

Evidence Based Nursing Practice Inside and Outside Middle East

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Abstract: Evidence based practice (EBP) is one of important issues in nursing practice. EBP uses a systematic review to emphasize the comprehensive evaluation of all relevant research according to a clinical question. Nurses have a key role in facilitating consensus regarding the evidence to be used and ensuring the availability of resources needed to empower nurses for outcome-oriented patient care through evidence-based nursing practice is critical. This paper aimed to conduct a systematic review in scope of two main themes, namely: 1) knowledge, practice and attitude of evidence based practice of nurse and; 2) barriers to research utilization among nurses. This theme used as framework because this theme has been used as research study particularly in the Kingdom Saudi Arabia. This systematic review could compare similar research using those two main themes outside the Kingdom. 12 references were used and reflected some similarities and differences regarding research of EBP inside and outside the Kingdom.

Key words: Evidence Based Practice • Nurse • Knowledge • Practice • Attitude • Barriers

INTRODUCTION

Evidence-based practice (EBP) has been defined as “integrating individual clinical expertise with the best available external clinical evidence from systematic research” [1]. EBP is a culture in which clinicians naturally and consistently consider evidence in every aspect of practice [2]. EBP clinical decision-making involves integrating the knowledge arising from one’s clinical expertise; patient preferences and actions; patient clinical states, settings and circumstances; and research evidence within the context of available resources. The challenge for nursing is to give appropriate weight to research evidence [3]. EBP lends credence to nurses as knowledge workers and enhances their professional status, thus ensuring nurses’ leadership roles on healthcare teams. It also improves quality of care and patient satisfaction because it recognizes that clients are knowledgeable about their health and seek to be active in decision-making [4].

Specific to nursing, the Sigma Theta Tau International Honor Society of Nursing issued a position statement on evidence-based nursing in 2003 and made a commitment to being a leading source of knowledge and resources that foster evidence-based nursing practice globally [5]. Centers for Evidence-Based Nursing have been established in many countries to provide educational sessions to help nurses learn to use evidence in clinical practice [6].

Nurses in clinical practice are increasingly being challenged by the expectation of patients, patient organizations and other healthcare organizations to provide clearly measurable care of the highest quality. In order to achieve this goal, EBP is of key importance and the nurse’s role is to ‘bridge the divide’ between research and practice by improvement clinical care based on evidence regarding best practice [7]. Concomitantly, many factors have contributed to the increasing role of evidence in policy and practice. The main influences have been described by Davies *et al.* [8] and they include the growth of an increasingly well-

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educated and well-informed public; the explosion in data availability; the changing role of professionals; greater emphasis on productivity and cost-effectiveness in healthcare delivery; and an increasing emphasis on scrutiny and accountability. This last issue is the manifestation of the change in managing risk and uncertainty in health care [8].

The goals of evidence-based nursing are the following: to provide practicing nurses with evidence-based data to deliver effective care defined by the best research; to resolve problems in the clinical setting; to achieve excellence in delivering patient care, even exceeding quality assurance standards; and to introduce innovation [9]. Furthermore, EBP uses a systematic review to emphasize the comprehensive evaluation of all relevant research according to a clinical question.

Nurses have a key role in facilitating consensus regarding the evidence to be used and ensuring the availability of resources needed to empower nurses for outcome-oriented patient care through evidence-based nursing practice is critical. Nurses need to be cognizant of what the current nursing EBP trends are and where they are going [10]. Nevertheless, a responsive workforce embraces multiple ways of thinking, respects different paradigms of care and is able to respond to and respect the forms of care people value and seek. Nolanba and Bradley [11] recommended that for evidence-based practice to be safe, nurses must be able to evaluate the strength and relevance of research findings and be able to understand that there are different kinds of evidence that should be called upon in order to respond sensitively and appropriately to the preferences of patients [11]. This study is also supported Scott and Mc Sherry [12] who stated that for evidence-based nursing to occur, nurses need to be aware of what evidence-based nursing means; what constitutes evidence; how evidence-based nursing differs from evidence-based medicine and evidence-based practice; and what is involved with the process of engaging with and applying evidence. In parallel with this research, the survey by Koehn and Lehman [13] of 1031 Registered Nurses in The United States of America revealed that participants have moderate scores on practice and attitudes toward evidence-based practice. Koehn and Lehman [13]. The mean scores for knowledge/skills were somewhat lower. Significant differences were found in the attitudes between those with a Bachelor's degree or higher education and those with an Associate's degree.

In the nursing literature, the most relevant study is on nurses' attitudes toward and perception of research utilization and most of this work has been conducted through a survey approach [14-19]. The survey carried out by Banning [20] examined nurses' perception of evidence-based practice. The data indicated that different levels of evidence are used by nurses and that nurses are familiar with the research process but not with the canons of EBP. These findings may be a reflection of the level of interest of the nurses involved. The principles of EBP have the capacity to guide the individual nurse's practice personally and the nursing profession politically. They constitute an emerging set of social practices that are able to influence nursing practice according to predetermined identifiable routines drawn from scientific codes. Practice guidelines and clinical practice manuals informed by systematic reviews have the ability to direct nursing practice or resolve issues where practices differ according to scientifically validated evidence [21]. Increasingly, the efficacy of a number of nursing interventions will become known and ranked in a quantifiable manner. This identification, measurement and review of nursing work makes up the object domains of nursing that enable future government to take place. Another survey of attitudes toward evidence-based practice, which was conducted [22] in a rural setting, indicated that less than a quarter of the nurses have favorable attitudes toward research. Attitudes and interest varied with levels of education and position. Therefore, most EBP activities performed by professional nursing associations were found to be more competent oriented and attitude-oriented.

Many challenges exist when trying to integrate evidence-based practice into nursing. Nurses are quite familiar with research utilization. However, they are less familiar with developing good search strategies, identifying the best databases, or doing critical appraisals. Often, nurses think they are practicing evidence-based nursing when; in fact, they are utilizing isolated research results [23]. Moreover, a cross-sectional study conducted by Brown *et al* [24] included 458 nurses at the Academic Medical Center and revealed that organizational barriers (lack of time and lack of nursing autonomy) are the top perceived obstacles to evidence-based nursing. Koehn and Lehman [13] found that the two most cited barriers to implementing evidence-based practice are time and knowledge.

Understanding the barriers to EBP is a beginning to planning for the shift in practice. Ineffectual continuing education programs remain a system problem. Most do not provide the needed “hands-on” experiences to learn the new skills and rarely is follow-up provided to assist nurses to gain expertise in the skills and integrate them into daily practice. Limited time, lack of system priorities for EBP and difficulties in changing practice once best evidence is identified further impede skill acquisition and implementation [25].

To overcome these hurdles, evidence could be integrated into nursing practices. This alteration would strengthen theoretical base of nursing, decrease the variation in processes of care, improve patient outcomes, empower nurses and help identify areas for research [26]. Consequently, research has also stated that facilitators are learning about opportunities, culture building and availability and simplicity of resources. There is a significant correlation between barriers and practice, knowledge and attitudes related to evidence-based practice [24]. As a result, it is advisable for educators to work with managers to address organizational barriers and proactively support evidence-based practice.

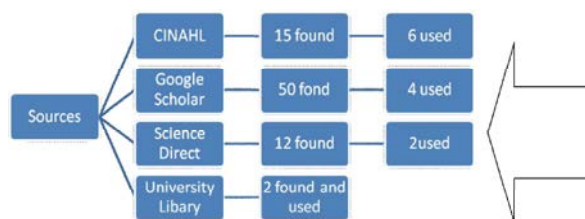
Research by Holleman *et al.* [27] suggested that greater attention could be given to a potential role of the nursing associations in promoting EBP through the use of more behavior-oriented activities that can control and steer nurses’ practices. They added that although nursing associations currently approach evidence-based practice as guidelines that are ‘free of obligations,’ members could be more strongly encouraged to alter their practices according to EBP. If a clear connection could be established between association membership and a level of commitment and obligation, new options for promoting evidence-based practice to achieve higher professional standards would be possible.

The current study attempted to assess deeper regarding EBP on two main themes, which were: 1) knowledge, practice and attitude of evidence based practice of nurse and; 2) barriers to research utilization among nurses. This theme used as framework because this theme has been used as research study particularly in the Kingdom Saudi Arabia. This systematic review could compare similar research using those two main themes outside the Kingdom.

MATERIALS AND METHODS

The electronic databases reviewed for the aim of this review were: CINAHL Plus, Google Scholar and Science Direct. Furthermore the university library was also used as one of references. The selected databases included studies found in nursing journals, allied health journals and full text articles. Search parameters included the years 2000-2013, which provided a focused search of current literature and the search terms included “knowledge, practice and attitude of evidence based practice of nurse” and “barriers to research utilization among nurses”.

Sources: In CINAHL plus produced 15 references when the term “knowledge, practice and attitude of evidence based practice of nurse” and “barriers to research utilization among nurses” was used. However, after further review, it was found that only 5 reference applicable for this study. In Google scholar using the mentioned term, it resulted in 50 references and with further review, it was found that 4 articles suitable with this study. Moreover in Science direct from around 12 reference found, 1 reference was used for further review.



Evidence Based Practice in Kingdom Saudi Arabia:

The current study used research of EBP within Saudi Arabia as a framework for systematic literature review. Firstly, in research of EBP in term of knowledge, skills and attitude of EBP it was found that nurses knowledge and attitude score are considered high. Moreover, it was found that there is a high correlation between nurses' knowledge, attitude and practice [28]. Several demographic characteristics such as age and gender found showed statistically significance difference [28].

Secondly, in the research that identify the barriers of EBP it was found that the feeling of not capable of evaluating the quality of research, lack of documented need to change practice, seeing little benefit for self and unawareness of research were the highest perceived barriers. Consequently, the highest perceived barriers

Table 1: Summary of references

Author / Year	Purpose / Aim	Methods	Results / Findings
Knowledge, practice and attitude of evidence based practice of nurses			
Brown <i>et al.</i> , 2009 (37)	To describe nurses' practices, knowledge and attitudes related to evidence-based nursing and the relation of perceived barriers to facilitators of evidence-based practice.	A descriptive, cross sectional research study with convenience sample of 458 nurses at an academic medical center in California.	Organizational barriers (lack of time and lack of nursing autonomy) were the top perceived barriers. Facilitators were learning opportunities, culture building and availability and simplicity of resources. Statistically significant correlations were found between barriers and practice, knowledge and attitudes related to evidence-based practice.
Jette <i>et al.</i> , 2003. (29)	To describe the beliefs, attitudes, knowledge and behaviors of physical therapist members of the American Physical Therapy Association (APTA) as they relate to evidence based practice (EBP) and to generate hypotheses about the relationship between these attributes and personal and practice characteristics of the respondents.	A survey resulted in 488 sample using questionnaire	Respondents agreed that the use of evidence in practice was necessary, that the literature was helpful in their practices and that quality of patient care was better when evidence was used.
Koehn and Lehman, 2008 (30)	To investigate Registered Nurses' perceptions, attitudes and knowledge/skills associated with evidence-based practice	A descriptive, cross sectional survey in United States with 422 participants	Participants had moderate scores on practice and attitudes toward evidence-based practice. The knowledge/skills mean scores were somewhat lower. Statistically significant differences were found for attitudes between those with baccalaureate and higher education compared to those with associate and diploma education. The two most cited barrier to implementing evidence-based practice were time and knowledge.
Maaskantand Ubbink2012 (31)	To compare the attitude, awareness and knowledge of pediatric nurses and pediatricians regarding evidence-based practice (EBP)	Paper questionnaire in Amsterdam and resulted of 192 nurses and 80 pediatricians	Both nurses and pediatricians welcomed EBP (mean scores were 73.3 and 75.4 out of 100). Overall, 52% of the nurses and 36% of the pediatricians did not know relevant sources of information and 62% of the nurses versus 19% of the pediatricians did not know common EBP terms. Time constraints and lack of knowledge were considered as major barriers.
Barriers to research utilization among nurses			
Brown <i>et al.</i> , 2010 (38)	To explore the relationships between perceived barriers to research use and the implementation of evidence-based practice among hospital nurses and to investigate the barriers as predictors of implementation of evidence-based practice.	Cross sectional study using computerized Evidence-Based Practice Questionnaire and BARRIERS surveys. A convenience sample of 1301 nurses from four hospitals in Southern California, USA, participated.	The perceived barriers to research use predicted only 2.7, 2.4 and 4.5% of practice, attitude and knowledge/skills associated with evidence-based practice.
McKenna <i>et al.</i> , 2004 (32)	To identify barriers to evidence-based practice in primary care	With a specially designed questionnaire	General practitioners (GP) ranked barriers differently to community nurses. GPs believed that the greatest barriers were: the limited relevance of research to practice, being update with the current change in primary care and the ability to search for evidence-based information. On the other hand, nurses perceived the greatest barriers were poor computer facilities, poor patient compliance and difficulties in influencing changes within primary care.

Table 1: Continued

Author / Year	Purpose / Aim	Methods	Results / Findings
Barriers to research utilization among nurses			
Olade, 2004 (22)	To identify the extent to which rural nurses utilized evidence-based practice guidelines from scientific research in their practice; to describe both previous and current research utilization activities in which they have participated and to identify specific barriers they face in their practice settings	Descriptive study with open ended questionnaire. Participants were 106 nurses in six rural counties of a southwestern state in the United States.	20.8% of the participants stated that they are currently involved in research utilization and they are mostly nurses with bachelor's degrees. The two most common areas of current research utilization were ulcer prevention and management. Barriers to research utilization, such as rural isolation and lack of nursing research consultants, were identified.
Solomon and Spross, 2011 (33)	To examine the barriers and facilitators to evidence-based practice (EBP) using Shortell's framework for continuous quality improvement (CQI).	CINAHL, Academic Search Premier, Medline, Psych Info, ABI/Inform and LISTA databases were searched using the keywords: nurses, information literacy, access to information, sources of knowledge, decision making, research utilization, information seeking behavior and nursing practice, evidence based practice. Shortell's framework was used to organize the barriers and facilitators	Across the articles, the most common barriers were lack of time and lack of autonomy to change practice which falls within the strategic and cultural dimensions in Shortell's framework.
Thompson <i>et al</i> / 2005. (39)	Examining the barriers associated with research knowledge transfer amongst primary care nurses in the context of clinical decision making	A multi-site, mixed method, case study	Three perspectives on barriers to research information use emerged: the need to bridge the skills and knowledge gap for successful knowledge transfer; information formats needed to maximize limited opportunities for consumption; and limited access in the context of limited time for decision making and information consumption. Demographic variables largely failed to predict allegiance to any of the perspectives identified.
Yadav, B.L. and Fealy, G.M. / 2012. (34)	To investigate the barriers, facilitators and skills in developing evidence-based practice among psychiatric nurses in Ireland	A postal survey was established among a random sample of Irish psychiatric nurses and survey data were collected using the Development of Evidence-Based Questionnaire.	Respondents reported that the most significant barriers regarding the development of evidence-based practice are inadequate time to find and read research reports and insufficient resources to change practice. Practice development coordinators were perceived as the most supportive resource for changing practice. Using the internet to search information was the highest-rated skill and using research evidence to change practice was the lowest-rated skill for developing evidence-based practice. Nurses' precursor skill for developing evidence-based practice, such as database searching and information retrieval, may be insufficient in themselves for promoting evidence-based practice if they cannot find evidence relating to their particular field of practice or if they do not have the time, resources and supports to develop their practice in response to evidence.

Table 1: Continued

Author / Year	Purpose / Aim	Methods	Results / Findings
Evidence based practice in Kingdom Saudi Arabia			
Salem <i>et al.</i> / 2009. (28)	To assess nurses knowledge and skills in EBP as well as their attitude toward it	A cross sectional descriptive survey using Evidence based questionnaire developed by Dupton and Dupton (2005)	It was found that there are significant differences between the two settings in regards with nurse's score of their knowledge about attitude toward and practice of EBP. Furthermore, high correlation between those three components was found.
Salem <i>et al.</i> , 2008. (40)	To identify the factors that nurses perceive as obstacles to their utilization of research in practice	A cross sectional descriptive study with convenience sample of 115 nurses using the Barriers scale questionnaire	The lowest perceived barriers were related to adopter and innovation characteristics, whereas the highest was related to the organization. Consequently, 72.2% of the nurses perceived the presence of obstacles or barriers. The most important barriers reported were related to the lack of time to read research and result not being generalizable to own setting. Bachelor degree nurses had statistically significant higher perception of barriers related to lack of documented need to change practice ($p=0.01$), feeling not capable of evaluating the quality of research ($p=0.03$) and insufficient time on the job implement new ideals ($p=0.006$)

were related to organization characteristics. Then, strong positive correlation was revealed among the scores of various types of barriers particularly between characteristics and each of the adopter and innovation characteristics. In addition, few differences were reflected between bachelor and diploma nurse' perception of barriers.

Knowledge, Practice and Attitude of Evidence Based Practice of Nurse: Some similarities and differences were founds when comparing research in scope of knowledge, practice and attitude of evidence based practice of nurse within the Kingdom and outside the Kingdom. In parallel with Salem *et al.* [28], other study was also found stating statistically significant correlations between practice, knowledge and attitude. Brown *et al.* [24] On the other hand, most of studies perceived knowledge as one of the significant barriers in implementing EBP [29-31] whereas study by Salem *et al.* [28] concluded that nurses knowledge regarding EBP is considered high.

Barriers to Research Utilization among Nurses: In scope of barriers to research utilization among nurses, some similarities and differences were also revealed when comparing research inside Saudi Arabia compared with other countries. The similarity was research by Brown *et al.* [24] which was conducted in California that

perceived organizational barriers as the top barriers. Furthermore, study by Olade [22] found that mostly nurses with bachelor degree are more dominant involved in research study. On the other hand, regarding barriers the causes were various in different research such as lack of nursing research consultants; Olade [22], poor computer facilities [32]; lack of time, resources and autonomy [33, 34].

Study Limitations: This systematic review was established by the researcher, it might cause bias in the selection of criteria, in the search of methodology and in the analyses of findings. Holopainen *et al.* [35] stated that the best of systematic review should be conducted by several researchers. Consequently, there was only 14 references used and might lead to lack of validity and limited scope. In addition, in a systematic review there is always threat of an inadequate amount of the literature being used and possibilities that valid studies not included due to specific theme [36].

It was found that through two main themes, there are several similarities and differences of research in EBP within the Kingdom and outside Kingdom. Similarities, namely: statistically significant correlations between practice knowledge and attitude which was conducted in California that perceived organizational barriers as the top barriers; and study which found that mostly

nurses with bachelor degree more dominantly involved in research study. Whereas the differences were: high score of knowledge in EBP and various barriers of research utilization.

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REFERENCES

1. Sackett, D.L., W.M. Rosenberg and J.A. Gray, 1996. Evidence based medicine: what it is and what it isn't. *BMJ*, 312: 71-72.
2. Dopson, S., L. Locock and J. Gabbay, 2003. Evidence-based medicine and the implementation gap. *Health*, 7: 311-330.
3. Haynes, R.B., P.J. Devereaux and G.H. Guyatt, 2002. Clinical expertise in the era of evidence-based medicine and patient choice. *ACP Journal Club*, 136: A11-14.
4. Udod, S.A. and W.D. Care, 2004. Setting the Climate for Evidence-Based Nursing Practice: What is the Leader's Role? *Canadian Journal of Nursing Leadership*, 17: 64-75.
5. DiCenso, A., G. Guyatt and D. Ciliska, 2005. *Evidence-Based Nursing: A Guide to Clinical Practice*. St. Louis: Elsevier Mosby, pp: xxiii-xxiv
6. Ciliska, D., A. Di Censo and N. Cullum, 1999. Centers of evidence-based nursing: directions and challenges. *Evidence Based Nursing*, 2: 102-104.
7. Ingersoll, G.L., 2000. Evidence based nursing: What it is and what it isn't. *Nursing Outlook*, 48: 151-152.
8. Davies, H., Nutley and P. Smith, 2000. *Introducing evidence based policy and practice in public services: what works? evidence-based policy and practice in public services*. Bristol: The Policy Press. pp: 1-7.
9. Grinspun, D., T. Virani and F. Bajnok, 2001. Nursing best practice guidelines the RNAO project. *Hospital Quarterly*, pp: 54-58.
10. Hudson, K., G. Duke, B. Haas and G. Varnell, 2008. Navigating the evidence-based practice maze. *Journal of Nursing Management*, 16: 409-416.
11. Nolanba, P. and E. Bradley, 2008. Evidence-based practice: implications and concerns. *Journal of Nursing Management*, 16: 388-393.
12. Scott, K. and R. Mc Sherry, 2008. Evidence-based nursing: clarifying the concepts for nurses in practice. *Journal of Clinical Nursing*, 18: 1085-1095.
13. Koehn, M.L. and K. Lehman, 2009. Nurses' perceptions of evidence-based nursing practice. *Journal of Advanced Nursing*, 62: 209-215.
14. Rogers, S., 1994. An exploratory study or research utilization by nurses in general medical and surgical wards. *Journal of Advanced Nursing*, 20: 904-911.
15. Rogers, S., 2000. A study of utilization of research in practice and the influence of education. *Nurse Education Today*, 20: 279-287.
16. Estabrooks, C.A., 1999. The conceptual structure of research utilization. *Research in Nursing and Health*, 22: 203-216.
17. Parahoo, K.A., 1999. Comparison of pre-project 2000 and project 2000 nurses' perceptions of their research training, research needs and their use of research in clinical areas. *Journal of Advanced Nursing*, 29: 237-245.
18. Mc Sherry, R., 1997. What do registered nurses and midwives feel and know about research? *Journal of Advanced Nursing*, 25: 985-998.
19. Funk, S., M. Champagne, R. Weise and E. Tornquist, 1991. Barriers: the barriers to research utilization scale. *Applied Nursing Research*, 4: 39-45.
20. Banning, M., 2005. Conceptions of evidence, evidence-based medicine, evidence-based practice and their use in nursing: Independent Nurse Prescribes' Views. *Journal of Clinical Nursing*, 14: 411-417.
21. Winch, S., D. Creedy and W. Chaboyer, 2002. Governing nursing conduct: the rise of evidence-based practice. *Nursing Inquiry*, 9: 156-161.
22. Olade, R.A., 2004. Evidence-based practice and research utilization activities among rural nurses. *Journal of Nursing Scholarship*, 36: 220-225.
23. Di Censo, A. and L. Bayley, 2003. *Evidence-based nursing: searching for the literature*. Sigma Theta Tau International Biennial Convention, Toronto, Canada.
24. Brown, C.E., M.A. Wickline, L. Ecoff and D. Glaser, 2008. Nursing practice, knowledge, attitudes and perceived barriers to evidence-based practice at an academic medical center. *Journal of Advanced Nursing*, 65: 371-381.
25. Salmond, S.W., 2007. *Advancing Evidence-Based Practice: A Primer*. *Orthopaedic Nursing*, 26: 114-123.

26. Rutledge, D.N., M. Ropka, P.E. Green, L. Nail and K.H. Mooney, 1998. Barriers to research utilization for oncology staff and nurse managers/clinical nurse specialists. *Oncology Nursing Forum*, 25: 497-506.
27. Holleman, G., A.G.A. Eliens, M. Van Vliet and T. Van Achterberg, 2006. Promotion of evidence-based practice by professional nursing associations: literature review, 53: 702-709.
28. Salem, O.A., A. Alamrani and M.M. Albloushi, 2009. Knowledge, Practice and Attitude of Evidence Based Practice Among Nurses in Kingdom of Saudi Arabia. *Medical Journal Cairo University*, 77: 121-128.
29. Jette, D.U., K. Bacon, C. Batty, M. Carlson, A. Ferland, R.D. Hemingway, J.C. Hill, L. Ogilvie and D. Volk, 2003. Evidence-Based Practice: Beliefs, Attitudes, Knowledge and Behaviors of Physical Therapists. *Physical Therapy*, 83: 786-805.
30. Koehn, M.L. and K. Lehman, 2008. Nurses' perception of evidence based nursing practice. *Journal of Advanced Nursing*, 62: 209-215.
31. Maaskant, J.M. and D.T. Ubbink, 2012. Evidence-Based Practice: A survey among pediatric nurses and pediatricians. *Journal of Pediatric Nursing*, 28: 1-8.
32. McKenna, H.P., S. Ashton and S. Keeney, 2004. Barriers to evidence-based practice in primary care. *Journal of Advanced Nursing*, 45: 178-189.
33. Solomons, N.M. and J.A. Spross, 2011. Evidence-based practice barriers and facilitators from a continuous quality improvement perspective: an integrative review. *Journal of Nursing Management*, 19: 109-120.
34. Yadav, B.L. and G.M. Fealy, 2012. Irish psychiatric nurses' self-reported barriers, facilitators and skills for developing evidence-based practice. *Journal of Psychiatric and Mental Health Nursing*, 19: 116-122.
35. Holopainen, A., T. Hakulinen-Viitane and K. Tossavainen, 2007. Nurse teacherhood: Systematic descriptive review and content analysis. *International Journal of Nursing Studies*, 44: 611-623.
36. Norman, J., 2012. Systematic Review of the Literature on Simulation on Nursing Education. *The ABNF Journal*, 23: 24-28.
37. Brown, C.E., M.A. Wickline, L. Ecoff and D. Glaser, 2009. Nursing practice, knowledge, attitudes and perceived barriers to evidence-based practice at an academic center. *Journal of Advanced Nursing*, 65: 371-381.
38. Brown, C.E., L. Ecoff, S.C. Kim, M.A. Wickline, B. Rose, K. Klimpel and D. Glaserm 2010. Multi-institutional study of barriers to research utilization and evidence-based practice among hospital nurses. *Journal of Clinical Nursing*, 19: 1944-1951.
39. Thompson, C., D. McCaughan, N. Cullum, T. Sheldon and P. Raynor, 2005. Barriers to evidence-based practice in primary care nursing, why viewing decision making as context is helpful. *Journal of Advanced Nursing*, 52: 432-444.
40. Salem, O.A. *et al.*, 2008. Barriers to research utilization among nurses in King Khaled Eye Specialist Hospital, in Saudi Arabia. *The Egyptian Journal of Medical Science*, 29: 253-265.