

Integration of evidence-based practice in nursing education: a novel approach

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Abstract

Evidence based practice (EBP) has gained momentum globally, to provide effective and efficient health care. Although EBP has evolved to a great extent over the last two decades and is accepted as an important concept by all health care professionals, its integration in practice is still challenging. Integration of EBP in nursing profession both in nursing practice and nursing education is an important issue. This article describes the experience of the authors in integrating evidence based practice in nursing education in Manipal University. It focuses on the training of nurse educators in EBP, alignment of EBP in curriculum and EBP practicum in curriculum so as to enable a nurse to identify evidences, make appropriate clinical decisions and utilize EBP in rendering scientific and quality patient care.

Keywords: Evidence Based Practice (EBP), Evidence Based Nursing, Evidence Based Healthcare, Evidence Based Education, Nursing Education.

INTRODUCTION

Rigorously tested best possible evidence must be the basis for effective clinical practice. Although healthcare professionals have used research as a basis for practice since long time, a systematic approach to the translation of research into practice has been introduced recently. Yet, it is only in the past two decades that an emphasis on evidence as a basis for practice reached the forefront of healthcare (Houser and Oman, 2011). The rapid technological advancements have supported quick communication of best practices, and have given wide access to consumers to access healthcare information easily. As a result, evidence-based practice is quickly becoming the norm for effective clinical practice globally. Evidence Based Practice (EBP) is a problem solving approach to clinical care that incorporates the conscientious use of current best evidence from well-designed studies, clinician's expertise, and patient's values and preferences (Melnyk and Fineout-Overholt, 2005; Sackett et al., 2000). Although EBP has

evolved to a great extent over the last two decades, and is accepted as an important concept by all health care professionals, its integration in practice is still a challenge in nursing profession too, integration of EBP in practice and nursing education remains as an important issue. Developed countries have made greater progress in integration of EBP in patient care and training of health professionals. However, EBP is still in its infancy in developing countries like India, although there are obvious advantages for effective utilization of healthcare resources.

The purpose of this paper is to discuss some of the key areas that enable nurses to integrate EBP in nursing education. Emphasis is given on training nurse educators in EBP, alignment of EBP in curriculum and EBP practicum in curriculum.

Training nurse educators in EBP

The emerging phenomena of evidence-based healthcare warrants training of all health professionals in EBP to provide health care based

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on the best available evidence. Therefore training of nursing personnel is mandatory to effectively implement EBP in health care. Along with training nurse educators, it is also necessary to design education models addressing evidence based clinical practice in undergraduate and postgraduate nursing curriculum to bring about enormous changes in EBP integration in patient care.

A systematic review done by the authors on "Effective interventions to enhance Evidence-Based Practice among nurses" identified 16 eligible studies after screening 7159 articles. These 16 studies were carried out in different settings globally, but there were no published studies from India and South Asia. The EBP intervention programs described in these studies included critical appraisal education program (Chang et al., 2013; Smith-Strom and Nortvedt, 2008), online learning module (Mollon et al., 2012), EBP projects (Grant et al., 2012), self-directed learning and workshop (Zhang et al., 2012), online journal club (Sortedahl, 2012), evidence-based integrated course (Jalali-Nia et al., 2011), hybrid course (Balakas and Sparks, 2010), EBP clinical practicum (Oh, et al., 2010), structured multifaceted mentorship program (Wallen, et al., 2010), evidence based practice cycle (Morris and Maynard, 2009), EBP-focused interactive teaching strategy (Kim, et al., 2009), educational intervention (Varnell, Haas, Duke and Hudson, 2008), computer-based education intervention (Hart et al., 2008), nursing research program (Larrabee et al., 2007) and EBP module (Morris and Maynard, 2007).

As there were no studies from South Asia, it was clear that training nurses in EBP in South Asia is yet to happen. The proposed EBP training program was conceptualized using focus group discussions, extensive review of literature, formulation of objectives and learning outcomes, development and organization of the content and development of the training strategy. The teaching learning strategies used in the tailored EBP training program included interactive lectures, group discussions, working in small groups, hands on practice, self-directed learning, critical appraisal and reflective exercises.

There is no gold standard regarding what should be the content of an EBP training program for nurses or any health professionals. However, the studies obtained through the systematic review revealed that majority of the EBP intervention was organized based on the basic five steps of EBP (Mollon, et al., 2012; Jalali-Nia, 2011; Oh, et al., 2010; Kim, et al., 2009; Varnell, 2008; Hart et al., 2008; Smith-Strom, 2008; Morris, 2007). The basic five steps outlined by Centre for Evidence-Based Medicine, Oxford University, UK are: Asking focused questions, finding the evidence, critical appraisal, making a decision and evaluating performance.

The current experience of developing and implementing a training program on EBP for nurse educators and testing its effectiveness made it possible to enable the nurse educators to identify, obtain and critically evaluate clinically relevant research literature. The training also focussed on enabling the nurse educators to integrate the evidence identified and make appropriate clinical decisions.

a) Alignment of EBP in curriculum

There are some elements of EBP in the nursing curriculum in India for undergraduate and postgraduate courses. However, these elements may not be sufficient to prepare the future professionals to adequately implement EBP in their area of practice. There is a need to undergo curriculum revision for the educational preparation of health professionals in order to focus on evidence-based practice (Stevens, 2013). Stand alone EBP course is a way to integrate EBP in curriculum, in which a course/subject is integrated in the curriculum, based on the fundamental content area of EBP. This approach doesn't seem promising as previous systematic reviews identified that "stand alone" courses improved the knowledge component but not the practice (Coomarasamy and Khan, 2004). EBP implementation to be successful in practice, acquisition of knowledge, attitude and skills are essential. Another approach to integrate EBP in curriculum is a clinically integrated course. One such clinically integrated course was developed successfully in evidence-based medicine (Coppus et al., 2007).

Ross et al., (2009) discussed a spiral approach of integrating EBP in the nursing curriculum. This approach used a spiralling of learning activities with increasing level of complexity, with an emphasis on revisiting the basic ideas repeatedly and building upon them (Smith, 2002). This undergraduate nursing curriculum (Ross et al., 2009) has seven learning activities evolving from first year to the third year program of study. Beginning concepts of EBP were built in the first year clinical nursing courses. The students had skill development training in designing focused questions, database searching and evaluation of evidence. In the second year of study, students focused on evaluation of various EBP sources, collected existing data and evaluated the data against best evidence sources like protocols, standards and guidelines. The EBP skills continued to be practised in the third year, which concentrated on leadership and outcomes management. Students collaborated with other team members and implemented projects, evaluated EBP implementation and disseminated findings for quality improvement.

Though Indian Nursing Council has integrated EBP in nursing curriculum prescribed for undergraduate studies, its collaboration into clinical courses and patient care needs to be strengthened further. The EBP thread in the curriculum has to be woven in a spiral manner, which enables graduates to be competent to practice Evidence Based Nursing (EBN). Moreover, EBP has to be one of the educational outcomes for a new graduate. It is time for us to introspect and critically think whether the existing curriculum is sufficient to produce nursing graduates to effectively

implement EBP in their work place. If not, strategic measures are required to augment the curriculum, as EBP is considered as one of the essential competencies in quality improvement by many countries of the world. Even though there is a provision to learn the EBP concepts in the specialty and research subjects of postgraduate curriculum, it is not emphasized sufficiently to implement scientific and quality patient care. Hence, students should also be taught to acquire specific skills to effectively implement EBP. Perhaps, a relook into the curriculum is warranted as the healthcare system is marching towards increasing integration of EBP. At Manipal College of Nursing, Manipal, we have gone a step further and started an EBP course for MPhil nursing students from 2013. The students already had background knowledge of EBP, this course focused on furthering the knowledge and conducting EBP implementation projects. Apart from this, EBP concepts were taught in undergraduate and postgraduate courses. Moreover, undergraduate and postgraduate students were given EBP assignments/ projects integrated in clinical specialty subjects.

b) EBP practicum in curriculum

Although we are familiar with the concepts of EBP, a question arises as to what practical aspects/ assignments/ projects students could undergo during their study. The table below gives the description of various practical aspects of EBP that could be integrated into the curriculum.

Basic EBP steps	Teaching-Learning activities
<p>Step 1 Translation of uncertainty into an answerable question</p>	<p>In the classroom, clinical scenarios can be presented which may help students to frame focussed questions using the Population, Intervention, Comparison & Outcome (PICO) format. This skill could be further strengthened by students identifying real time patient care issues during the clinical specialty posting and developing focused questions.</p> <p>This skill can also be assessed by a structured clinical scenario provided to the students for developing focused question and evaluate it using a grading rubric.</p>

<p>Step 2 Searching for evidence</p>	<p>In a classroom having online computer facilities, connection to the institutional intranet library access and internet databases access is required to teach skills in searching relevant information. Hands on training could be given to students to effectively search primary (Medline, CINAHL etc.) and secondary sources (Cochrane Database for systematic reviews, Guideline sites etc.) to practice EBP. Students should be able to develop tailor-made search strategies for various databases. Search skills could be evaluated using Computer based Objective Structured Clinical Examination (OSCE) with structured questions and grading rubric.</p>
<p>Step 3 Critical appraisal</p>	<p>In a classroom, critical appraisal skills for various evidence sources could be taught. Further, students can work in small groups and perform critical appraisal followed by discussion. There are standardised tools available for appraising various sources. This skill could be evaluated using defined criteria and grading rubric.</p>
<p>Step 4 Application of evidence</p>	<p>In the clinical area, students could select patient care issues for evidence application. Before applying the evidence a detailed assessment of existing practice, resources, and skills of professionals, and patient preferences should be ascertained by means of a pre-clinical audit. Strategies to apply evidence could be developed. Evidence from systematic review findings, clinical practice guidelines and point of care tools can be applied as appropriate to the context. The skill could be evaluated by structured format on various stages of application of evidence, which includes planning and implementation.</p>
<p>Step 5 Evaluating performance</p>	<p>After application of evidence, the situation has to be evaluated so as to know that the evidence applied is effective or not. This could be carried out using post-clinical audit.</p> <p>At this stage a comprehensive assessment of students regarding knowledge, attitude, skills, behaviour and competency, with regard to EBP, could be carried out.</p>

CONCLUSION

Evidence based practice can be integrated into nursing education in India by preparing nursing faculty with necessary skills in each step of evidence based practice. Evaluating the effectiveness of a training program on evidence based practice of the nursing faculty have shown that it could be widely accepted and utilised in different institutions of nursing education in India. As most of the secondary sources of EBP such as systematic reviews and clinical practice guidelines are available freely on internet through general search engines, it is not difficult for an educational set-up with limited resources to train faculty and students in using these resources. One of the advantages for Indian citizens is the

availability of all resources in the Cochrane library, as Indian Council of Medical Research (ICMR) has paid national subscription for using resources in Cochrane library. From the Cochrane library, training materials for teaching students in EBP are available. Databases which require subscription such as CINAHL, Medline could be accessed through an institutional web portal. A radical transformation of the nursing curriculum for implementing EBP may not seem to be a difficult task to achieve. But, the current syllabus which allows teaching EBP could be creatively used by nurse educators to enable students to practice EBP. To conclude, a paradigm shift in the mindset is very important to integrate EBP effectively in nursing education.

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