SURVEY ON EVIDENCE–BASED PRACTICE BELIEFS AND IMPLEMENTATION AMONG UNDERGRADUATE NURSING STUDENTS AT CAN THO UNIVERSITY OF MEDICINE AND PHARMACY IN 2022

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ABSTRACT

Background: *Evidence-based practice (EBP) is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Nowadays, EBP is a gold standard in caring fields and assessing the quality of nursing education in many countries around the world. Although EBP has many benefits for patients and training, there is a*

paucity of published research on the beliefs and implementation of EBP in Vietnam for nursing students. ***Objectives****: This study aimed to describe the EBP beliefs and EBP implementation among 45 undergraduate nursing students at Can Tho University of Medicine and Pharmacy in February 2022.* ***Materials and methods****: A convenience sample of 45 undergraduate nursing students was surveyed in this descriptive, cross–sectional study. The EBP Beliefs Scale (EBPB-S) and the EBP Implementation for Students Scales (EBPI-S) by Fineout-Overholt et al. were employed to collect data regarding the respondents' beliefs and implementation of EBP, respectively. Data collected include (1) undergraduate nursing students (3rd and 4th levels), (2) those who hadn't joined the EBP course until the research time, and (3) answered enough questions. Descriptive statistics were used to analyze data.* ***Results****: Half of the respondents had seen their teachers and physicians using EBP, and most believed in the value of using EBP to develop professional competency. 100% of respondents had never used UpToDate databases to find evidence. Undergraduate nursing students weren't confident applying EBP in clinical practice daily (M=62.89, SD=12.04), and implementing EBP less than once within 8 weeks before the study (M=9.28, SD=8.19).* ***Conclusions****: EBP beliefs and implementations were low in undergraduate nursing students. EBP courses should be initiated to increase EBP beliefs and implementation in undergraduate nursing students to advance nursing science, enhance practice for future nurses, and improve patient outcomes.*

Keywords*: evidence-based practice; undergraduate nursing students; evidence–based practice beliefs; evidence–based implementation.*

I. INTRODUCTION

Evidence–Based Practice (EBP) is defined as the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of the individual patient [1]. EBP was established by Evidence–Based Medicine to enhance the quality of care, treatment, and safety for patients [2]. In Vietnam, science research and applying evidence in clinical practice competency is one of the basic standards of Vietnamese nurses, which was established by the Ministry of Health on April 24, 2012 [3]. In the current training program, undergraduate nursing students have learned about the terminology and steps of conducting scientific research. However, there is still a lack of connection to the application process and the belief that EBP brings to patients [4,5,6]. Looking back at the combination of curriculum and EBP to assess the perception about the role and EBP implementation in the training and practice environment of nursing students is essential which will help undergraduate nursing students have the best skills to start practicing patient care in today's modern and constantly changing environment [6]. In particular, this assessment should be conducted on 3rd and 4th-year undergraduate nursing students who completed the course of medical epidemiology and statistics under the training program at the University, which are the concepts of epidemiology and medical statistics are important before conducting EBP [7]. Therefore, in order to build an EBP course, we conducted this study to assess the EBP beliefs and implementation in 3rd and 4th year nursing students.

II. MATERIALS AND METHODS

2.1. Study population: Undergraduate nursing students at the Faculty of Nursing and Medical Technology, Can Tho University of Medicine and Pharmacy in February 2022.

Inclusion criteria: undergraduate nursing students were learning 3rd and 4th level, hadn't joined the EBP course until the research time and answered enough questions.

Exclusion criteria: undergraduate nursing students didn't agree to join this research and were, absent during the research time.

2.2. Methods

Research design: a cross-sectional descriptive study.

Sampling size: Our research was conducted on 45 undergraduate nursing students with a significant of 5%, standard deviation (SD) (σ) of 13,63 and absolute error (d) of 4 [8].

$$n = \frac{Z^2_{1-\frac{\alpha}{2}}\sigma^2}{d^2}$$

Sampling technique: convenience methods.

Data collection tool: The outcome variables were EBP beliefs (Evidence–Based Practice Beliefs for Students, EBPB-S) and EBP implementations (Evidence–Based Practice Implementation of Students, EBPI-S) which were built by Fineout Overholt and Melnyk in 2017 and 2010, respectively [9]. The validity of the given questionnaire was confirmed by a panel of experts in nursing education and evidence–based practice followed by the guidance of Beaton [10]. The reliability of the questionnaire was calculated using the alpha coefficient of internal consistency (Cronbach's alpha coefficient) from 37 undergraduate nursing students. After the assessment, the researcher conducted two types of questions due to the correlation coefficient of the total variable < 0.3 and the Cronbach's alpha if the variable type is larger than Cronbach's alpha on both scales (Nunnally, J. (1978), Psychometric Theory, New York, McGraw-Hill).

EBPB-S: This questionnaire consists of 18 items with a 5-point Likert Scale (1=strongly disagree to 5=strongly agree). Scores above 60 (neither agree nor disagree) (but less than 80) indicate that there is no full commitment at this point to EBP, but it could be. Scores lower than 60 indicate there is no commitment to EBP. The closer to 80, the more commitment/belief in EBP. Mean scores > 80 indicate a firm belief in and confidence in implementing EBP. Cronbach's alpha coefficient in this study was 0.94.

EBPI-S: consists of 16 items with a 5-point frequency scale of how often in the previous 8 weeks respondents performed the item in question (0=0 times to 4= >/=8 times). The range of scores for EBPI-S & EBPI-E is 18 to 90. To interpret the EBPI-S scores, a response of 0 -17 indicates that in the past 8 weeks, respondents have implemented EBP less than 1 time. An overall mean score of 18 - 35 would indicate respondents have implemented EBP between 1-3 but less than 4 times within the past 8 weeks. A score between 36 – 53 would indicate that respondents have implemented. Cronbach's alpha coefficient in this study was 0.95.

Data collection procedure: Students who agreed to participate in the study were asked to complete the demographic data and outcome variables. Students who agreed to participate were emailed the assessment content and asked to complete questions on the Google form within 1 day of receiving the email.

Data analysis: STATA software version 14.2 was used to analyze the data. Descriptive statistics were used to describe the characteristics of participants: qualitative variables (frequency, percentage), and quantitative variables (mean, SD).

Ethics approval: The Institutional Review Board at Can Tho University of Medicine and Pharmacy sanctioned the ethical approval for this study (Approval No. 509/PCT-HĐĐĐ, dated November 25, 2021). Written informed consent was obtained from all students who agreed to participate in the study. The students, whose participation was completely voluntary, received both oral and written information about the purpose,

content, and extent of the study and were assured that their responses were confidential. Participants' confidentiality was protected by providing a code number for each participant at the data collection and analysis stage. In addition, the collected data were stored in a password-protected computer.

III. RESULTS

Table 1. General characteristics of participants

Characteristics	Frequency (n)	Percentage (%)
Genders		
Male	6	13.33
Female	39	86.67
Academic years		
3rd year	42	93.33
4th year	3	6.67
Ranked academic		
Very good	7	17.56
Good	38	84.44
Age (Mean ± SD)	21.22 ± 0.7	

Most of the study participants were 3rd year students, accounting for 93.33%. The majority of the participants were females, accounting for 86.67%. Regarding the ranking of academic performance according to the cumulative average score up to the time of the study, students with good levels accounted for 84.44% and 17.56% with very good academic performance; the average age was 21.22 ± 0.7.

Table 2. Participants' approach to EBP

Contents	Frequency (n)	Percentage (%)
Students had seen the teachers and physicians using EBP		
Yes	27	60.00
No	18	40.00
Contents	Frequency (n)	Percentage (%)
Had thought "EBP is a professional development standard"		
Yes	39	86.67
No	6	13.33
Had used the UpToDate database		
Yes	0	0
No	45	100

The majority of participants have seen teachers and physicians applying evidence in patient care (60%) and believed that EBP is the standard for professional development (86.67%). However, no participants had ever used UpToDate databases.

Table 3. Evidence–Based Practice Beliefs for Students

Item	Contents	Mean ± SD
1	I clearly understand the EBP step	3.32 ± 0.87
2	I am sure that I can implement EBP	3.52 ± 0.86
3	I believe that asking PICOT questions will promote a systematic search for evidence to answer the question and not a project	3.63 ± 0.93

Item	Contents	Mean ± SD
4	I understand that the role of EBP is to ensure best practice and reliable outcomes in healthcare	3.84 ± 0.82
5	I know how to describe a clinical issue using data generated from practice (for example, quality improvement data)	3.41 ± 0.88
6	I believe that I can systematically search for the best evidence to answer clinical questions in a time-efficient way	3.54 ± 0.94
7	I understand the language of EBP (for example, terms like research design, statistics, outcomes, and clinical questions)	3.32 ± 1.01
8	I believe that learning how to critically appraise evidence is an important step in the implementation of the EBP process	3.69 ± 0.89
9	I believe that I can identify and overcome barriers to implementing EBP	3.48 ± 0.81
10	I am sure that evidence-based guidelines can improve clinical care	3.65 ± 0.95
11	I am sure that I can implement EBP in a time-efficient way	3.50 ± 0.75
12	I am sure that implementing EBP will improve the care that I provide to my patients	3.65 ± 0.79
13	I am sure that I know how to measure the outcomes of my care	3.39 ± 0.83
14	I believe that EBP takes too much time	3.00 ± 0.89
15	I am sure that I can access the best resources in order to implement EBP	3.45 ± 0.78
16	I know how to implement EBP sufficiently enough to start practice changes	3.39 ± 0.85
17	I am confident about my ability to implement EBP in my clinical practicum settings	3.45 ± 0.81
18	I believe the care that I currently provide is evidence-based	3.61 ± 0.80
Total		62.89 ± 12.04

Participants had a positive attitude towards EBP but were not confident enough to apply it to clinical practice scoring of 62.89 ± 12.04.

Table 4. Evidence–Based Practice Implementation for Students

Item	Contents	Mean ± SD
1	Critically appraised evidence from a research study	0.80 ± 0.78
2	Generated a PICOT question	0.51± 0.73
3	Informally discussed evidence from a research study with a student colleague, faculty member or clinical colleague	0.96± 0.85
4	Shared evidence from a study or studies in the form of a report or presentation to more than 2 student or clinical colleagues or faculty	0.57± 0.69
5	Evaluated the outcomes of a clinical practice decision	0.57± 0.72
6	Shared an EBP guideline with a student clinical colleague or faculty member	0.63± 0.74
7	Shared evidence from a research study with a patient/family patient member	0.37± 0.57
8	Shared evidence from a research study with a multi-disciplinary colleague	0.37± 0.64
9	Read and critically appraised a clinical research study	0.61± 0.61
10	Accessed the Cochrane Database of Systematic Reviews	0.22± 0.47
11	Accessed evidence-based guidelines such as professional organizations or other national guidelines	0.39± 0.68

Item	Contents	Mean ± SD
12	Used EBP guidelines or systematic reviews as the basis of clinical making-decision	0.63± 0.83
13	Evaluated a care initiative by collecting patient care outcome data	0.65± 0.79
14	Share the outcome data collected with a student, clinical colleague, or lecturer	0.57± 0.69
15	Made a clinical making-decision about how to care for a patient based on patient care outcome data	0.72± 0.81
16	Promoted the use of evidence-based practice to classmates or clinical colleagues	0.76± 0.73
Total		9.28 ± 8.19

The mean score of the EBPI-S scale was 9.28 ± 8.19. Participants used evidence less than once within 8 weeks up to the research time.

IV. DISCUSSION

There are relatively few studies conducted and reported on the beliefs and implementations of EBP among nursing students conducted in Vietnam. The results from this study showed that the proportion of female nursing students was higher than that of males, in which the majority of students with good academic standing attended the course. In addition, this study showed that undergraduate nursing students appreciated the role of EBP and its importance in providing patient care and career development (86.67%). This result was similar to Jonas Preposi Cruz's study, showing that nursing students appreciated the role of EBP [6]. This suggests that students were aware of the importance of EBP for nursing practice and assumed that EBP would improve the quality of care [6]. However, a low percentage of nursing students had seen teachers and medical staff using EBP (60%) and had not recorded students using UpToDate databases. UpToDate is one of the most popular opportunities. The database supports the application of EBP and evidence search in addition to the Cochrane database and is a systematic review database focusing on common clinical problems [5].

Regarding the beliefs about EBP of nursing students, our research showed that the students have positive beliefs about EBP but were still not confident enough about their ability to practice EBP application. Although most students believed EBP guarantees best practice and gives reliable results (3.84 ± 0.82), some believed EBP takes a long time (3.00 ± 0.89). According to Rita Ann Laske, one of the factors that students think EBP takes a long time is the process of searching and evaluating the quality of evidence [11]. Therefore, there is a need for EBP courses that integrate with the curriculum to help improve and enhance students' EBP skills.

Similar to the measurement of the implementation of EBP by nursing students in the clinical practice environment, it is found that students apply EBP in the practice of patient care at a very low rate. Although the implementation of EBP by students is very low, nursing students have carried out a few EBP activities, such as evaluating the results of scientific studies and exchanging evidence with classmates. This result is not surprising because previous studies have also shown that the application of EBP by nursing and nursing students is very low [12]. These results show that applying EBP in the care process is not only a step-by-step application based on clinical problems and patient needs but also requires a combination of many other skills. Therefore, it is necessary to guide students

through the steps of EBP implementation, to guide the use of supporting databases, to search and evaluate the quality of evidence, and to exchange skills [13].

V. CONCLUSION

This research shows that students have a positive attitude towards EBP but are not confident enough to apply it in the process of patient care. The clinical application of EBP among nursing students is still at a low rate. Therefore, it is necessary to develop an EBP course to enhance the beliefs and implementation of undergraduate nursing students. The content of this course needs to be concretized, rigorous and clearly shown in order to provide skills and knowledge about EBP to students in order to improve the quality of nursing training at Can Tho University of Medicine and Pharmacy as well as the quality of care in Can Tho city in particular and the Mekong Delta region in general.

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