ref)	1
Gender				
Male	13 (15.29%)	33 (13.20%)	0.628	1.19 (0.54-2.47)
Female	72 (84.71%)	217 (86.80%)	(Ref)	1
Marital Status				
Single	11 (12.94%)	34 (13.60%)	0.876	0.97 (0.47-2.00)
Married	71 (83.53%)	207 (82.80%)	(Ref)	1
Divorced/Widowed	3 (3.53%)	9 (3.60%)	0.968	1.03 (0.24-4.49)
Professional Qualification				
Intermediate Diploma	1 (1.18%)	33 (13.20%)	0.088	1 (Ref)
College Diploma	15 (17.65%)	82 (32.80%)	0.009	6.04 (0.77-47.57)
University Degree	60 (70.59%)	134 (53.60%)	<0.001	14.78 (1.94-108.75)
Postgraduate Degree	9 (10.59%)	1 (0.40%)	<0.001	297 (16.87-5228.39)
Work Experience				
< 10 years	16 (18.82%)	69 (27.60%)	0.154	1 (Ref)
10 -20 years	50 (58.82%)	136 (54.40%)	0.122	1.57 (0.84-2.99)
> 20 years	19 (22.35%)	45 (18.00%)		1.82 (0.91-3.11)
Work Position				
Administrative (n=25)	8 (32.00%)	17 (68.00%)	0.246	1.69 (0.69-4.08)
Patient Care (n=298)	65 (21.81%)	233 (78.19%)	(Ref)	1
Management (n=12)	11 (91.67%)	1 (8.33%)	<0.001	39.43 (5.0-311.0)

4. DISCUSSION

4.1. Current Status of Nurses' Participation in Scientific Research (2021-2023)

The survey of 335 nurses in clinical departments showed that the rate of nurses participating in scientific research was 25.37%. This figure is consistent with a study by Asuquo Ekaete in Nigeria (25.0%) [4] but lower than studies by Pham Thi Oanh at Thai Nguyen Central Hospital (61.1%) [1], Nguyen Thi Ngoc Minh in two hospitals in Central Vietnam (64.2%) [5], and Isaac Nkrumah in Ghana (36.1%) [2]. Among the 85 nurses participating in SR, 46 (54.12%) participated in 1 project, and

39 (45.88%) participated in ≥2 projects. This result aligns with Nguyen Thi Ngoc Minh's study with rates of 50.5% and 41.5% respectively [5]. In Vietnam and some developing countries, the role of nurses in research teams is primarily as members. In our study, among 85 nurses, members accounted for 77 (90.59%), while principal investigators/secretaries accounted for 14 (16.47%). This figure is higher than Isaac Nkrumah's study in Ghana (principal investigators/secretaries 1.9%) [2] and a study in Nigeria (9.2%) [4], but lower than Kuuppelomaki M's study in Finland (60%) [6]. As principal investigators/secretaries, nurses are more proactive in activities such as literature review, research design, research implementation, knowledge generation, and creating new evidence to improve service quality.

The most common activity nurses participated in was data collection. In our study, the proportion of nurses collecting data was 79 (85.87%), significantly higher than studies by Doan Thi Ngan (21.7%) [7] and Rizzuto C (36.7%) [8]. However, activities like writing proposals 22 (23.91%), data analysis (16.30%), and report writing (19.57%) in this study were higher than Doan Thi Ngan's study (19.1%, 2.4%, 10.3% vs. 4.8%, 13.9%, 9.3%) [7]. This indicates progress and more positive engagement in scientific research activities by nurses during 2021-2023.

4.2. Some Factors Related to Nurses' Participation in SR

Our results show that professional qualifications and work position influence nurses' participation in scientific research, with statistically significant differences ($p<0.001$).

The participation rate in SR among university-educated nurses 60 (70.59%) was 4 times higher than the college diploma group 15 (17.65%) and 6 times higher than the intermediate diploma group. This result aligns with Nkrumah Isaac's study, where rates for college and university-educated nurses were 25% and 50.8% respectively [2]. The group of nurses in management positions had a significantly higher participation rate in scientific research (91.67%) compared to the patient care and administrative groups. Studies by Rizzuto C [8] and Wu Xue [9] reported similar findings.

5. CONCLUSION

During the period 2021-2023, the rate of nurses participating in scientific research was low. Nurses participated in implementing 49 projects, accounting for 11.03% of the hospital's total projects. The main scientific research activity of nurses was data collection, accounting for the highest proportion (85.87%) compared to other activities. The number of scientific articles with nurse participation was low, accounting for 13.46% (21/156 articles in 3 years). The majority were hospital/institutional level projects (25.37%), provincial/ministerial level (0.29%), and national level (0.29%). Projects led by nurses as principal investigators accounted for 16.47%.

Professional qualifications and work position significantly influenced nurses' participation in scientific research ($p<0.001$) and are related factors. The participation rate in SR was higher among university-educated nurses compared to college and intermediate diploma holders. Nurses in management positions had a significantly higher participation rate than those in patient care and administrative roles, consistent with their management responsibilities. Attitude, skills in scientific research, funding, the role of hospital/department leaders, reward policies for science and technology, and annual emulation review activities are factors influencing nurses' participation in scientific research.

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