Problem-Solving Skill of Nursing Student in Vietnam: A Descriptive Study

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Abstract— Objective: Describe the problem-solving skill of nursing students. Method: A cross-sectional study was conducted on 173 nursing students from May, 2021 to July, 2022. Personal Problem-Solving Inventory scale was used to measure problem-solving skill of participants. Data was analysed by descriptive statistic. Results: mean score of Personal Problem-Solving Inventory was 127.24 (SD=12.11), Problem-Solving Confidence subscale mean score was 44.27 (SD=5.61), Approach-Avoidance Style subscale mean score was 61.39 (SD=7.23), and the Personal Control subscale mean score was 21.57 (SD=4.44). It means that problem-solving skill of participants was medium. Conclusion: Problem-solving skill of nursing students should be developed during nursing education.

Key words— Nursing education, student, problem-solving skill.

I. INTRODUCTION

Along with the continuous development of society, the complexity of patients' needs, nursing is becoming increasingly difficult and challenging. This motivates training institutions to constantly improve and develop teaching programs to train graduates with all the necessary skills to meet the high demand for patients.

Problem solving is a complex interplay of cognitive, affective, and behavioral processes designed to adapt to internal or external demands or challenges. It is the cognitive, affective, and behavioral process of dealing with difficulties, obstacles, and stressors that must be resolved [1].

Besides the nursing fundamental skills, problem solving is also an essential skill that a nurse must have. It is very important for the nurse to assess patient healthcare needs and find out the best nursing intervention.

Problem-solving skills have been used internationally as a strategy to improve nursing effectiveness. The development of this skill is also one of the important goals of nursing education, as nursing schools are facing a huge challenge when nursing students are required to perform various tasks, nursing services safely and effectively in an ever-changing and complex care environment [2][3].

There was some studies about problem solving skill of nurses and nursing students. Most of them showed that this skill was at medium level [4][5][6]. However, it can not find any similar studies in Vietnam. In order to provide base evidence to improve the quality of teaching, we conduct the research with the objective: Describe the problem-solving skills of nursing students.

II. MATERIAL AND METHODS

This was a cross-sectional study that was conducted among 173 nursing students during 2021.

Problem-Solving Inventory scale was used to measure the problem-solving skill of nursing students. The PSI consists of 32 six-point Likert items, which constitute three factors: Problem-Solving Confidence, Approach-Avoidance Style, and Personal Control. Problem-Solving Confidence is defined as self-assurance while engaging in a wide range of problem-solving activities, a belief and trust in one's problem-solving abilities. Approach-Avoidance Style was defined as a general tendency to approach or avoid different problem-solving activities. Personal Control was defined as believing one is in control of one's emotions and behaviors while problem solving. The lowest score is 32 and the highest score is 192. The higher the score, the lower the problem-solving skills of the research subject. Cronbach's alpha of the whole question is 0.90, of each factor is 0.85; 0.84 and 0.72, respectively [1]. The Problem-Solving Inventory Scale was translated into Vietnamese by the Back translation technique after consent from the author and verified by experts who was nursing teachers with doctoral degrees. Reliability was tested through a pilot study on 30 student samples with Cronbach's alpha value of 0.85.

Ethical approval: The study was approved of Da Nang University of Medicine and Pharmacy Technology under Decision No. 646/BB-HDDD.
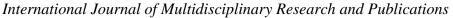
III. RESULTS

3.1. Characteristics of participants

TABLE 1. Characteristics

Characteristics	Number	(%)
Age		
19	22	12.7
20	134	77.5
21	15	8.7
22	2	1.2
Gender		
Male	13	7.5
Female	160	92.5
Accommodation		
Living rent house	152	87.9
Living in parents' house	21	12.1

Most of the study participants were in their 20s (77.5%), mostly female (92.5%), 87.9% of the study participants were staying in rent houses.

3.2. Problem solving skills of nursing students

TABLE 2. Problem solving skills of nursing students

Contents	Mean±SD	Range
Problem solving skills	127.24 ±12.11	32-192
Problem-Solving Confidence	44.27 ± 5.61	11-66
Approach-Avoidance Style	61.39 ± 7.23	16-96
Personal Control	21.57 ± 4.44	5-30

Table 2. showed the mean score of the student's problem-solving skill scale was medium (M=127.24 ±12.11). All three aspects of problem-solving skills: Problem-solving Confidence, Approach-Avoidance style, and Personal Control had average scores of 44.27, ± 5.61; 61.39 ± 7.23; 21.57 ± 4.44, respectively.

IV. DISCUSSION

4.1. Characteristics of participants

Studying on a sample of 173 students, we found that the subjects in the study were mainly female (92.5%) (Table 1). This is the characteristics of regular university students of nursing. This is consistent with the current state of nursing in Vietnam. This result is consistent with previous studies, the proportion of female nursing students is higher than that of male students. According to a study by Yildirim and colleagues (2019) on the problem-solving skills of nursing students in Turkey, the female rate was 86.9% [5]. The proportion of female participants in Zyoud study in Jordan was lower with 64.4% [6].

Most of students are living in rent houses (87.9%). This result is consistent with the characteristic of Danang University of Medical Technology and Pharmacy which is one of the main universities responsible for training medical staffs for Central region of the country.

4.2. Problem solving skills of nursing students

The clinical environment is increasingly developing, especially with the constant updating of complex techniques, the diversity of disease models and the increasing needs of patients. This requires medical staff in general and nurses in particular with necessary skills other than basic skills. One of those skills is problem solving.

When using the Personal Problem-Solving Inventory Scale to measure Problem-solving skills, the results of this study show that the mean score of students' problem-solving skills is 127.24 ± 12.11 (range: 32-192). Accordingly, nursing students in this study self-assessed their problem-solving skills at medium level. This means that the education and experience students have as well as the teaching methods are not enough to help students practice high-level problem-solving skills [7].

These results were much higher than the results in the study of Colak and colleagues in 2021 on 4th year nursing

students at Turkish University with the mean score of 106.57 ± 13.18. The scores of all three components in the PSI scale was also higher with the mean score of 31.37 ± 6.80; 55.19 ± 6.70; 20,01 ± 5.24, respectively [4]. Another study in Turkey in 2018 also found that the mean scores of the PSI scale and all three components were lower [5]. Similarly, the results of a study conducted in 6 nursing schools in Jordan in 2021 showed that students' problem-solving skill was also at medium level, but the total score of problem-solving skills (M=96.63 ± 16.99), as well as sub-scores on Problem-Solving Confidence (M=31.38 ± 9.54), Approach-Avoidance Style (M=47.54) ± 8.98) and Personal Control (M=17.21 ± 3.66) were lower than the results of our study [6]. This showed that the problem-solving skills of the research subjects were still quite low. This difference may be due to cultural differences. Specifically, in Eastern cultures, communication is often less open, less dynamic than in Western countries, while studies show that communication skills are one of the factors affecting problem solving ability of students [8]. Besides, the difference in socio-economic conditions, parents' education level, and school environment also affect learners' problem-solving skills [9].

V. CONCLUSION

Through a study of 173 nursing students, the problem-solving skills were at medium level. Problem-solving skills should be developed more in nursing curriculum

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