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NURSING STUDENT ATTITUDES AND BARRIERS TOWARD RESEARCH IN THE CONTEXT OF EDUCATION: A CROSS-SECTIONAL STUDY IN HO CHI MINH CITY

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Abstract

Nurses' attitudes toward research have been extensively studied, but limited data exists on the attitudes and barriers faced by nursing students. Understanding these factors is crucial, as positive attitudes toward research can inspire students to engage in research activities, enhance their skills, and apply evidence-based findings in clinical practice to improve patient outcomes.This study aimed to explore the attitudes, barriers, and influencing factors related to research among nursing students at Nguyen Tat Thanh University, Ho Chi Minh City. A cross-sectional study involving 520 nursing students was conducted between December 2023 and September 2024. Data were collected through a self-administered questionnaire, incorporating the Attitudes Toward Research (ATR) scale and a barriers-to-research scale. Statistical analyses included Chi-square/Fisher's exact tests and logistic regression.The study found that 63.7% of nursing students exhibited a positive attitude toward research, while 36.3% displayed poor attitudes. The overall mean

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attitude score was 4.74 ± 0.87. Students with B and C grades in research courses had significantly better attitudes toward research, with odds ratios of 2.54 (95% CI: 1.30-4.96) and 2.68 (95% CI: 1.07-2.54), respectively. The primary barriers identified were personal reasons (mean = 3.65± 0.68), lack of university policy support (mean = 3.37± 0.81), and insufficient mentorship and curriculum support (mean = 3.17 ± 0.75). Most nursing students demonstrated positive attitudes toward research, though significant barriers remain. Universities should foster a research-positive culture by encouraging student participation in research activities, enhancing mentorship, and making a bachelor's thesis a graduation requirement. These initiatives can empower future nurses to embrace evidence-based practice and contribute meaningfully to patient care.

1. INTRODUCTION

Research methods courses are essential components of most social science degree programs. For students preparing for careers in social sciences and human services that depend on research-informed practice, mastering research methods and cultivating information literacy skills are crucial. Moreover, nursing is the largest profession in healthcare and has a major impact on the quality of care provided. Unfortunately, research by Tarek Turk et al. (2018) shows that nursing students do not always have the opportunity to participate in a research project during medical school. This missed opportunity could impact their grasp of the significance of research and their future ability to independently carry out research projects.1 Identifying the factors that shape students' attitudes towards a research methods course could have significant theoretical and practical implications. So, it is necessary to educate nursing students in the development of capable, proficient supports of research. In addition to the lack of sufficient training and mentorship, nursing students face time shortages due to burdensome educational tasks and overwhelming working hours of every undergraduate nursing. Furthermore, a better understanding of these conditions would support ongoing efforts to recognize the importance and benefits of research for enhancing patient care, especially when students engage in research activities during their academic pursuits.2 Therefore, the study aimed to capture their attitudes and perceived barriers toward research in Ho Chi Minh City.

2. SUBJECTS AND RESEARCH METHODS

Study design and study location, time of implementation

Cross-sectional study using convenience sampling was conducted in December 2023 at university in Ho Chi Minh City. The formula for calculating sample

size is as follows.

$$n = Z^2_{1-\alpha/2} \times \frac{p(1-p)}{d^2}$$

where n = the desired sample size from a large population size.

α: level of significance, choose α= 0.05. Two-tailed Z-score confidence level (1.96).

p = Population proportion (0.60). Sample size was calculated according to a study done at Sweden by Monica E. Bjeorkstreom.

d = Absolude error (0.05).

Consequently, the study surveyed 520 nursing students who met the sampling criteria.).

Materials and data analyze

The questionnaire comprised three parts: (1) demographic items, (2) the nursing students' attitudes towards research, and (3) questions about "barriers activities". The self-reporting questionnaire was built based on research conducted by Papanastasiou in Cyprus (2021) and includes 32 items of questions regarding research. Participants were required to complete a self-administered questionnaire that included socio-demographic characteristics, including gender, year of study, training, and experience toward research. Attitudes with research courses were measured by a Attitudes Toward Research (ATR) scale constructed by Papanastasiou et al., which was proved to be suitable for Vietnamese nurses. ATR is a 7-point Likert-type scale ranging from "1", which means strongly disagree to "7", which means the highest level of agreement. ATR is composed of 32 items that were loaded on five factors (subscales) with Cronbach's alpha of 0.947. The question framework consists of questions in multiple choice questions format, such as *Research makes me anxious", "Research is a complex subject"*, etc...The average attitudes score was categorized as good if the score was greater than 4.43 points and poor if the score was less than 4.43 points.[4,5] To determine the barriers toward research, participants were asked to fill out a scale, has 13 items; each item on the scale may be scored using a 5-point Likert format (from strongly disagree (1) to strongly agree (5) were included)[6] Google Forms platform, an online software for data collection questionnaires, was used to distribute questionnaires.

Collected data is classified and processed using Epidata 3.1 software. Chi-square/Fisher's exact test was used in the study to examine the relationship between attitudes about research and the characteristics of students participating in the study. A $p < 0.05$ was statistically significant.

Research Ethics

This research was conducted with the informed consent of all participants. Participants' personal information is kept confidential.

3. RESULTS

Table 1. Demographic characteristics of the respondents (N=520)

Independent variables	Categories	Frequency (n)	Percentage (%)
Gender	Male	72	13.8
	Female	448	86.2
Year of study	Junior (3rd)	263	50.6
	Final year (4th)	257	49.4
Marks obtained in research course (N = 318)	A	43	13.5
	B	168	52.8
	C	103	32.4
	D	4	1.3
Understand the school's policies regarding students' research activities	Yes	300	57.7
	No	220	42.3
Have ever approached activities related to scientific research	Yes	305	58.7
	No	215	41.3

Table 1 describes data about the characteristics of 520 nursing students participating in the study. Most of the respondents (448 students) in this study were female (86.2%). Data indicated that 52.8% of them had B marks obtained in research courses, and about 58.7% of participants mentioned that they had ever approached activities related to scientific research (305 students).

Table 2 presents the characteristics of attitudes and barriers of nursing students. The overall mean of attitude towards research was 4.74 (SD=0.87). The most common type of barriers to research perceived by nursing students were barriers from personal reasons (mean=3.65, SD=0.68) followed by lack of university policy support (mean=3.37, SD=0.81), then lack of mentorship and curriculums (mean=3.17, SD=0.75).

Year of study, final score of the research course, method graduate, and training period at the hospital were the groups with statistically related attitudes regarding scientific research (p ¡ 0.01).

In the logistic regression model, only variables such as marks obtained in research courses (B and C) were significantly associated at p-value < 0.05

Table 2. Vietnamese students' attitude and barriers towards nursing research ((N = 520)

Sub-scales	Factors	Mean	SD	Ranked
Attitude towards nursing research	Research usefulness (F1)	4.99	1.10	1
	Research anxiety (F2)	4.60	1.00	4
	Positive attitudes (F3)	4.67	1,03	3
	Relevance to life (F4)	4.51	0.99	5
	Difficulty of research (F5)	4.93	1,21	2
	Overall mean attitude towards research	4.74	0.87	
Barriers of research	From persional reason	3.65	0.68	1
	Lack for mentorship, curriculums	3.17	0.75	3
	Lack of university policy support	3.37	0.81	2
	Overall mean barriers towards research	3.39	0.61	

4. DISCUSSIONS

Socio-demographic characteristics of nursing students

In this analysis, a total of 520 subjects participated in this study, of which 263 were 3rd-year students and 49.4% were in their final years studying bachelor-level nursing programs in Vietnam. The majority of participants (86.2%) were females. Due to similarities in the concept of nursing, the nursing profession is often mainly for women, thereby creating a significant gap in the gender characteristics of students studying nursing. Currently, there is still a number of male students studying. Nursing increases each year due to students' needs, trends, personalities, etc.

Attitudes toward research and perceived barriers of nursing students

The study showed that the average attitude score was 4.74±0.87. This finding is higher than a study conducted by Al.Nashmy et al. in the Kingdom of Saudi Arabia. They found a moderately positive attitude toward research with a mean score of 4.4 ± 1.1 out of a total of 6. Generally, the attitudes of the health science students were mostly positive about scientific research. Nursing students' good level of attitude regarding research, with an overall average of 63.7%. In our study, the mean value with barriers towards research is 3.39 and SD 0.61. In particular, the barrier is for individuals with the highest scores.

Regarding method graduates, nursing undergraduates who received education related to health research scored higher, confirming that a well-developed

Table 3. Associated factors related to attitudes regarding scientific research among nursing undergraduates

Characteristics		Attitudes				p-value*
		Good (N=331)		Poor (N=189)		
		n	%	n	%	
Gender	Male	42	58.3	30	41.7	0.312
	Female	289	64.5	159	35.5	
Year of study	Junior (3rd)	180	68.4	83	31.6	**0.022**
	Final year (4th)	151	58.8	106	41.2	
Final score of the research course	A	21	48.8	22	51.2	**0.015**
	B	100	59.5	68	40.5	
	C	66	64.1	37	35.9	
	D	1	25.0	3	75.0	
Improve skills in future	Yes	193	68.9	87	31.1	**0.007**
	No	138	57.5	102	42.5	
Method graduate	Did not write thesis	272	60.6	177	39.4	**< 0.001**
	Wrote thesis	59	83.1	12	16.9	
Understand the school's policies regarding students' scientific research activities	Yes	100	33.3	200	66.7	0.095
	No	89	40.5	131	59.5	
Clinical training period at the hospital	Over 12 weeks	168	60.2	111	39.8	**0.023**
	4-12 weeks	148	67.6	71	32.4	
	< 4 weeks	14	82.4	3	17.6	
	None	1	20.0	4	80.0	

Table 4. Logistic regression analysis of association between individual factors regarding attitude towards scientific research

Profile variable		OR	95% CI	p-value*
Marks obtained in research course	A	*Reference*		
	B	2.54	1.30 – 4.96	**0.006**
	C	1.65	1.07 – 2.54	**0.023**
	D	1.36	0.82 – 2.25	0.233
Clinical training period at the hospital	Over 12 weeks	*Reference*		
	4-12 weeks	6.05	0.67 – 54.88	0.109
	< 4 weeks	0.32	0.09 – 1.16	0.082
	None	0.73	0.50 – 1.05	0.091

curriculum could improve attitude (p ¡ 0.05). In terms of prior knowledge, attendance at a course on research methodology has a positive effect on students' attitudes toward science. Previous studies indicated that nurses level of education was associated with their attitudes towards scientific research. There was a difference in the attitude score between the third-year and senior-year nursing students ($p < 0.05$). The study by Khan et al. demonstrated that students' attitudes toward health research significantly enhanced as they progressed through their years in medical school.[8] According to the authors, this indicates a fairly positive impact of the medical curriculum in fostering research skills among medical students through well-organized and intensive training. Likewise, a longitudinal study conducted by Vukaklija et al. revealed a clear increase in attitude scores as students progressed from their first to sixth year of the undergraduate program.[9] A study on Irish medical undergraduate students found that while most students were highly motivated to engage in research, they faced significant obstacles, including heavy workloads, financial difficulties, and insufficient guidance and support from their medical school. These challenges were also noted in earlier research conducted in Pakistan.[10] Many countries have conducted studies on the contributions and benefits of writing a baccalaureate thesis for nursing students.

Factors affecting nursing student's attitude towards scientific research

The study recorded the proportion of male students with good attitudes was higher than that of female students (58.3% and 64.5%); the difference was not statistically significant ($p > 0.05$). The research findings by Sibusiso F. Buthelezi et al. (2015) indicated that male nursing students encounter more challenges in clinical settings compared to their female counterparts.[11] As a

result, male and female students have distinct learning experiences in nursing programs. In many cases, their approaches to providing care vary from a clinical practice standpoint throughout their time at university

The students' GPA attained during their earlier years of study has an impact on undergraduate nurse variables that predict academic achievement. From there, it can be seen that the lower the student's score in the scientific research subject, the lower their attitude towards this subject. It is interesting to find that attitudes were not significantly associated with understanding the school's policies ($p > 0.05$). Possible reasons include that the barrier to scientific research comes from the students themselves rather than the policies from the university because current regulations and research policies for students are one of the contents is given priority.

Similar results in research by Aynur Uysal Toraman (2017) in Turkey reported that a statistically significant difference was found between the wrote thesis and did not write group in their attitudes towards and awareness of research (U = 3265.5; P = .025).[12] Results are consistent with those of Silvia Gros-navŽes et al. (2019), who revealed that nursing undergraduates have written a bachelor thesis obtained a higher score than those who have not, with a significant difference (p = 0.012). Similar to this study are found to the study of Solveig M. Lundgren et al. (2012) suggest that writing a thesis as part of an undergraduate degree program plays a significant role in acquiring and developing knowledge and skills that can be effectively transferred to and utilized in nursing practice.[13] To enable nursing students to work evidence-based in practice after graduating, nursing educational curricula need to include teaching strategies and course content to accommodate learning in attitudes related to research methodology.

Research careers can begin at various stages of the educational journey. While initial scientific interests may emerge before university, they are often sparked during medical studies. Studies have demonstrated that students who engage in research opportunities during their university years are more likely to embark on a scientific career.[14]

Limitations

First, due to the cross-sectional nature of this study, we are unable to establish causal relationships between knowledge and the influencing factors. Second, all participants were selected from undergraduate programs at a single university, which may limit the generalizability of these findings.

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