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CURRENT STATUS OF PARTICIPATION IN SCIENTIFIC RESEARCH ACTIVITIES OF STUDENTS OF UNIVERSITY OF MEDICINE AND PHARMACY AT HO CHI MINH CITY

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ABSTRACT

Background: One of the most important activities at universities among students is scientific research, especially with the development of science and technology nowadays.

Objectives: To conduct a survey on the rate and readiness level to participate in scientific research activities of the students of the University of Medicine and Pharmacy at Ho Chi Minh City and point out some related factors.

Methods: Descriptive cross-sectional study on students of various majors at University of Medicine and Pharmacy at Ho Chi Minh City in the 2024-2025 academic year. We conducted a survey through an online questionnaire.

Results: The study recorded 5.312 students taking the survey, showing that 31,08% of students "strongly agree" and 49,83% "agree" with the importance of scientific research activities among students. 90,05% of students had already known about scientific research activities, of which 22,2% of students had participated or were participating in a scientific research activity. Among the group of students who have known and have participated or are participating in scientific research activities, the most popular form of participation is "essays, topics for specialized subjects" with 23,10% of students participating, followed by "graduation thesis, Faculty-level research topics" accounting for 22,34%.

Conclusions: Students highly agree with the importance of scientific research (80,91%), over 90% of students know about scientific research activities, but only 22,2% of students have participated or are participating in a scientific research activity, this rate varies between faculties.

Keywords: Scientific research, student, University of Medicine and Pharmacy at Ho Chi Minh City.

1. INTRODUCTION

Scientific research among university students is one of the most important activities, especially in the context of rapid development of science and technology today. The main goal of guiding students to conduct scientific research projects in universities is to systematically support them throughout the research stages, helping them develop the necessary skills from conceptualizing a study to publishing the results. Author Vujakiajia and colleagues in their study emphasized that scientific research activities play a pivotal role in creating new knowledge and technology, contributing significantly to the prevention, treatment and improvement of health care services [1]. Studies to assess attitudes and barriers to participating in international scientific research activities among medical students across different regions have been widely conducted. Most of these studies have shown that the majority of medical students worldwide demonstrate positive attitudes towards research activities. However, participation in research among students is not without challenges [2]. For example, in a study by Ahmed Assar et al., it was shown that students generally had very positive attitudes towards research, particularly regarding its relevance and utility, while moderate levels of anxiety and difficulty in research were also noted [3]. Their study also highlighted the main barriers to student participation in research activities, including limited knowledge of research methods, inadequate support systems, and a preference for academic courses over research.

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The results of domestic and foreign studies have highlighted the positive states as well as the barriers that medical students face when participating in scientific research activities [4]. However, there has not been a systematic review report assessing the main issues surrounding this activity among students of different majors in health sciences. Therefore, this study was conducted with the aim of understanding the attitudes and barriers when participating in scientific research activities of students at University of Medicine and Pharmacy at Ho Chi Minh City. In parallel with its training mission, University of Medicine and Pharmacy at Ho Chi Minh City considers scientific research as one of its core activities. The school completes the work of rationalizing education and research, aiming to build a strong academic and scientific environment.

2. SUBJECTS AND RESEARCH METHODS

2.1. Study Design

Descriptive cross-sectional study

2.2. Study population

- Inclusion Criteria:

Undergraduate students from all disciplines at the University of Medicine and Pharmacy at Ho Chi Minh City, during the academic year 2024–2025.

- Exclusion Criteria:

Students who declined participation in the study.

2.3. Objective

To investigate the proportion and readiness of students at the University of Medicine and Pharmacy at Ho Chi Minh City, to engage in scientific research activities, along with associated factors.

2.4. Study Duration

From October 2024 to February 2025

2.5. Study Location

University of Medicine and Pharmacy at Ho Chi Minh City.

2.6. Statistics

Data entry was conducted using Excel, and statistical analysis was performed with Stata software.

Qualitative variables are presented as percentages.

Quantitative variables are expressed as mean and standard deviation (if normally distributed) or as median and interquartile range (if not normally distributed).

Proportions were compared using the χ^2 test or Fisher's exact test. Means were compared using Student's t-test for normally distributed variables. The Wilcoxon test was used for variables with non-normal distributions or unequal variances.

2.7. Sampling Technique

A survey was conducted among students at the University of Medicine and Pharmacy at Ho Chi Minh City, using an online questionnaire. The questionnaire was reviewed for relevance by three lecturers with at least five years of experience in education and statistics.

2.8. Terminology Definitions

Scientific Research Activities: Include participation in graduation theses, faculty- or university-level research projects, collaborative research with faculty members, attendance at scientific seminars or conferences, preparation of essays for specialized subjects, serving as monitors in departmental studies, or membership in scientific research clubs.

2.9. Medical ethics

The study was approved by the Biomedical Research Ethics Committee of the University of Medicine and Pharmacy, Ho Chi Minh City, under approval number 2860/ĐHYD–HĐĐĐ.

3. RESULTS

The study conducted an online survey on 5,312 students of University of Medicine and Pharmacy at Ho Chi Minh City studying in the 2024–2025 academic year.

3.1. Characteristics of the Study Population

Among the six faculties training students at the University of Medicine and Pharmacy at Ho Chi Minh City, the Faculty of Pharmacy had the highest survey participation rate, with 1,452 students taking the survey, accounting for 27.33% of the total. The Faculty of Nursing and Medical Technology ranked second, with 1,425 students (26.83%), followed by the Faculty of Medicine with 835 students (15.72%). The Faculty of Traditional Medicine contributed 697 students (13.12%), while the Faculty of Public Health had 535 students (10.07%). The Faculty of Odonto-Stomatology had the lowest survey participation rate, with 368 students, accounting for a total of 6.93%.

With respect to gender, 1,694 males (31.89%) and 3,618 females (68.11%) were included in the study. By year, second years had the highest survey response rate with 1,247 students - 23.48% of all respondents. Next came third-year students with 1,129 (21.25%) and fourth-year students with 1,100 (20.71%). There were 929 first-year students involved (17.49%). Survey participation rates decreased in subsequent years: 10.84% (576 students); 6.23% (331 students – lowest) of fifth- and sixth-year students participating respectively.

3.2. The Extent and Importance of Scientific Research Activities for Students

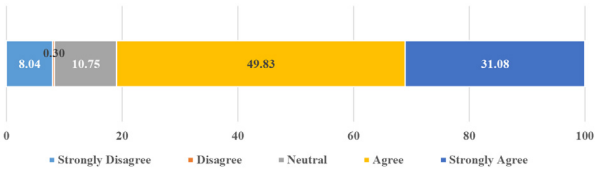

Figure 1. The Importance of Scientific Research for Students (Unit: %)

Analysis: The majority of students recognize the significance of scientific research activities, with 31.08% responding "strongly agree" and 49.83% responding "agree."

3.3. The Rate of Student Participation in Scientific Research Activities

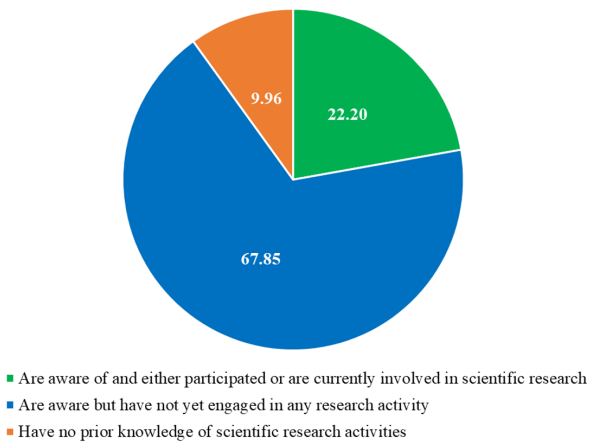

Figure 2. Students' Experience with Scientific Research Activities (Unit: %)

The results reveal that 90.05% of students are aware of scientific research activities. Among these, 22.2% have either participated or are currently involved in specific research projects, while 67.85% are aware but have not yet engaged in any research activity. Conversely, 9.96% of students reported having no prior knowledge of scientific research activities.

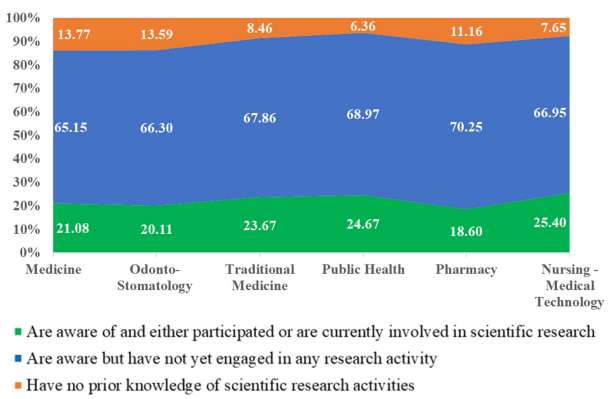

Figure 3. Students' Experiences with Scientific Research Activities by Faculty (Unit: %)

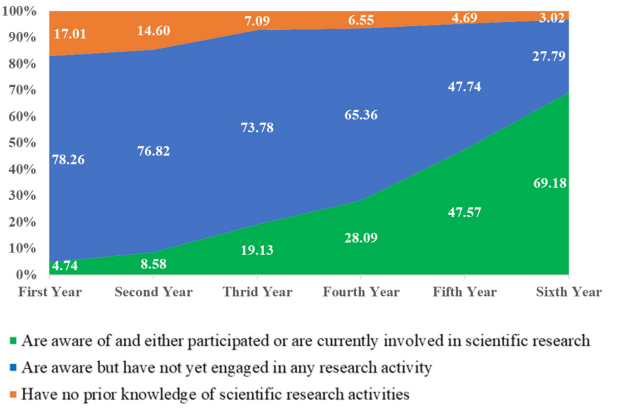

Figure 4. Students' Experiences with Scientific Research Activities by Academic Year (Unit: %)

Awareness and participation in scientific research activities differed significantly between faculties and years of study. Among faculties, the highest awareness rate was recorded in the Faculty of Public Health, where 93.64% of students (N = 535) reported being aware of research activities, of which 24.67% had participated or were currently participating in specific research projects. The lowest knowledge rate was among Faculty of Medicine students (N = 835) with 86.33%. In terms of research experiences - past or present - the highest percentage was recorded in the Faculty of Nursing - Medical Technology (25.4%, students, N = 1,425) while the lowest in a faculty was observed among pharmacy students (18.6%,N = 1,452).

When looking at the year distribution, the proportion of students participating in research activities was found to increase gradually from first year to sixth year students. Specifically, first year students had the lowest participation rate at 4.74% (N = 929), while sixth year students achieved the highest rate, up to 69.03% (N = 331).

Table 1. Types of Scientific Research Activities Students Have Participated In (N = 1,179)

Form of involvement in Scientific Research Activities	Number (n)	Rate (%)
Participate in Graduation Thesis, Faculty-level research topics	436	22.34
Participate in School-level research topics	109	5.58
Participate in scientific research project(s) with lecturer(s)	374	19.16
Participate in Scientific Seminars or Science Conferences	330	16.91
Conduct essays or specialized projects for academic subjects	451	23.1
Monitor for departmental studies	201	10.3
Other	51	2.61

Of the students aware of and having engaged or currently engaging in scientific research activities (N=1179), "essays or specialized projects for academic subjects" accounted for the single most prevalent means with 23.1% of those students participating in this activity. On the contrary, the least common participation type was "Monitor for departmental studies" at 10.3%.

Table 2. Information Channels Providing Scientific Research Opportunities to Students Who Are Aware and Have Participated (or Are Participating) in Research Activities (N = 1,179)

Information Channels Providing Scientific Research Opportunities	Number (n)	Rate (%)
Lecturer; class lecture; course essay or scientific research module	1100	93.3
Family and Relatives	92	7.8
Senior Students	729	61.83
Peers	638	54.11
Library	272	23.07
Internet	547	46.4
Youth and Students Unions' Activities	448	38
Other	3	0.25

Lecturer; class lecture; course essay or scientific research module are the three most significant channels of information about scientific research activities for students (engagement rate 93.3%) identified by the survey data. Apart from that, peer (54.11%) and senior students (61.83%) are also ubiquitous information sources. But the channel of information from family and relatives is only 7.8% and others are only 0.25%. Thus, it shows the minor role played by universities outside family and other sources in circulating news on research work.

4. DISCUSSIONS

A survey of 5,312 students at the University of Medicine and Pharmacy at Ho Chi Minh City in the 2024–2025 academic year provides valuable insights into students' awareness, participation, and perception of academic research activities. The majority of students are aware of the importance of research in developing professional and soft skills, with 80.91% agreeing or strongly agreeing about its significance and 31.08% fully agreeing that it is relevant to their personal and professional development goals. However, despite high awareness, actual participation remains limited, with only 22.2% of students having participated or are participating in research, while 67.85% are aware but not participating. Compared to international studies, such as Ahmed Assar et al.'s findings of 33.7% participation among students in six countries in Saudi Arabia (n = 1,006) and Abdullah Bin Ghouth et al.'s findings of 31.32% among medical students at Hadhramout University, Yemen (n = 265), the participation rate at University of Medicine and Pharmacy at Ho Chi Minh City is lower [3][5]. However, this figure surpasses the national average in Vietnam, where a 2023 survey by the Viet Nam Union of Students found a participation rate of 20.2% among life science students (n = 3,579) and a study by Tran Duc Long and a pooled report rate of 21.8% [6][7].

The Faculty of Public Health recorded the highest rates of student awareness and participation in scientific research, at 93.64% and 24.67%, respectively, while the Faculty of Pharmacy had the lowest participation rate of 18.6%. This difference may reflect differences in curriculum structure and research opportunities between faculties. Notably, the rate of student participation in research activities increased steadily with each academic year. First-year students had the lowest parameter rate of 4.74%, while sixth-year students had the highest rate of 69.03%. This trend reflects the increasing awareness and need to participate in research as students prepare to graduate, along with the accumulation of experience and increased opportunities to participate in research. Academic coursework and professional projects emerged as the most popular form of research engagement, attracting 23.1% of students, while other activities, such as faculty supervision, accounted for only 10.3%. This reflects the predominant use of research activities that are properly integrated into academic coursework and professional courses as the main avenues for student engagement. Faculty members and classroom lectures were identified as the most important sources of information about research opportunities, with 93.3% of students highlighting their importance. This underscores the important role of faculty in guiding and engaging students in research. In addition, peer networks, including senior students (61.83%) and classmates (54.11%), along with the activities of student unions or associations (38%), also play an important role in promoting research engagement. These findings suggest that the influence of mentoring, peer support, and members of external student networks in encouraging engagement in scientific research activities is important [6].

5. CONCLUSIONS

The students had a high recognition of the role of scientific research, with 31.08% strongly agreeing and 49.83% agreeing on its value. A sum of 90.05% of the students answered that they knew about scientific activities, of which 22.2% participated or were participating in particular projects and 67.85% knew of those activities but had not participated in them. On the other hand, 9.96% of the students had never known about these activities. The highest level of awareness

and participation was noted to be from the Faculty of Public Health, at 93.64% and 24.67%, respectively. Among those who had participated, the most common form of engagement was through "essays and specialized projects for academic courses," involving 23.1% of students, followed by "graduation theses or faculty-level research projects" at 22.34%.

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