การประยุกต์ใช้หลักฐานเชิงประจักษ์กับวิชาชีพพยาบาล

Application of Evidence-Based Practice in Nursing Professions

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บทคัดย่อ

การปฏิบัติตามหลักฐานเชิงประจักษ์เป็นที่รู้จักและถูกนำมาใช้ในระบบสุขภาพเป็นเวลานานนับสิบๆปี อย่างไรก็ตามการนำหลักฐานเชิงประจักษ์มาประยุกต์ใช้ในวิชาชีพพยาบาลถูกนำมาใช้เมื่อไม่กี่ปีที่ผ่านมา ทั้งนี้เนื่องจากหลายสาเหตุที่เป็นปัญหาและอุปสรรคในกระบวนการได้มาซึ่งหลักฐานเชิงประจักษ์ที่มีคุณภาพ สาเหตุที่สำคัญ ได้แก่ ทัศนคติต่อการประยุกต์ใช้หลักฐานเชิงประจักษ์ ขาดความเข้าใจในกระบวนการวิจัย การแสวงหาและวิพากษ์หลักฐานงานวิจัยเพื่อให้ได้งานวิจัยที่มีคุณภาพ อีกทั้งการให้ความสำคัญของผู้บริหารและความร่วมมือของบุคลากรทุกระดับในทีมสุขภาพ ซึ่งส่งผลให้พยาบาลไม่มีเวลา และขาดการสนับสนุนในการประยุกต์ใช้หลักฐานเชิงประจักษ์ ดังนั้น เพื่อยกระดับคุณภาพการพยาบาล ลดปัญหาการฟ้องร้องของผู้รับบริการ และพัฒนาวิชาชีพพยาบาลให้ได้มาตรฐานตามยุคของการเปลี่ยนแปลงอย่างแท้จริง ผู้บริหารควรให้การสนับสนุน อบรมให้ความรู้เกี่ยวกับระเบียบวิธีวิจัยและกระบวนการประยุกต์ใช้หลักฐานเชิงประจักษ์อีกทั้งการมีส่วนร่วมของบุคลากรทุกระดับ ผลของความร่วมมือดังกล่าวจะทำให้เกิดการใช้หลักฐานเชิงประจักษ์ ยกระดับมาตรฐานวิชาชีพและคุณภาพทางการพยาบาลแก่ผู้ป่วยอย่างมีประสิทธิภาพ

คำสำคัญ: การปฏิบัติตามหลักฐานเชิงประจักษ์, วิชาชีพพยาบาล

Evidence-based practice (EBP) is a term that has come into frequent use in health care systems for decades. However, Professional nurses historically have been slow to use EBP in nursing. Many barriers have been identified as justification for not applying EBP in providing care. The crucial barriers that most often inhibit the use of EBP are related to attitude toward EBP. The difficulty nurses have are in being able to effectively critique the efficacy of research studies. Nurses typically do not have sufficient knowledge about research methodology. Also, nursing directors and executives have not developed an appreciation of the utility and necessity of implementing EBP. This has resulted in nurses not being given the time and resources, and other needed support, to achieve application of EBP. In order to meet the high standards required of 21st century nursing, nursing directors and executives must not only provide the necessary resources, but also mentor nurses so that they are sufficiently knowledgeable about research methodology. EBP support also depends on coordination across the entire health care team. The result will be a significantly higher quality of nursing care and the ability of nurses being able to provide care effectively.

Keywords: Evidence-based practice, Nursing Professional

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Background

Evidence-based practice (EBP) is a term that has come into frequent use in health care settings, and is a driving force for many quality improvements. EBP has been used throughout multiple disciplines in health care settings. However, many health care professionals, especially nurses, are not fully informed as to its meaning and practical application. In addition, they face with barriers not only in the process of EBP implementation, but also in eliciting the cooperation of other health care teams.

EBP is not a new concept in nursing care. Florence Nightingale used statistical evidence to support her work in nursing reform, health care reform and to improve mortality rates[1]. The history of evidence–based practice was originated during Florence Nightingale's period. Florence Nightingale has been credited with the first evaluation and making decisions based on outcome observation[2]. Her decision making used in the care of patients, given the limitation of health care knowledge at that time, and brought about significant changes in the improvement of patient outcomes. The intent of this article is to encourage readers in health care professions to understand the benefits and implementation of EBP into their own practice. EBP is critical for developing care guidelines based on the most reliable research available to provide up-to-date care for their patients.

What is the Evidence –Based Practice (EBP)?

EBP provides a sound basis for good practice for improving the quality of care. However, there are various definitions by several experts. For instance, "doing the right thing in the right way for the right patient at the right time[3]." "The nurse making conscious judgments about available evidence[4]." and "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients[5]." In general, EBP is the global phenomenon which promote ideas of best practice, clinical effectiveness and quality care and involves an integration of evidence, clinical expertise, patient preferences, and clinical context of care delivery to inform clinical decision making[6].

Why do we need EBP in nursing?

Several factors influence nursing professions need to be concerned about using factual evidence for their practice. Today, most health care consumers are able to access health information via various multimedia. Moreover, health care information demand is rapidly increasing, as more patients want information be able to advocate for themselves. High quality care is rightfully the desired outcome of health care patients. Health care providers, especially nurses, need to be alert and follow the standards of care based on factual research evidence. Nurses are not able to use their "six sense", "Hunch", or "Gut feelings" to provide appropriate and effective care; otherwise nurse-patient conflicts may occur. Therefore, using EBP in nursing is critically important for providing the best practice to improve patient outcomes and to decrease conflicts between nurses and clients via malpractice. In addition, Magnet hospital's protocol for quality accreditation is required EBP as the standard for providing quality care. EBP allows for the standard of care, reduce cost, save time and result in better patient outcomes[7,8].

The consequences of using EBP lead to lowering high risks for clients such as medication error, fall rate, length of stay in the hospital, etc. Melnyk, et al reported nurses who were engaged in EBP experience more autonomy in their practice and had a greater level of job satisfaction[9]. Although implementing EBP creates a lot of benefits for clients and health care providers, nursing professions still struggle with EBP implementation. Several previous

studies revealed barriers to applying evidence into practice. For instance, interfering with translating evidence into direct nursing care, limited time away from direct care[10], inadequate EBP knowledge and training, and lack of autonomy and empowerment to change practice[11]. The barriers of EBP implementation were not only including time and knowledge, but also covering evidence based information, inadequate accessing of online resources, journals, or databases[12]. The study was consistent with another study that revealed the physicians sharing the research knowledge more often than nurses, and nurse practitioners share knowledge more than register nurses. Knowledge does not naturally and obviously flow to team members resulting in a lack of organization and structure to facilitate knowledge flow. Pravikoff, et al found few nurses were taught how to use electronic databases. The majority of nurses did not search databases to find practice information and those nurses who searched they felt that lacked well-defined search skills. Nurses who have little or no training in how to use theory and research will find using research results particularly difficult[13].

What skills are needed for nurses?

Firstly, nurses need to change their attitude toward EBP in positive ways. They need to believe that it will work well for patients. Another research study showed that after receiving EBP education, the perception of nurses about EBP belief and implementation changed in positive ways[12]. Secondly, there are specific skills that nurses need to learn for putting effective EBP into practice. EBP is often represented as a process that has numerous steps within it. Some experts suggest the models are included 4 steps, others suggest 5 steps. However, the various models have common aspects call “a Five step process” including (1) Assess: Identify a problem (2) Ask: Generate answerable question (3) Acquire: Ways to find relevant evidence (4) Appraisal: Critically appraise those evidences, and (5) Apply: Identify how best to apply the evidence to the patient based on patients need, drawing on clinical nursing expertise and clinical context[14].

Implementation of evidence into the nursing profession moves forward slowly. Refer to the reasons mentioned earlier in this document. It is important for nurses to concentrate on and address these barriers in order to bring forward EBP nursing to the profession. How to move evidence into practice?

The implementation of EBP begins with understanding the various types of evidence along with its strengths and limitations, patient’s preference & considerations, and the strength of evidence supporting the particular intervention. The process of bringing good evidence into practice follows the common five steps.

Step one: Identifying a problem and Step two: generate answerable questions. Using PICO (Population-Intervention-Comparison-Outcome) helps the EBP novice to narrow down areas of interest[15]. The following table shows how to apply PICO for scoping the designated problem.

Table 1 PICO application for elderly patients with VAP

P-Population	I-Intervention	C-Comparison	O-Outcomes
Elderly patients with ventilators	VAP bundle of care	Routine Care	Decreased VAP

As the table above indicates the area of interest is elderly patients with ventilator. The problem is "Are Elderly patients who on ventilator risky and susceptible to have ventilator associated pneumonia?" The PICO also show the way to lower VAP by providing VAP bundle of care compare to routine care which leading to expect outcome that is "decreased VAP"

From table two, this is another example of how to use PICO to narrow down areas of interest which is elderly patients. Identified problem is "Are elderly patients at risk to fall?" The PICO also narrow down the comparison of hourly rounding strategy to no rounding. The expected outcome would be decreased fall rate.

Table 2 PICO application for elderly patients with fall risk

P-Population	I-Intervention	C-Comparison	O-Outcomes
Elderly patients	Hourly rounding	No rounding	Decreased Fall

The other example for applying PICO:

Area of interest (Problem): Care giver has difficulty effectively communicating with a patient with dementia

P: care givers of dementia patients, I: Communication Training Program, C: information booklet, O: increase relationship between patients and care giver, decrease stress for care giver, and increase quality of life of patient with dementia

Answerable question: What is the best practice for communication between dementia's patient and care giver?

Keyword use: Communication with patients with dementia, dementia management, caregiver of dementia, etc.

Step three: Ways to find relevant evidence. This is a strategy of searching for the best evidence by using various keywords that are relevant to the designated problems such as pain treatment, pain management, or pain intervention. Nurses should learn more about websites, and their navigation, that provide more information related to health sciences. The nurses need to know sources of evidence and how to access on-site libraries, online databases such as www.nursingsociety.org, http:// www. nobi.nlm.nih. gov, www.cochrane.org www.joannabriggs.edu.au, Pubmed, Medline, CINAHL

Step four: Critically appraise the evidence, for quality of the research evidence. Nurses need to be able to determine if research is of adequate quality to be used in their practice[16]. The important aspects of appraisal of research evidence is the adequacy of research methodology which includes study design, samples, types of data, statistics analysis, limitations and applications for practice. In addition, several research institutes categorize the strength and quality of research evidence by grading or leveling.

Levels of evidence can be divided into three levels which includes (1) low level (2) moderate level, and (3) high level. Evidence hierarchy from the lowest level to highest level includes expert opinion, non-experimental studies such as descriptive, explanatory, cohort, and qualitative studies, experimental studies such as quasi-experimental studies, randomized controlled trail (RCT), and systematic review of RCTs. According to the National Health and Medical Research Council, grading the evidence quality into 4 grades from grade I-grade IV is as follows:

Grade I- systemic review of all RCTs

Grade II- at least one design RCT

Grade III- well design, cohort studies, comparative studies

Grade IV- case series

After appraisal of the research paper, nurses should collect good quality evidence and organize them in a table as shown below.

Table 3 Summarization of research studies format

Title/reference	Study design	Samples	Type of data analysis	Key findings/ limitation	Applicability to practice	Quality/grading
1..... 2..... 3.....						

Step five Apply: Identify how best to apply This step focuses on Integration of best evidences from step 4 with clinical experiences, nursing context, and patient preference & consideration to (1) develop best practices for the particular areas of interest, (2) implement those practices for the benefit of the patients, (3) evaluate for the outcomes which includes both expected outcomes and process outcomes, and (4) disseminate EBP or share the best practice to other health care personnel within and across clinical settings by presenting or publishing. According to Onsri and Julawong's study of developing the model of monitoring and preventing addictive substance problem in community which used the EBP process, EBP process strengthens the validity of the benefit of using the monitoring and preventing model.[17]

Example of application of the EBP process[18]
Step I and II: Identify problem and answerable question

Novice N-ICU nurses did not have enough knowledge and skills to adequately teach mother-infant couplets about breastfeeding which leads to taking more time with the mother & infant. In addition, the nurses feel uncomfortable and exhibit low self-confidence in teaching. Therefore, the answerable question is "What is the most appropriate way to provide the education and clinical skills to equip N-ICU nurses to best teach and promote breastfeeding to all mother-infant couplets?" The PICO should be developed as follow.

Table 4 PICO application of Standardized formal lactation education for N-ICU nurses

P-Population	I-Intervention	C-Comparison	O-Outcomes
N-ICU nurses	Standardized forma lactation education	Routine breastfeeding education	Nurses: - Knowledge, skills Breastfeeding (2 minutes) - Self-comfort Parents: satisfaction Infant: no complication - aspiration

Step III: research teams; search and gather literature 2011-2016 using CINAHL and Pubmed and used keyword such as breastfeeding, lactation education.

Step IV: Critical appraisal: The team received 41 relevant articles which had strong and reliable evidences.

Step V: Implementation: first, the team developed a program called "standardized formal lactation education" The program consists of 40 hours of both teaching in class and practicum. Second, intervention: the program was applied to 22 novice nurses. Third, evaluation of the intervention: Tools were developed for evaluating the expected outcomes and the process outcomes. Tools consist of (1) Questionnaire to test knowledge of N-ICU nurses in teaching mother for breastfeeding (Pre-post test), (2) Perception of Comfort (self evaluation), and (3) Parental satisfaction survey. The results of this intervention have been presented in poster and podium presentation formats.

Future direction for promoting EBP in nursing

As mention earlier, professional nurses historically have been slow to use EBP in nursing. Many barriers have been identified for not applying EBP in providing care. Leaders of the health care organization should promote positive attitudes and support for EBP application, and ongoing initiatives to inform nurses across the institute of EBP and its availability. The leader should provide the necessary learning environment, time, resources, and compensation for nurses to engage in EBP. Moreover, Mentorship for implementing evidences appraisal and EBP process must also be strongly considered. Additionally, the bachelor nursing curriculum and continuing nursing education should include and put more focus on EBP process and application. The previous study revealed nursing education level was significantly positively associated with attitudes toward EBP. In addition, nurses who have EBP mentors to help them search for the ways to use evidence have more favorable EBP beliefs.[19] Organizational culture can be transformed through provision of EBP education and mentors implementation of EBP knowledge, skills, utilization of EBP resources. The long-term impact of education on nurses' attitudes toward and use of EBP should be fostered and built into the organization's culture and competencies. The bedside nurse must be convinced that the translation of research evidence into practice is truly a vital part of everyday nursing care.

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