

Apinyalungkon & Ornlao, 2019

Volume 5 Issue 1, pp. 106-113

Date of Publication: 22nd March 2019

DOI-<https://dx.doi.org/10.20319/pijss.2019.51.106113>

This paper can be cited as: Apinyalungkon, K. & Ornlao, S., (2019). The Effects of Evidence-Based Practice (EBP) and Reflective Teaching on the EBP Ability of Nursing Students. PEOPLE: International Journal of Social Sciences, 5(1), 106-113.

This work is licensed under the Creative Commons Attribution-Non Commercial 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

THE EFFECTS OF EVIDENCE-BASED PRACTICE (EBP) AND REFLECTIVE TEACHING ON THE EBP ABILITY OF NURSING STUDENTS

Khanarot Apinyalungkon M.N.S. (Pediatric Nursing)
Professional Nursing, Boromarajonani College of Nursing Phare, Thailand
khanarot.m@gmail.com

Sutthida Ornlao M.N.S. (Pediatric Nursing)
Operating Instructor, Boromarajonani College of Nursing Phare, Thailand

Abstract

The purpose of this study was to investigate the effects of evidence-based practice and reflective teaching on EBP ability of nursing students. The six steps of the study were conducted as follows: 1) identifying areas of uncertainty and reflecting, 2) asking answerable questions, 3) searching for research evidence, 4) appraising critically of the research, analyzing, and making a conclusion, 5) doing action plan and implementing, and 6) auditing the EBP results. The samples were 44 second year nursing students. Research instruments were the lessons based on EBP and reflective teaching and the evaluation form for the ability in nursing practice based on EBP. The study was conducted, and the data were collected 8 weeks. The data, then, were analyzed using mean, standard deviation and dependent t-test. The findings showed that the scores of the post-test regarding the ability in nursing practice based on EBP were higher than those of their pre-test at the .01 level of significance.

Keywords

Evidence - Based Practice, Nursing Students, Reflective Teaching

1. Introduction

Ability in nursing practice using evidence-based practice (EBP) is one of the key competencies that identify nursing profession in patient care and the quality of the nurse. EBP is crucial and leads to the effective results in nursing outcomes. It can be said that EBP has been done through researching process with strongest level of evidence. In addition, it critically appraises the evidence that has been collected for its validity, reliability, and applicability, and then synthesizes that evidence. It can be applied to use in clinical situations, and it is appropriate for use according to the expected outcomes (Melnyk & Fineout-Overholt, 2011). For example, regarding the use of evidence-based practice with pediatric patients with pneumonia, it was found that the experimental group had no complications of receiving oxygen and chest physiotherapy. In addition, the length of aerosol therapy and length of hospital stay were significantly different ($p < .01$). When comparing the skills in respiration management of parents, it was revealed that, after the parents used this practice, the mean score was higher than the mean score before using this practice significantly ($p < .001$) (Apinyalungkon, Pathong, & Poommarin, 2016).

Nowadays, the obstacles of evidence-based practice are that nurses lack knowledge and skills in applying and using EBP (Saunders, & Vehvilainen-Julkunen, 2016). The development of ability in nursing practice using evidence-based practice needs a skill in searching for information, thinking critically, and making clinical decision. One good way to develop this practice is starting from developing nursing students to have EBP skill (Melnyk, Fineout-Overholt, Feinstein, Sadler, & Green-Hernandez, 2008).

The nursing practice based on evidence-based practice is the process that requires the use of current evidence to decide the patients' treatment, including the quality evaluation and applicability of existing research according the needs of patients, cost appropriateness, clinical expertise, and clinical context (Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2010). Based on the literature review, it was found that the learning and teaching management based on EBP can improve critical thinking of nursing students (Cuia, Li, Gengb, Zhanga, & Jinc, 2018). Moreover, nursing students have positive attitudes towards the use of research findings in their nursing practice. However, they still lacks supports, opportunities, and confidence in nursing practice using EBP (Ryan, 2016). Concerning the learning and teaching management based on EBP, the problems found are that students are not able to fully understand or diagnose the patients' problems, and they lack analysis of evidence. As a result, this affects their decision in using that evidence. It is very important

because they need to understand the evidence clearly before they start searching for that evidence for their further analysis of patients' clinical problems.

The learning and teaching management based on reflective teaching is the process between recognizing problems and solving problems. It can be divided into 5 periods: identifying the problem, identifying the importance of problem, setting up hypotheses, giving the reasons for setting up the hypotheses, and testing the hypotheses (Mackintosh, 1998). It was revealed that the reflection in nursing practice is very useful, and it helps nursing students be able to see/understand clinical situations in various aspects (Thiamwong, Sonpaveerawong, McManus, & Suwanno, 2014). Importantly, the reflective teaching can be incorporated into the learning and teaching management based on EBP so that nursing student will be able to identify the problems of patients and think critically for their decision-making in choosing appropriate nursing practice based on EBP with each patient.

The researcher, therefore, developed the teaching based on EBP and reflective thinking. It consists of six steps: 1) identifying areas uncertain and reflecting, 2) asking answerable questioning, 3) searching for research evidence, 4) appraising critically of the research, analyzing, and making a conclusion, 5) doing action plan and implementing, and 6) auditing the EBP results.

2. Research Objective

To compare the abilities in nursing practice based on evidence-based practice, before and after the teaching based on EBP and reflective

3. Conceptual Framework

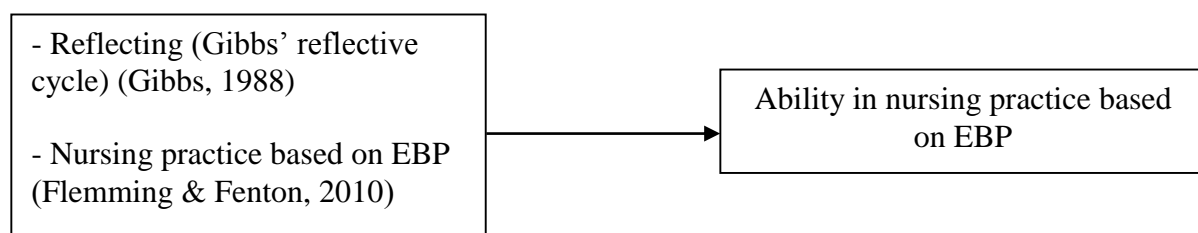


Figure 1: *Conceptual Framework*

4. Research Methodology

This research is a Quasi-experimental one group pretest–posttest design research.

The participants were 44 second year nursing students at Boromarajonani College of Nursing, Phrae. They enrolled in the course Child and Adolescent Nursing Practicum 1.

4.1 Research Instruments

1. The lessons based on EBP and reflective teaching. It took 10 weeks in the course Child and Adolescent Nursing Practicum 1.
2. The evaluation form for the ability in nursing practice based on EBP of Poorananon, & Krirkgulthorn (2011) which the Cronbach's alpha coefficient is .86. It contains a five-rating scale, from 5-1, for rating the ability: highest, high, moderate, low, and lowest. The score criteria are shown below.

4.00-5.00	indicates	high ability
3.00-3.99	indicates	moderate ability
1.00-2.99	indicates	low ability

4.2 The Assessment of the Quality of Research Instruments

4.2.1 Content Validity

The lessons based on EBP and reflective teaching were evaluated by five experts: two experts in curriculum and teaching, one expert nursing teacher for child and adolescent nursing, one expert teacher in EBP, and one expert teacher in reflection. The results of the evaluation met the criteria. The experts' comments and recommendations were also used to improve the lessons.

4.3 Data Collection

The steps are as follows.

1. The researcher explained the objectives of the study to the nursing students in the introductory day of the course Child and Adolescent Nursing Practicum 1. Then, nursing students completed the evaluation form for measuring ability in nursing practice based on EBP as a pre-test.
2. The nursing teacher explained the concept of EBP to the nursing students in the first session of the course Child and Adolescent Nursing Practicum 1.
3. The nursing students were divided into six groups (a group of 7-8 students). They were assigned to study case studies in order to do the Step 1 and 2. They had to identify areas of uncertainty/problems by writing their reflection, reviewing the details and feelings, evaluating the effects on situations of the case studies, and questioning according to the PICO model.
4. Each group did Step 3, 4, and 5 by searching for research evidence, and appraising the validity of the evidence. Then, they wrote a summary of the lesson learned, planned to bring the evidence obtained to plan for nursing care with case studies.

5. In each group, students planned for their nursing evaluation and presented the learning results according to the five steps.

6. Students completed the evaluation form for measuring ability in nursing practice based on EBP.

4.4 Data Analysis

The data obtained from the participants were analyzed by using descriptive statistics. The data regarding ability in nursing practice based on EBP were analyzed by using paired t-test.

5. Results

89% of 44 second year nursing students were female, aged between 19-20.

Table 1: *The Comparison of the Scores of Ability in Nursing Practice based on EBP, before and after the Teaching based on EBP and Reflective Teaching*

Evidence-based practice	Before teaching Mean(SD)	After teaching Mean(SD)	t	p
1. Identifying the problem for further research	3.3 (0.73)	3.86 (0.77)	3.97	<0.001
2. Searching for research to solve the problem	3.18 (0.79)	4.00 (0.65)	6.06	<0.001
3. Study research in Thai version	3.39 (0.69)	4.18 (0.69)	6.2	<0.001
4. Study research in English version	2.59 (0.87)	3.32 (0.77)	5.08	<0.001
5. Evaluate the quality of research findings	3.11 (0.75)	3.77 (0.64)	5.63	<0.001
6. Make a decision in using research findings to solve the problem	2.93 (0.87)	3.84 (0.68)	7.52	<0.001
7. Cite research findings in the report	3.16 (0.71)	4.11 (0.65)	6.93	<0.001
8. Bring research findings to make nursing plan in the hospital/community	3.16 (0.78)	4.00 (0.72)	6.11	<0.001

The results from the comparison of scores of ability in nursing practice based on EBP showed that the scores after the teaching based on EBP and reflective teaching was significantly higher than those before the teaching. The most difference was citing research findings in the report. The least difference was identifying the problem for further research.

Table 2: *The Comparison of Scores of Ability in Nursing Practice based on EBP, before and after the teaching based on EBP and Reflective Teaching*

Ability in nursing practice based on EBP	Experimental group		p-value
	MEAN	SD	
Before	24.82	4.88	<0.001
After	31.07	4.44	
Increase	6.25	5.05	

Regarding the ability in nursing practice based on EBP, it was found that the score after the teaching based on EBP and reflective teaching was significantly higher than those before the teaching ($p < .001$) as shown in Table 2.

6. Discussion

The purpose of this study was to compare the ability in nursing practice based on evidence-based practice, before and after the teaching according to EBP and reflective teaching. It was found that the ability in nursing practice based on EBP and reflective teaching after the teaching was significantly higher ($p < .001$). The result of this study supports the study conducted by Rojjanasrirat & Rice (2017) who investigated the effects of using EBP on attitudes, knowledge, and practice. Their findings showed that the scores after the teaching based on EBP was significantly higher than those before the teaching. In addition, this result is also similar to the study conducted by Ruzafa-Martínez, López-Iborra, Barranco, & Ramos-Morcillo (2016) who managed the learning and teaching according to EBP with the second year and third year nursing students. The findings showed that the nursing students in the experimental group who received the teaching based on EBP had more positive attitude and better knowledge and skills than those in the control group. In the present study, as the results showed, it might be because these nursing students had learned about researching process an EBP in the course. This enables these nursing students perform nursing practice well. The findings of the study also supports the suggestions noted in the study conducted by Poorananon & Krirkgulthorn (2011) in that the learning and teaching management should include researching process and nursing practice based on EBP in order that nursing students would become ready in terms of theoretical knowledge before doing practical part that the emphasis was put on the improvement of ability in nursing practice based on EBP before they attended their further nursing courses. Moreover, when comparing the ability in nursing practice based on EBP of each item, it was revealed that making a decision in using research findings to solve the problem showed higher scores than those before the teaching. It might

be because this step includes the concept of EBP and reflection. Therefore, nursing students can do the reflection well. It is the process between recognizing and problem-solving (Mackintosh, 1998). According to this point of view, Mezirow (1991) noted that the process of learning transfer of adulthood is the reflection process. Zhang (2017) mentioned that the reflection process can increase critical thinking. Profetto-Mcgraph (2005) indicated that the improvement of critical thinking can support the ability in using EBP. Barredo (2005) also pointed out that the key of reflection and EBP is to recognize the necessity and appropriateness in clinical practice. To conclude, it is clear that EBP helps nursing students see/understand clinical situations in various perspectives. They can consider the consequences completely, and they are able to search for the relation of causes of clinical situations. Then, this leads to the appropriate conclusions and decision in using research findings with the case studies. As a result, it results in the higher scores of ability in nursing practice based on EBP.

7. Scope of Future Research

The future research should explore a long term follow-up for the efficiency that occur with the patients who have received nursing practice based on EBP by nursing students.

8. Research Limitations

The number of sample of this research was small. As a result, there was only one group to be measured. This might reduce the reliability when comparing with the research that has two groups to compare.

References

- Apinyalungkon, K., Pathong, W., & Poommarin, R. (2016). Effectiveness of Clinical Practice Guideline of Respiratory Management for Children with Pneumonia. *Journal of Phrapokklao Nursing College*, 7(1), 139-151.
- Barredo, R., D., V. (2005). Reflection and Evidence-Based Practice in Action: A Case Based Application. *The Internet Journal of Health Sciences and Practice*, 3(3), 1-4.
- Cuia, C., Li, Y., Gengb, D., Zhanga, H., & Jinc, C. (2018). The effectiveness of evidence-based nursing on development of nursing students' critical thinking: A meta-analysis. *Nurse Education Today*, (65), 46-53.
- Mackintosh, C. (1998). Reflection: a flawed strategy for the nursing profession. *Nurse Education Today*, 18, 553-557.

- Melnyk, B. M., Fineout-Overholt, E., Feinstein, N. F., Sadler, L. S., & Green-Hernandez, C. (2008). Nurse practitioner educators' perceived knowledge, beliefs, and teaching strategies regarding evidence-based practice: implications for accelerating the integration of evidence-based practice into graduate programs. *Journal of Professional Nursing, 24*(1), 7-13.
- Melnyk, B. M., Fineout-Overholt, E., Stillwell, S. B., & Williamson, K. M. (2010). Evidence-based practice: step by step: the seven steps of evidence-based practice. *AJN The American Journal of Nursing, 110*(1), 51-53.
- Melnyk, B. M., & Fineout-Overholt, E. (2011). *Evidence-based practice in nursing & healthcare: A guide to best practice*. Philadelphia: Lippincott Williams & Wilkins.
- Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. San Francisco: Jossey Bass.
- Poorananon, P., & Krirkgulthorn, T. (2011). Factors Predicting Nursing Student's Competency in Evidence-Based Nursing. *Journal of Nursing Science, (2)*, 47-55.
- Rojjanasrirat, W., & Rice, J. (2017). Evidence-based practice knowledge, attitudes, and practice of online graduate nursing students. *Nurse Education Today, (53)*, 48–53.
- Ruzafa-Martínez, M., López-Iborra, L., Barranco, A. D., Ramos-Morcillo, J, A. (2016). Effectiveness of an evidence-based practice (EBP) course on the EBP competence of undergraduate nursing students: A quasi-experimental study. *Nurse Education Today, (38)*, 82–87.
- Ryan EJ. (2016). Undergraduate nursing students' attitudes and use of research and evidence-based practice – an integrative literature review. *J Clin Nurs, (25)*, 11-12.
- Saunders, H., Vehvilainen-Julkunen, K., 2016. The state of readiness for evidence-based practice among nurses: an integrative review. *International Journal of Nursing Studies, 56*, 128–140.
- Thiamwong, L., Sonpaveerawong, J., McManus, S. M., Suwanno, J. (2014). Usefulness and Barrier of Reflective Practice in Nursing Students. *Journal of The Police Nurse, 6*(2), 121-133.
- Zhang, C., Fan, H., Xia, J., Guo, H., Jiang, X., & Yan, Y. (2017). The Effects of Reflective Training on the Disposition of Critical Thinking for Nursing Students in China: A Controlled Trial *Asian Nursing Research, (11)*, 194-200.