

Study Environment, Teaching-Learning Activity and Employment Status in Public Health Discipline: A Qualitative Research

Hoa H Nguyen¹

University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam

Nhi TY Nguyen

University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam

Huong TT Vu

University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam

Thu TM Le

University of Medicine Pham Ngoc Thach, Vietnam

ABSTRACT

This paper explores the study environment, teaching-learning activity, and employment status of the Public Health discipline. Qualitative research was conducted from December 2021 to August 2022. We recruited graduates, lecturers, and employers using the snowball sampling method and purpose. This research was approved by the Ethics Committee of the University of Medicine and Pharmacy at Ho Chi Minh City (No. 550/HDDD-DHYD), and the oral consent form was obtained for each in-depth interview and focus group discussion. The number of participants in the focus group discussions was 20, equal to those in the in-depth interviews. There were 22 women (55%) and 47.5% of people over 35 years. University was the highest choice for working (47.5%), and over 50% of people had post-graduate degrees. The Faculty of Public Health is a romantic place with various green spaces and fresh air on Hung Phu Street and a modern building at 12A of Hong Bang Street. There are various teaching-learning activities, such as role-playing, case study, group discussion, writing report, presentations, and thesis defenses. Employers satisfy the Public Health graduate student knowledge and skills; however, they must improve their soft skills for job adaptation. This study's results may help to supply evidence for our university to improve the educational training program of Public Health. Furthermore, it may contribute to the expected learning outcomes to train human resources, which satisfies employers' needs and requirements of social changes relating to Public Health professionals.

KEYWORDS: Study environment, teaching and learning activity, employment status, stakeholder, qualitative research.

¹ Corresponding Author: University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam; VISA faculty fellow, University of North Carolina, USA and Hanoi Medical University, Vietnam; Australia Awards Fellowships, University of Sydney, Australia. E-Mail: honghoa@ump.edu.vn

The quality of training program is attentively increasing in Vietnam to affirm the ranking position of universities. In 2020, the ASEAN University Network-Quality Assurance (AUN-QA) developed the AUN-QA assessment model version 4.0 to assess the quality of training programs (ASEAN University Network, 2020). The Ministry of Education and Training of Vietnam issued regulations on assessing the quality of university training programs at the national level based on the AUN-QA criteria (Ministry of Education and Training, 2016). In 2022, the Ministry of Education and Training recognized the AUN-QA activities in Vietnam to enhance the assessment of training quality (Ministry of Education and Training, 2022).

Study environments and teaching methods are critical factors in the AUN-QA criteria to measure quality training (ASEAN University Network, 2020). They play a vital role in increasing students' study motivation, which may lead to changes in their behavior and academic progress (Gorica & Kuzmanovska, 2020; Zajda, 2021). There was a limited number of quantitative studies examining the learning environment in a public health area (Aghamolaei & Fazel, 2010; Ahmed, Taha, Al-Neel, & Gaffar, 2018; Hongkan, Arora, Muenpa, & Chamnan, 2018; Noreen, Khan, & Nehra, 2018; Vi, Bich, & Thao, 2020). The medical students ranked an average level of learning environment (Aghamolaei & Fazel, 2010; Noreen et al., 2018). The six and fifth-year students were more optimistic about the learning environment than the fourth-year students (Hongkan et al., 2018). The medical students with higher achievement had valuable experience with the learning environment compared to those of low achievers (Ahmed et al., 2018).

In Vietnam, a positive association between nursing students' satisfaction and the learning environment was found in current research (Vi et al., 2020). However, these previous studies employed current undergraduate medical or nursing students, so it may need more points of views of stakeholders (e.g., graduates, employers and lecturers) to contribute to the quality training. There was limited data published about the learning environment in public health discipline.

Employers supply necessary skills and knowledge to develop graduates' careers and improve the quality training of universities (Dicker, Garcia, Kelly, & Mulrooney, 2019). Therefore, the AUN-QA assessment includes employers in the interviews as a criterion to measure the training program's quality (ASEAN University Network, 2020). However, employers' information still needs to be clarified in the public health area. To fill in the gap, we explored study environment, teaching-learning activity and employment status using qualitative research. The results of this study help to supply information to improve the public health training program to satisfy the needs of the AUN-QA assessment and meet the target of labor market in the Public Health profession.

Literature Review

Study environment, including teaching and learning activities, may influence by four components, such as personal, social, organizational, physical and virtual (Irby, 2018). The learning approach is described as study processes and intentions of students that may include a deep approach, surface approach and organizing study. The deep approach means students understand and concentrate on analysis of ideas compared with the surface approach focusing on student memory's information. The organizing study includes students' time-management, self-regulation and study effort. Students' learning approaches may relate to their experiences of the teaching-learning environment, self-efficacy beliefs and generic skills (e.g., problem solving and perceptions of study workload) (Cheung et al., 2020). For teaching-learning activities, student-centered pedagogy helps to develop students' critical thinking and sense of what they learn in a study environment, based on their experiences of learning activities.

Meanwhile, teacher-centered pedagogy is based on the behaviorist theory that students always listen to the lecture and have no way to develop their skills of problem-solving and critical thinking (Serin, 2018). In recent years, the student's expectations about the course and the student's educational environment in health areas have received particular attention (Aghamolaei & Fazel, 2010; Gerritsen-van Leeuwenkamp, Joosten-ten Brinke, & Kester, 2018). Students' perceptions of the learning environment and training programs significantly impact student behavior and academic progress (Aghamolaei & Fazel, 2010). However, there were a limited number of quantitative studies investigating the learning environment and teaching activities as below.

A study of 182 medical students at an Iranian Medical Sciences University (Aghamolaei & Fazel, 2010) assessed the perception of these students about the educational environment and its relationship with participants' characteristics. The mean scores of five main aspects of the learning environment included the students' perception of learning (21.2/48), students' perception of teachers (24.2/44), students' academic self-perception (15.8/32), students' perception of learning atmosphere (23.8/48), and a students' perception of social self-perception (14.5/28). The overall score for students' perceptions of the learning environment was 99.6/200 which indicates the average satisfaction of the study environment. There was no statistically significant difference between gender with learning environment ($p>0.05$). A higher total score for students' perceptions of the learning environment was found on the clinical course compared with the courses of basic sciences and pathophysiology (mean score 104.9/200, $p=0.008$). Similarly, a study of 131 undergraduate medical students in Pakistan showed the average scores of five aspects of the learning environment with 107.5/200 (Noreen et al., 2018). This study stated that the learning environment of medical students was a problem, and it was necessary to improve all aspects of students' perception.

A study of 638 students from the second, sixth and tenth semesters at the Faculty of Medicine at Gezira University, Sudan, found significant differences in students' perception of teachers, atmosphere and social self-perception ($F=3.5$, $p=0.029$), but no associations of students' perception of learning and academic performance. People with higher achievement had positive perceptions of the learning environment than those with lower achievement (Ahmed et al., 2018). A study of Thailand's 2,467 fourth- to sixth-year students showed a similar statistically significant result between students in different school years and study environments (Hongkan et al., 2018). In particular, the 5th-year students have a more positive perception of the teacher, academic self-perception, atmosphere and social self-perception than the 4th-year students ($F: 3.9$ to 13.1 , $p<0.03$). Women have a more positive perception of teachers than men, whereas men have a more favorable opinion on academic self-perception than women.

In Vietnam, a research of Nguyen Trong Hong Phuc et al. investigated 103 graduated students of biological pedagogical training programs at Can Tho University. It found that all aspects of this curriculum program, including goals, structure and content, methods of teaching and learning, assessment of students, quality of lecturers and staffs, facilities and services for students and training outcomes were evaluated from 2.6 to 4.2 (out of 5). The curriculum needs to improve towards the competency-based approach to satisfy social demand and teacher development for the Mekong Delta of Vietnam (Phuc & Phuong, 2019). Another study was carried to evaluate the postgraduate training capacities of seven medical universities in Vietnam through alumni opinions. Most alumni (>95%) stated that the program suited their current jobs. However, the number of participants was quite different, so the results need to confirm in future research (Ha, Quyen, Nga, & Linh, 2013). A cross-sectional study of 891 undergraduate nursing students in four Vietnamese universities found that the university environment mean scores of the second-year students were higher than those in the third or fourth years (Ramsbotham et al., 2019).

There is a limited number of studies investigating employment status in the public health profession. A research of 2904 graduates of Columbia University's Mailman School of Public Health reported that the employment of new graduates by for-profit corporations increased by 23% from 2012 to 2016 compared with a decline in governments' recruitments in this period time (Krasna et al., 2021). However, we have yet to find published English articles declaring the employment status of the public health profession in Vietnam, especially the employers' opinions on this career.

To sum up, studies on the learning environment, teaching and learning activity, and employment status are still limited, so we aim to conduct this research using qualitative research to answer them. It is one of the criteria to qualify for the educational quality assurance testing by the AUN-QA for all universities in the ASEAN countries. It helps to affirm the universities' ranking positions worldwide, and it is the best way to advertise the universities' quality of education to attract students' study and employers' recruitment.

Methods

Qualitative research was conducted from December 2021 to August 2022. We recruited graduates, lecturers and employers using the snowball sampling method and purpose. For graduates, we selected people who graduated the Public Health Program within 5 years, with different workplaces. Lecturers (senior vs junior) participated in teaching activities at least one year at the Public Health Faculty, University of Medicine and Pharmacy at Ho Chi Minh City. We interviewed employers who are working in different workplaces such as hospitals, health centers (Centers for Disease Control and Prevention, Health Centers at District and Province levels, Center of Food Safety and Hygiene) and universities. All participants were excluded in the case of refusal, absence, or no responses.

The number of interviews was determined by data saturation, with no new themes from participants' point of views. Study objectives were explained to all participants to obtain the oral consent form before each interview. The characteristics of participants is shown in Table 1. The number of participants in focus group discussions was 20, equal to those in the in-depth interviews. There was 22 women (55%) and 47.5% of people over 35 years in this sample. University was the highest choice for participants' working (47.5%).

The contents of the topic guides were different for each type of participant (alums, teachers, and employer). However, it was the same beginning part of participants' characteristics such as gender, age, work experience, workplace, and the highest education qualification. For the employer, we focused on employment status, employment criteria, benefit and policy. Meanwhile, the topic guides of lecturers and graduates related to the study environment (infrastructure, equipment for teaching, internet system, library, learning atmosphere, environmental sanitation) and teaching methods. A pilot survey was done on nine people to test each question's appropriateness in Vietnamese culture.

We contacted participants via email, mobile, or Zalo to send an invitation letter. If they agreed to participate in our research, we asked for the appointment date for interviews. All interviews were recorded with the permission of the participants. Interviews and focus group discussions were conducted in Vietnamese language, with a time range from 35 to 90 minutes. Participants voluntarily joined the interviews. Before each interview, we checked the participants' characteristics to ensure they matched the requirement. Participants were asked to tell their names, workplaces, mobile phones and who contacted them. We introduced the research team, research objectives, participants' benefits, confidential information, time of the interview, and participants' right to stop the interview at any time or not answer questions if they want to. Verbal consent was

asked for the participation and record of the interview again. If they agreed, they signed the consent form to confirm their participation. We recorded the interviews via mobile or social platforms (Zalo, Microsoft Team). All participants received cash from 200,000 to 500,000 dong for spending time in the interview.

Table 1
Characteristics of Participants

Variables	Total interviewees (n=40)	
	N	%
Gender		
Women	22	55.0
Men	18	45.0
Work experiences		
Junior	21	52.5
Senior	16	40.0
High executive	3	7.5
Workplaces		
University	19	47.5
Health center	13	32.5
Other	8	20.0
Education		
Postgraduate degrees	21	52.5
University degree	19	47.5
Age		
≤ 35 years	21	52.5
Over 35 years	19	47.5
Type of interviews		
In-depth interview	20	50.0
Focus group discussion	20	50.0

Analysis

There are several steps for qualitative analysis, with a preliminary codebook developed using the tested transcripts reviewed by two independent coders. The final codebook was made after a discussion between two coders and the principal investigator. The codebook has four sections of participant characteristics, study environment, teaching and learning activity, employment status. We used Nvivo software version 12 for making codes (QSR International, 2022). For participants' characteristics, we coded six variables, including gender, work experience, workplace, education, age and type of interview. All study environment variables included infrastructure, teaching equipment, internet system, library, learning atmosphere, and environmental sanitation. Variables for teaching and learning activities were teaching methods, assessment of students, and students' support services (dormitory, entertainments, study quality improvement, covid immunization, social activity, psychological counseling, and scientific research). Finally, for employment status, we focused on workplaces' benefits, policies, development strategy plans, requirements of employers (knowledge, attitude, skills), and potential jobs for the next five years.

There are several steps to analyze data. Firstly, we reviewed the study objectives to make sure all coding was made in the Nvivo software (QSR International, 2022). Next, the records for each in-depth interview and focus group discussion were transcribed into transcripts reviewed by two independent researchers. All interviews and transcripts were in Vietnamese language. These people did the clean data process to ensure confidentiality for participants. Finally, researchers imported all transcripts into the Nvivo software (QSR International, 2022) and selected data for each code. All information was carefully checked for quotations translated into English. We described data and exactly quoted what participants said in the italic words. All authors agreed to the finding results and evidence for the quotations in the manuscript.

Ethics Statement

This research was approved by the Ethics Committee of the University of Medicine and Pharmacy at Ho Chi Minh City (No. 550/HDDD-DHYD), and the oral consent form was obtained for each in-depth interview and focus group discussion. All data was confidential within the number coding (e.g., F1, M1, FGD1) instead of participants' names. We removed identifying information in the transcripts and saved them on a privacy computer with the password-protected requirement.

Findings

Overview

Qualitative research was conducted to explore the study environment, teaching and learning activity, and employment status of the Public Health discipline. There were 40 potential participants determined by data saturation, using the snowball sampling method and purpose. There was 22 women (55%) and appropriately 50% of people over 35 years who selected university as a working place. The Public Health Faculty has two campuses, described as a poetic building and a modern design structure. Facilities meet the needs of learning and teaching activities. The main library provides a friendly and motivational atmosphere for studying and many study materials, and the library of Public Health Faculty offers a lot of professional books of public health discipline. This faculty has various teaching methods and study assessments. It provides plenty of students support services, for example, dormitory, covid-19 vaccine, academic advisors and psychological counselling. Employers satisfy the Public Health graduate students' knowledge and skills; however, they need to improve their soft skills for their job requirements. There are a variety of potential jobs for public health graduates at health centers, hospitals, universities, and non-government organizations. It indicates the high quality of this faculty's Public Health educational program.

Study Environments

The Faculty of Public Health, University of Medicine and Pharmacy at Ho Chi Minh City has two campuses located at Building 23 at 159 Hung Phu street, Ward 8, District 8; and Floor 12A of the University of Medicine and Pharmacy at Ho Chi Minh City in 217 Hong Bang street, Ward 11, District 5 of HCMC, Vietnam. Most graduates stated that they felt comfortable and satisfied with these campuses. Campus 1 has beautiful landscapes and campus 2 is a new modern building:

It was very poetic on Hung Phu campus. The study environment has many green trees and spaces, which is very valuable. The green landscape for studying and entertainment is magnificent...uhm...for facilities...it might not be modern building compared to campus 2 located on the 12A floor of Hong Bang street...but the facilities were fully provided, and the staffs supported us when we needed.

The infrastructure satisfied the needs of the students. Equipment (e.g., internet, speaker, microphone, desktop, projector, remote) is fully working for each lecture hall:

In general, the campus of Public Health Faculty in Hung Phu provided higher quality compared to another faculty because we had studied in the air conditioner rooms, opening fresh air and better light....

We preferred to study in the 12A floor building because of comfortable and spacious classrooms, modern study equipment of projectors, tables, chairs, cleaner sanitation and comfortable feeling of atmosphere...

The main library is used by all types of students at the University of Medicine and Pharmacy in Ho Chi Minh City. It provides plenty of study materials online and offline. Most Public Health students visit this library in their first and second years when they study the basic knowledge courses. The library of the Public Health Faculty is mostly used for searching professional theses and articles:

I felt very good in the school's library in terms of equipment and atmosphere... when I came there, I felt excited to focus on studying because I saw everyone who seriously studied so it created motivation for me. However, there was a limitation in charging options for our laptops, and we could not bring a bottle of water inside.... the library of Public Health specialized in preventive medicine or public health. There were a lot of books, but I saw that some books were a little bit old...

Teaching-Learning Activities

Teaching methods are variously according to the learner-center approach. Students are engaged in the learning process via many activities relating to focus group discussion, role-playing or group presentation. They learn how to think critically, how to solve the problem, teamwork, evaluation of literature, analyzing case study, etc.:

Basing on case study, students analyzed this situation and answered the lecturer's questions. In the internship course, the focus group discussion was required to identify health problems and analyze risk factors for communities. Students use this information to develop a health education program or design a poster for this topic.... participating in an outdoor activity and then recording a video clip. Teachers were enthusiastic, highly qualified and professional young teachers were more active, helping and provided many teaching methods.

There is variety of study assessment methods, such as, multiple-choice questions, essays, assignments, proposals, projects, reports and thesis. Students engage and empower by the diversifying assessment methods:

For the quantitative and qualitative research courses, a group of students designed a proposal basing on their ideas...We conducted scientific research for our graduation thesis, then defend them in front of the Graduation Thesis Council.

According to the theory courses, the MCQ tests were normally used for the formative assessment. For the midterm assessment, students answered a short question, and writing essay or assignment....

The students' support services include multiple disciplines such as academic advisor, dormitory, entertainment, immunization, social activity, psychological and research counselling:

In terms of accommodation, the Public Health Faculty had the Student Support Club, coordinating with the Student Union of the university. For the first-year students, this club helped them in terms of filling in admission application, answered questions, and provided additional documents. Then, they helped them to find a motel, homestay or dormitory.... Especially during the Covid-19 outbreak last time, students were supported to immune vaccine or treat at the isolated areas...Well, I personally thought it was very good to early intervene, so they had the safety living places when they were infected.

In the Faculty of Public Health, I would say that it was one of the faculties that very cared students from study to solve your certain difficulties.... For example, the faculty had the support services here like an academic advisor system managed by the Deans of the Faculty.

Employment Status

Employers satisfy with the Public Health graduates' skill and knowledge learned from the Faculty of Public Health. Graduates are working in public health centers, universities, and non-government organizations. However, they need to improve their soft skills to adapt to their job requirements:

Most graduates met the assigned positions. They were highly active in their works and studied hard.... However, they needed to improve some skills such as communication, negotiation, decision making, planning, and presentation for their jobs.

Most employer like easy-going people and doing professional multi-tasking work. The desired good attitudes of graduates are as below:

The attitude would be positive, moral qualities, honest and willing to learn experienced colleagues.... They needed to be active, enthusiastic, have a high spirit of work and be willing to learn new things.

Working hours and salary according to the regulations of the Government and companies. All companies have their own strategies to develop their human resources:

Salary depended on the regulations and additional income of companies... Ensured the rights and other benefits mentioned by the Law.... HCDC had built a project to restructure organization, so each position required investment, learning and improving skills for social integration....

There are many potential opportunities for the Public Health recruitment in the professional industry in the next five years:

There were many positions to recruit the Bachelor of Public Health. They would work in many departments of Health Centers, such as Department of Disease Control, Public Health Department, Department of Population-Family Planning, Reproductive Health Care, and Food Safety. For hospitals, they could work at the Human Resources, Planning Department, Material and Equipment Department, Health Education Communication Department, Hospital Quality Department, and Department of Infection Control.

The specialised departments of the Centers for Disease Control needed many public health graduates. If possible, each current department would need to recruit about 30 to 50 positions.

In general, employers are satisfied with their employees because they worked well, with a high sense of responsibility, and good expertise, not afraid of difficulties and are adapted to any working environment.

Discussion

A limited number of studies investigated the study environment, teaching-learning activity and employment status of the Public Health discipline using qualitative research. To fill the gap, we conducted this study to better understand public health teaching-learning environment and public health career. The study environment at the Faculty of Public Health is recognized as a green space and fresh air at Campus One of Hung Phu Street and the modern building of Campus Two on Hong Bang Street. There are enough facilities for teaching and learning activity, but it needs to improve to meet the social demands. This faculty provides variety of teaching and assessment methods. The quality of public health graduates satisfies employers, which leads to contributing to the prominent public health career pathway in future. However, graduates should learn more soft skills to adapt to their job requirements.

Facilities (equipment, lecture hall, etc.) play a key role in contributing to the university' teaching and learning. However, the investment of facilities for each faculty differs considerably, depending on the policy of the government and our university. The Faculty of Public Health is young compared with the long history of the Faculty of Medicine or the Faculty of Pharmacy. They

have their private buildings invested by many government funds, the University of Medicine and Pharmacy at Ho Chi Minh City and sponsors. There is a lack of a private room for each class, so students do not have a place for taking a nap. It is a current limitation of our faculty. To resolve this issue, Deputy Minister of Health had a meeting with the People's Committee of Dong Nai Province on the construction of Campus 2 of the University of Medicine and Pharmacy at Ho Chi Minh City, including the Faculty of Public Health in Tan Hiep Commune, Long Thanh District (Dong Nai Radio and Television Station, 2020).

With the application of the Educational Philosophy of our university: "Mobilizing internal resources and fostering international cooperation in order to optimize the educational environment; embracing learner-centered approach; developing versatile healthcare professional, with competency, ethical values and responsibilities, ready to adapt and integrate globally" (University of Medicine and Pharmacy at Ho Chi Minh City, 2019), we provide variety of teaching methods according to the learner-center approach. Students are engaged in the learning process (Olugbenga M, 2021) via many activities relating to focus group discussion, role-playing or group presentation. They learn how to think critically, how to solve the problem, teamwork, evaluation of literature, analyzing case study, etc. In addition, there are variety of study assessment methods, such as, multiple-choice questions, essays, assignments, proposals, projects, reports and thesis. Students engage and empower by the diversifying assessment methods; however, the barriers are time, resources and fear of grade inflation (O'Neill & Padden, 2022). During the covid-19 outbreaks, all universities performed the common assessments, including report submission, online presentation and preparing different questions to minimize academic dishonesty (Guangul, Suhail, Khalit, & Khidhir, 2020).

Employers satisfy with the Public Health graduates' skill and knowledge; however, they should improve soft skills to adapt to their job requirements. Our finding showed that the softest skills required for the Public Health graduates include communication, negotiation, planning, problem solving, decision making and presentation. It is easy to understand because it depends on the competency standards of the Ministry of Health (Ministry of Health, 2019). Each job requires different soft skills according to positions and types of work, for example, employers require teamwork, adaption of communication, critical thinking, building trust and understanding, and managing work expectation for nursing (Balachander & Jayam, 2015). Although the significant skills for doctors are physical examinations, clinical skills and history taking, they need to include other skills, such as, multidisciplinary team-working, understanding ethical issues, emergency management, handover, and ward environment familiarity (Monrouxe et al., 2017).

Strengths and Limitations

There is a limited number of studies exploring the Public Health learning environment, including teaching-learning activities in Vietnam. Moreover, there is no publication about the employment status of the public health career. Therefore, our qualitative research was conducted to explore study environment, teaching-learning activity and employment status. Our results may help to improve the public health education program to satisfy the needs of the AUN-QA assessment and meet the target of labor market in the Public Health profession.

Conclusion

In conclusion, the Faculty of Public Health is recognized as a romantic place with plenty of green space and fresh air found on Hung Phu Street and a modern building on Floor 12A of Hong Bang Street. This faculty supplies plenty of teaching-learning activities to improve students' professional knowledge and skills. These skills and knowledge of graduates mostly satisfy employers' requirements, but students need to get more soft skills to adapt to a prominent public health career in future. This study's results may help to supply evidence for our university to improve the educational training program of Public Health. Furthermore, it may contribute to the expected learning outcomes to train human resources which satisfy employers' needs and requirements of social changes relating to Public Health professionals.

Funding Details

Hoa H Nguyen was supported by the University of Medicine and Pharmacy at Ho Chi Minh City under grant No. 1421/QĐ-DHYD dated August 16th, 2021. This university did not take part in any activities of this research.

Disclosure Statement

There is no conflict of interests declared by any of the co-authors.

Acknowledgement

We thank Mr. Glen Tittor for his genius time to review and edit our paper.

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Notes on Contributors

Hoa H Nguyen is a lecturer of the Public Health Faculty since 2004. She has done many health studies, especially she was one of two principal supervisors of the WHO survey (2006). She got special awards from many organizations including the Australian Government Scholarship for Master degree (2010), the UTAS Scholarship for PhD degree (2015), the Ministry of Health (2021), the D43 Fellow of the UNC, USA (2021), and the AAF scholarship of the Sydney University, Australia (2023). It led to her leadership role as the Vice Head of Community Health Practice (2013) and Head of Community Health Department (2014-2017).

Nhi TY Nguyen took part in earlier educational research, specifically on Weebly software-based experiential learning activities at the high school. She got the EUREKA Young Scientific Research Encouragement Award at the faculty and university levels in 2019. After graduation, she was successful in getting the job at the Department of Education Quality Assurance, Public Health Faculty, University of Medicine and Pharmacy at Ho Chi Minh City since 2020.

Huong TT Vu has been working as an administrative staff of the Public Health Faculty since 2009. She got the Master degree of Hospital Management in 2020. She was the co-author of two papers including "Experience of the patient During the inpatient treatment at District 2 Hospital in Ho Chi Minh City (2020)" and "Assessment of Covid-19 Preventive Practice and Associated Factors Among Education in Vietnam (2022)".

Thu TM Le is a 25-year-old doctor. She is recently graduated from Pham Ngoc Thach University of Medicine in 2022 and her major is General Practitioner. During six years spent in medical university, she has indeed had an eye on common diseases and health human resources in her country - Vietnam. Although she had little experience in doing scientific research, she is always willing to learn more, hence, to get knowledge in these fields in the following years.

ORCID

Hoa H Nguyen, <http://orcid.org/0000-0002-1179-0517>

Nhi TY Nguyen, <https://orcid.org/0000-0001-7876-67>

Huong TT Vu, <https://orcid.org/0000-0002-3600-6004>

Thu TM Le, <https://orcid.org/0000-0002-6944-3593>

*Manuscript received November 23, 2022
Final revision received December 14, 2022
Accepted January 21, 2023*