



RESEARCH ARTICLE

INDIVIDUAL AND ORGANIZATIONAL BARRIER TO EVIDENCE-BASED PRACTICE UTILIZATION IN CLINICAL DECISION MAKING AMONG NURSES

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ABSTRACT

Evidence-based practice, which is a systematic problem-solving approach to using best evidence in making decisions about patient care, is no longer an option for staff nurses. However, there are several barriers preventing nurses from using EBP in clinical decision making. The purpose of this review was to explore barriers to evidence based practice utilization among nurses in clinical decision making. The major outcome was generally, reviewed at individual and organizational level. Nurses' poor attitudes and perceptions to utilization of EBP, lack of knowledge and skill in all research process, lack of awareness of EBP, poor communication skill in understanding research language and inability to understand statistical analysis of research were identified as individual barrier to EBP utilization, whereas lack of continues education, lack of authority to change practice, insufficient time to implement new ideas, lack of access to research, unsupportive staff and management were identified as Organizational barriers to utilization of EBP. Throughout, important link between role of individual, role of organizational and use of EBP are highlighted, Along with a significant individual readiness and organizational support were needed for nurses to overcome barrier on utilization of evidence based practice to ensure the high quality patient care. This can make further EBP development and implementation.

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INTRODUCTION

Evidence-based practice (EBP) is a disciplined approach that involves a conscientious, explicit, and judicious use of the best available evidence in making decisions (Sackett, 1996). The main goals of evidence based practice are to improve the results of professional decisions and to increase the use of practices that lead to desired outcomes while eliminating unnecessary and dysfunctional practices (Sackett, 1996 and Melnyk, 2011). This approach indicates not only better patient care, but also tremendous change in health care management at an economic and professional level (Ubbink, 2013 and Elshaug, 2009). Hence, the approach of Evidence-based practice (EBP) is used worldwide to improve the quality of patient care in a cost-effective manner. Based on this, the Institute of medicine (IOM, 2011), established a goal that by 2020, 90% of all health care decisions made in the United States will be evidence-based, with nurses able to practice to the full extent to their education (Institute of Medicine, 2011). Therefore, utilization of EBP is considered as a mandate for nursing practice combining individual clinical judgment with

available expertise to generate a positive outcome for the patient.

Historical Back ground of Evidence Based Practice (EBP)

The concept of evidence-based practice is originated in the field of medicine over 20 years ago with the goal of promoting the more systematic use of scientific evidence in physician education and clinical practice (Barends, 2014). It arose out of recognition that physicians had tended to prioritize tradition and personal experience, giving rise to troubling variation in treatment quality. Since then underlying this issue was the tendency for medical schools to teach their own specific approaches to clinical problems, without having clear information about scientific evidence (Rousseau, 2016). Especially, the rapid advancement of research, the variability of practice learned in different profession and unfamiliarity to access relevant new evidence was cited as a major problem (Barends, 2014 and Rousseau, 2016). Although the origin of EBP is in medicine, currently, it is used across numerous professions as an approach to professional practice that focuses practitioner attention on evidence quality in decision making and action. For example recently, EBP is rapidly growing in the fields of nursing (Melnyk, 2012). The movement has

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tended to move beyond its original focus on the education of individual practitioners and toward addressing the practices of organizations and professions (Melnyk, 2012 and Stevens, 2013). According to Rousseau, D.M. and B.C. Gunia (2016), the movement of EBP is indicative of the social trend tracing to at least the age of enlightenment to ground action in reason and empiricism rather than tradition or authority (Rousseau, 2016). Currently, evidence-based practice has gained momentum globally as practitioners strive to make decisions about patient care based on the best available evidence (Malik, 2016). Even the practice approaches implemented by health-care professionals are guided by the use of evidence-based practice (EBP) which involves the use of current, high-quality empirical evidence when making decisions and recommendations regarding client care (Makic, 2013). Due to this evidence-based practice has been recognized by the health-care community as well as by regulatory agencies as being the gold standard for the provision of safe and compassionate health care to patients (Stichler, 2011). Today, nurses in many western country are required to possess increased knowledge, clinical competency and a greater autonomy in their clinical judgments (Stichler, 2011). According to a report by Tastan, S., *et al.* (2014), the number of standardized nursing terminology publications is increased primarily since 2000 with mostly focusing on nursing diagnosis, nursing interventions and nursing out-come (Tastan, 2014).

Similarly in Australia, nurses are required to use an evidence-based framework in their daily clinical practice. In such country nurses are expected to use the standardized clinical guideline in clinical decision making based on up to dated and recent information related to their professional practice (Waters, 2009). In Norway, nurses are required to perform care based on research findings and best experiences (Stokke, 2014). Similarly, in Swedish nurses are required to work in accordance with scientific knowledge and reliable experience, which demands that they shall keep themselves continuously informed about the developments in their profession. In this country nurses are also responsible for improving the quality of practice and for carrying out a research-based practice (Brown, 2010). Unlike western country, It is well documented that evidence based nursing practice (EBNP) is not widely embraced in low- and middle-income countries, and the approaches of EBP is something relatively new and often over-whelming challenge for many healthcare organizations. In Africa for example, EBP is being emphasized and being advocated for nurses in countries like South Africa, Ethiopia, Kenya, Nigeria, Burundi and Malawi (McInerney, 2004; Adamu and Naidoo, 2015; Hadgu, 2015 and Kyalo Mutisya, 2015). However, the development of evidence-based practice in nursing is in its infancy. For example, a recent study from Nigeria reported that Evidence Based nursing Practice (EBNP) is not widely developed in context of country's health care system (Adamu and Naidoo, 2015). Similar to African countries, the movement and development of evidence based nursing practice is not widely developed in Asian countries. For example several research literatures shows that evidence-based practice in nursing is not well developed in china (Boka Dugassa Tolera and F. Hui, 2017; Wang, 2013 and Chien, 2013). It is better developed and has a longer history in the medical disciplines. This in part may be due to the fact that there is still poor understanding of what "evidence-based practice" means and how this information is obtained and utilized by nursing professional.

## Nursing and Evidence based Nursing practice

As the backbone of the health system, nursing professionals are the largest health professional group in all health care organization and play a crucial role in efforts to improve the availability and quality of health services (Buchan, 2008) majority of nurses work in direct care of patients; assessing patients' needs and making decisions on nursing interventions (Jiang, 2015). This can be assumed to have a major impact on patients' outcomes and patient safety. Therefore, nurses have professional responsibility to use the up-dated and best scientific evidence for implementing healthcare plans and integrate the accessible research evidence into their decision making (International Council of Nurses, 2009). In order to fulfill these responsibilities, evidence-based nursing practice was introduced as an important innovation in the healthcare system. Evidence-based nursing Practice (EBNP) is described as "an approach to making quality decisions and providing nursing care based upon personal clinical expertise in combination with the most current, relevant and up-to-dated scientific study" (Melnyk, 2011). The main concept of this definition is using evidence based practice as a foundation. Because, evidence based practice is a process founded on the collection, appraisal, and integration of valid, clinically significant, and applicable research evidence during clinical decision making (Sackett, 1996 and Melnyk, 2011). Hence, evidence-based decisions making involve a mindful integration of both scientific evidence (e. g from research studies) and local evidence (e.g., situational assessments). Thus, these competencies can elevate nurses' positions among multi-professional teams, because nurses who are competent in implementation of EBP have found a sense of professionalism and growth, which contributes to their self-efficacy and positive outcome (Upton, 2015 and Ziviani *et al.*, 2015). Therefore, evidence based nursing help nurses to identify the evidence underlying their decisions, to improve the quality of that evidence where possible, and to condition their decisions and practices on the confidence that the evidence warrants.

Moreover, in order to make the best clinical decisions using Evidence Based Nursing Practice (EBNP), nurse should integrate different source of evidence (the external evidence with internal evidence, clinical expertise, and healthcare consumer values and preferences). This can help nurses to achieve the best outcomes for individuals, groups, populations, and healthcare systems (American Nursing Association, 2010). Consequently, clinical decisions becomes more apparent and this serves to reinforce both our professional accountability and our claim of being a health professional (Hoffmann, 2013). However, effectively incorporating evidence into clinical practice requires that nurses are expected to have best available knowledge, positive attitude, skill and resources to identify, appraise, evaluate and summarize the available research (Gardner, 2016). It is suggested that the use of best available knowledge in nursing care can substantially enhance care quality and alleviate the pain and suffering of patients (Forsman, 2009). Hence, evidence based clinical decision making is an essential component for professional nursing care and the nurses' ability to make effective clinical decisions is the most important factor affecting the quality of patient care. Especially, a favorable beliefs in EBP is foundational to nursing professionals to use and integrate the best evidence into clinical decision making to effectively improve patient outcomes, quality, and value of care (Melnyk, 2011). However, research has shown that nurses do not

consistently use evidence in practice (Pravikoff, 2005). Many barriers to utilization of evidence-based practice have been identified and are associated with nurses' work pressure due to patient load. However, lack of nurses' individual readiness for utilization of evidence based practice was cited as the main barrier to implantation of EBP (Brown, 2010; Pravikoff, 2005 and Saunders, 2017). In fact the responsibility to use evidence based practice does not fall only on individual nurses, because making evidence-based practice a reality throughout an organization is a challenging goal in healthcare services (Stetler, 2014). For example, Williams, B., S. Perillo, and T. Brown, (2015) stated that "the responsibility to use and implement evidence-based practice in a health care workplace does not fall solely on the individual health care professional. Organizational barriers relate to the workplace setting, administrative support, infrastructure, and facilities available for the retrieval, critique, summation, utilization and integration of research findings in health care practices and settings"[36] This means the successful implementation of EBNP is a dynamic process dependent on a number of variables. Individual experiences, organizational support and workplace factors can act as the main barriers to utilization and implementation of EBP in clinical decision making.

#### **Barrier to utilization of Evidence Based practice (EBP)**

Although the goals of utilizing evidence based practice (EBP) in all health care organization are to improve the results of professional decisions and to increase the quality of health care service for better patient outcome, many researchers were reported that utilization of evidence based practice (EBP) among staff nurses is problematic and influenced by several factors (Melnyk, 2004; Diane, 2005). Especially, a large and increasing number of studies have reported that there were a positive relationship between low utilization of evidence based practice and poor quality of patient care provided by staff nurses. Moreover, several research study revealed that, a majority of nurses in developing country were strongly challenged to integrate and use evidence based practice (EBP) in their clinical decision making process (Adamu and Naidoo, 2015; Chien, 2013 and Majid, 2011). Specifically, almost all nurses, regardless of position were identified barriers to utilizing up to dated scientific research in clinical practice (Hadgu, 2015). Lack of ability to integrate and use the up-to-dated information/ recent knowledge in clinical practice is a risk for quality of patient outcome. Therefore, lack of ability to use research is considered as a big challenges for nurses to implement evidence based practice (EBP) in clinical decision making. Generally, barrier to utilization and implementation of evidence based nursing practice can be studied at two major category: i.e. at Individual, and organizational level.

#### **Individual barrier to utilization of Evidence based practice (EBP)**

Today, utilization of evidence based practice for decision making is the most up to date methods of providing care, which have been proven through appraisal of high quality studies and statistically significant research findings. However, the use of evidence-based practice in decision making depends on the individual nurse's proficiency at understanding and critiquing the research articles and the associated literature that will be presented to them in the clinical setting. This means utilization and implementation of Evidence Based Practice (EBP) by staff nurses is a challenging

and influenced by several barriers. The role of the individual barriers such as poor attitude and belief, a lack of research awareness (inability to understand statistical terms, difficulty in judging the quality of research papers and report, difficulty in determining the applicability of research finding), having poor electronic database navigation skills (information retrieval skill), and research comprehension prevent nurses from implementing evidence-based practice (Adamu and Naidoo, 2015; Middlebrooks, 2016; Koivunen et al., 2010 and DiGaudio Mariano; 2009). Additionally, nurses year of work experience and level of education and insufficient proficiency in English language are described at the individual barriers associated with poor implementation of EBP (Boka Dugassa Tolera and F. Hui, 2017; Khammarnia, 2014; Ali, 2014). Several studies have revealed that nurses' confidence in employing evidence-based practice and actual evidence-based practice knowledge and confidence were lower (Saunders, 2016; Zhou, 2016; Thorsteinsson, 2013; Warren, 2016 and Knops, 2009). Especially in long period of time, nurses were challenged to understand about research evaluation, research methods and statistics (Chien, 2013 and McCaughan, 2013).

Yet, the challenge of lack of confidence in implementation of EBP is not solved (Boka Dugassa Tolera and F. Hui, 2017, Chien, 2013; Olade, 2004). Because the level and strategy for using EBP is not a consistent standard in many health care organizations (Bissett, 2016). This discrepancies is not only at local level but also it is identified at global level. For instance, Warren *et al.* (2016) has reported the challenges of nurses to EBP utilization and standardize practice at all health care organization (Warren, 2016). Another barrier to utilization of EBP among nursing profession are lack of familiarity with the concept and process of evidence based nursing practice. According to the previous research shows, a vast majority of nurses faced with novel or unfamiliarity with evidence based practice and showed a poor ability to access relevant new evidence (Boka Dugassa Tolera and F. Hui, 2017; Warren, 2016; Varnell, 2008 and Farokhzadian, 2015). Even majority of nurses were unfamiliar with evidence based practice sources and terminology. For example, in the study conducted by Knops *et al.* (2009), only 40% of the nurses were familiar with the terms evidence based practice (EBP). As reported, unawareness of research reports was the major barrier to using research findings in nursing practice (Knops, 2009). Unfamiliarity with quality of research can lead nurse to practice in effectively (Bonner, 2008). For example, Rousseau, D.M. and B.C. Gunia stated that "summaries based on low-quality evidence can lead to the use of ineffective or dysfunctional practices" (Rousseau, 2016). The high extent of reported unfamiliarity with EBP raises the question of whether scientific perspectives included in nursing education are translated into clinical application. Consequently, many developed countries are included and teaching the evidence based nursing competence in modern nursing education as a part of professional training (Melnyk, 2012 and Upton, 2016).

The pattern-oriented approach illustrates the complexity of research use and identification of typical research use profiles in specific contexts may have potential to guide interventions aimed at supporting evidence-based practice. Hence many researchers recommended evidence-based practice as a core component of the curriculum for nurses (Upton, 2015; Ruzafa-Martinez, 2016; Zhang, 2012). However implementation of this competence among nurses is identified as a challenge (Balakas, 2013).

## Organizational barrier to utilization of Evidence Based Practice (EBP)

Although nurses are the bulk of the clinical health workforce, and play a central role in all health service delivery, many of the factors perceived by nurses as barriers to the implementation of evidence-based practice lie at the organizational level (Flodgren, 2012), there are a numerous organizational influence on implementation of evidence-based practice improvements in nursing staff. For example, unsupportive staff and management, lack of authority to change practice, lack of training and continues education are among the main organizational barriers influencing nurses to implement EBP (Wang, 2013; Williams, 2015; Ahaiwe Victor Chijindu, et al., 2016 and Al Ghabeesh, 2015). In fact, making evidence-based practice (EBP) throughout an organization is a challenging goal in healthcare services. However, leadership has been recognized as a critical element in that process (Stetler, 2014). It has been suggested that leadership and organizational change is a feasible and acceptable strategy for promoting implementation of EBP (Aarons, 2015). Thus, nurse administrators and leaders are key personnel's in facilitating an evidence-based practice culture within a healthcare facility. Because they are in the best position to support new nurses in their transition and in evidence-based practice (Fleischer, 2016). Thus, improving the management quality of nursing administrators by creating awareness on importance of integrating EBP will help improve the quality of management and problem-solving abilities, however it is reported that quality of nursing care is influenced by unsupportive management (Fleischer, 2016 and Wu, 2014).

According to several study shows, lack of time, lack of resource and lack of support from manager/leaders on researching and applying EBP are frequently reported as organizational barrier to nurses for adopting evidence-based practice in clinical decision making (Williams, 2015; Majid, 2011; Alzayyat, 2014). Additionally, the low level of Evidence Based Nursing Practice (EBNP) utilization was explained in relation to specific clinical nursing situations. More specifically, the high work-load for nurses and a high ratio of patients to one nurse. In fact, it is clearly reported that the hospital organizational cultures do not allow for nurses to search or read research articles during work-hours (Williams, 2015 and Kang, 2016). But care bundles are one strategy to increase integration of research evidence into clinical practice and facilitate healthcare providers to deliver optimal patient care in busy environments with limited resources. However, the application of care of bundle in all health care organization is considered as a problem among nurses (Damkliang, 2015). Another barrier is that the practice environment (workplace culture) can be resistant to changing tried and true conventional methods of practice. Williams, B., S. Perillo and T. Brown, (2015) stated that "similar to a lack of support from other colleagues, working in a culture bogged down in rigid, outdated protocols does not facilitate nor encourage the flow of new ideas" (Williams, 2015). In addition, researchers have stated that many nursing professional practices have been affected by old traditions and haphazard trial and error instead of by established scientific evidence (Alzayyat, 2014). Due to this, many nurses have relied on tradition, experience, and the advice of colleagues to direct their nursing practice (Smith, 2010). Moreover, it is stated that "practicing by using best evidence, achieving and sustaining evidence-based practice within practice environments can be challenging. However,

any initiative and positive change among nursing professionals should include practice adoption and scientific engagement in the new fields of research, and the development of a national research network to study improvement" (Stevens, 2013).

## The recommended strategy to overcome barriers to utilization of EBP among nurses

To overcome the barriers in implementing EBP, several authors recommended many strategy. Especially, providing continues education and training for nurse to create awareness on how to integrate evidence-based practice into clinical decision-making were commonly and frequently recommended by several researchers (Adamu and Naidoo, 2015; Boka Dugassa Tolera and F. Hui, 2017; Majid, 2011; Ali, 2014; Kang, 2016 and Saunders, 2016). This recommendation is not only for clinical staff but also staff working in academic level were need extra support to maintain their EBP knowledge and Skill (Upton, 2015). Moreover, Melnyk & Fineout-Overholt (2011) stated that "for evidence-based care to become the "gold standard" of practice, EBP barriers must be over-come" (Melnyk, 2011). According their suggestion, governmental agencies, healthcare organizations and systems, health insurers, policy makers, and regulatory bodies must advocate to increase the utilization of evidence based practice among nurses. In addition, healthcare organizations must build a culture for EBP and devise clinical promotion ladders that incorporate its use (Melnyk, 2011; Aarons, 2015; González\_Torrente, 2012).

Additionally many researcher were recommended several strategy to overcome barriers to utilization of EBP, including: (a) Support and encouragement from leadership/administration that foster a culture for evidence based practice (Melnyk, 2011 and Boka Dugassa Tolera and F. Hui, 2017; Raj Subramaniam, 2016; Zhou, 2015; and Khammarnia, 2015), (b) Time to critically appraise studies and implement their findings, (c) Research reports that are clearly written (Saunders, 2016), (d) Evidence-based practice mentors who have excellent EBP skills as well as knowledge and proficiency in individual and organizational change strategies (Melnyk, 2011 and Boka Dugassa Tolera and F. Hui, 2017), (e) Teaching the retrial skills for utilization of EBP (e.g., computers dedicated to EBP; computer-based educational programs (Melnyk, 2011; Farokhzadian, 2015; Yi-Hao Weng, 2013), (f) Clinical promotion systems that incorporate EBP competencies for advancement (Upton, 2015). (g) Using evidence-based clinical practice guidelines, policies and procedures [2] and (h) Establishment of Journal clubs and EBP rounds (Melnyk, 2011; Boka Dugassa Tolera and F. Hui, 2017; Ahaiwe Victor Chijindu, 2016; Raj Subramaniam, 2016), are the among the best strategy recommended to over-come barrier to utilization of EBP among nursing professionals. All of the above recommendations are considered at local and global level. For example, Warren *et al.*, (2016) recommended the strategies to implement evidence to action at local and global levels. Especially, they suggested that transformational nurse leaders can collectively allocate resources to create a system-wide online EBP education plan with EBP competencies and tool kit to increase nurse's exposure to EBP and standardize practice at all health care organization (Warren, 2016).

## METHODOLOGY

This a preliminary explorative review on individual and organizational barrier to utilization of EBP in clinical decision

making was highlighted for foundation of Evidence Based Practice (EBP) utilization and implementation among nursing professionals.

### Objectives

The general objective of this literature review was to explore the individual and organizational barrier to utilization of evidence based practice in clinical decision making among staff nurses.

The specific objectives of this literature review were to:

- Review factors related to nurses' individual readiness for utilization of evidence-based practice in clinical decision making
- Identify organizational barrier to utilization of EBP among nursing professionals.
- Review the current facilitators' of evidence based practice utilization among nursing profession.

### Search strategy

Literature searching was done by reviewing an article's reference citations by using Endnote and also investigating articles that were noted to have cited the primary and secondary article of interest. During the literature review process, we tried to focus on the global and local influences of individual and organizational barrier to utilization of EBP in clinical decision making among nurses. Iteratively, a broader literature review was then performed to review the individual and organizational barrier to utilization of evidence-based Practice among nurse. Available literature was searched to place the current study in the context of previous studies in related fields. The review related literature supporting the influence of individual and organizational barrier to utilization of EBP in clinical decision making among nursing professionals were deeply searched. Electronic sources, journal articles, books and policy documents on individual and organizational barrier and facilitator to EBP were used in the review of these literature. Searching the library databases that were utilized included Ovid MEDLINE, CINAHL, Cochrane library, and Google Scholar. Key words and phrases used to search the literature included: (a) individual (b) organizational (c) Barrier (d) evidenced based practice (e) clinical decision making (f) nurse.

### Inclusion and Exclusion Criteria

#### Inclusion criteria

- In this review, the inclusion criteria were limited to publications in English language, year of publication from 2000- February 2017.
- Studies that explored the individual and organizational factors influencing nurses for utilization of evidence based practice (EBP)
- Studies measuring the practice of nurses' readiness for utilization and implementation of EBP, i.e., their knowledge, attitudes, beliefs, and skills, including information literacy and other EBP-related skills
- Studies related to evaluating the impact of various interventions designed to promote practicing nurses' readiness for EBP.
- Studies reporting on both primary and secondary empirical research studies.

- Studies focusing on nurses' sources of information or on barriers to and facilitators of EBP

#### Exclusion criteria

In this review the exclusion criteria includes:

- Studies not focusing on individual and organizational barriers to utilization of evidence based practice among nursing professions.
- Studies reporting on EBP model, theory, questionnaire development, testing, or validation.
- Studies whose data was not collected during the year 2000–February, 2017
- Information from unpublished research thesis and dissertations.

#### Conclusion

This review has demonstrated the quantitative and qualitative studies conducted to identify the individual and organizational barriers and facilitators to utilization of evidence based practice in clinical decision making process among nurses. Although the movement of EBP is crucial and has a great potential for improving quality of patient care and health outcomes, the role of the individual and organizational barriers were prevented nurses to use evidence based practice in clinical decision making. Even for a health care professional who is motivated and competent in the use of EBP; all of these barriers have affected their ability to increase and maintain the use of EBP in the workplace. Therefore, individual readiness and organizational supports need to be developed for nurses to overcome barrier to utilization of evidence based practice.

#### Summary

- Nursing is a unique profession dedicated to optimizing and promoting the health and well-being of individual in need of care. Hence, nurses are considered as the backbone of the health system.
- Nurses have decision-making responsibilities and they play a vital role in the delivery of quality patient care.
- Using evidence based practice (EBP) in clinical decision making is a vital and an effective way for nurses to improve quality of patient outcomes.
- Although practicing in an evidence-based manner confirms the improvement of patient outcomes, nurses have identified individual and organizational barriers to evidence based practice utilization
- Awareness of evidence based practice utilization by staff nurse and nurse manager has the potential to influence the implementation of evidence-based practice in the work-place.

#### Future Issue

- How can nurses use evidence based practice during working time?
- What criteria are most appropriate for nurse to critically appraise research finding?
- How do nurses can easily provide their contribution for the development of EBP implantation?
- What are the influence of culture and tradition on nurse in utilization of EBP?

- In what condition evidence based practice included in occupational standard of nurses?

### Conflict of Interests

The authors declare that they have no conflict of interests.

### REFERENCES

- Aarons, G.A., *et al.*, Leadership and organizational change for implementation (LOCI): a randomized mixed method pilot study of a leadership and organization development intervention for evidence-based practice implementation. *Implement Sci*, 2015. 10: p. 11.
- Adamu and Naidoo, J., Exploring the Perceptions of Registered nurses towards Evidence- based practice In a selected general Hospital in Nigeria. *Africa Journal of Nursing and Midwifery*, 2015. 17(1): p. 33-46.
- Ahawi Victor Chijindu, E.C.F. Samantha, and E.A. Nkechi, Evaluation-of-Barriers-to-the-Implementation-of-Evidence-Based-Practice-Ebp-Among-Nurses-Working-At-Federal-Teaching-Hospital-Abakaliki-Fetha-II. *International Journal of Nursing, Midwife and Health Related Cases*, 2016. 2(1): p. 71-90.
- Ali A. Ammouri, *et al.*, Evidence-Based Practice: Knowledge, attitudes, practice and perceived barriers among nurses in Oman. Sultan Qaboos University medical journal, 2014.
- Alzayyat, A.S., Barriers to evidence-based practice utilization in psychiatric/mental health nursing. *Issues Ment Health Nurs*, 2014. 35(2): p. 134-43.
- American Nursing Association, Nursing Scope and Standards of Practice, 2nd Edition. 2010: p. 16.
- Balakas, K., *et al.*, An outcome of evidence-based practice education: sustained clinical decision-making among bedside nurses. *J Pediatr Nurs*, 2013. 28(5): p. 479-85.
- Barends, E.G.R. and R.B. Briner, Teaching Evidence-Based Practice: Lessons From the Pioneers: An Interview with Amanda Burls and Gordon Guyatt. *Academy of Management Learning & Education*, 2014. 13(3): p. 476-483.
- Bissett, K.M., M. Cvach, and K.M. White, Improving Competence and Confidence with Evidence-Based Practice Among Nurses: Outcomes of a Quality Improvement Project. *J Nurses Prof Dev*, 2016. 32(5): p. 248-55.
- Boka Dugassa Tolera and F. Hui, Assessment of Attitudes, Skills and Source of Knowledge on Utilization of EBP Among Registered Nurses in Xiangya Hospital of Central South University, Changsha, China. *American Journal of Nursing Science*, 2017. 6(2): p. 99-112.
- Bonner, A. and J. Sando, Examining the knowledge, attitude and use of research by nurses. *J Nurs Manag*, 2008. 16(3): p. 334-43.
- Brown, C.E., *et al.*, Multi-institutional study of barriers to research utilisation and evidence-based practice among hospital nurses. *J Clin Nurs*, 2010. 19(13-14): p. 1944-51.
- Buchan, J. and L. Aiken, Solving nursing shortages: a common priority. *J Clin Nurs*, 2008. 17(24): p. 3262-8.
- Chien, *et al.*, Nurses' Perceived Barriers to and Facilitators of Research Utilization in Mainland China: A Cross-Sectional Survey. *The Open Nursing Journal*, 2013. 7: p. 96-106.
- Damkliang, J., *et al.*, Nurses' perceptions of using an evidence-based care bundle for initial emergency nursing management of patients with severe traumatic brain injury: A qualitative study. *Int Emerg Nurs*, 2015. 23(4): p. 299-305.
- Diane S., *et al.*, Readiness of U.S. Nurses for Evidence-Based Practice. 2005. 105(9).
- DiGaudio Mariano, K., *et al.*, Building evidence-based practice with staff nurses through mentoring. *Journal of Neonatal Nursing*, 2009. 15(3): p. 81-87.
- Elshaug A, *et al.*, identifying existing health care services that do not provide value for money. *Med. J. Association*, 2009. 190(5): p. 269-273.
- Farokhzadian, J., R. Khajouei, and L. Ahmadian, Information seeking and retrieval skills of nurses: Nurses readiness for evidence based practice in hospitals of a medical university in Iran. *Int J Med Inform*, 2015. 84(8): p. 570-7.
- Fleiszer, A.R., *et al.*, Nursing unit leaders' influence on the long-term sustainability of evidence-based practice improvements. *J Nurs Manag*, 2016. 24(3): p. 309-18.
- Flodgren, G., *et al.*, Effectiveness of organisational infrastructures to promote evidence-based nursing practice. *Cochrane Database Syst Rev*, 2012(2): p. CD002212.
- Forsman, H., *et al.*, Research use in clinical practice - extent and patterns among nurses one and three years postgraduation. *Journal of Advanced Nursing*, 2009. 65(6): p. 1195-1206.
- Gardner, K., *et al.*, Implementing and Sustaining Evidence Based Practice Through a Nursing Journal Club. *Applied Nursing Research*, 2016. 31: p. 139-145.
- González\_Torrente, *et al.*, Perception of evidence-based practice and the professional environment of Primary Health Care nurses in the Spanish context: a cross-sectional study. *BMC Health Services Research*, 2012. 12(227).
- H. Al Ghabeesh, S., Barriers and Suggested Facilitators to the Implementation of Best Practice: An Integrative Review. *Open Journal of Nursing*, 2015. 05(01): p. 77-87.
- Hadgu, G., Assessment of Nurses' Perceptions and Barriers on Evidence Based Practice in Tikur Anbessa Specialized Hospital Addis Ababa Ethiopia. *American Journal of Nursing Science*, 2015. 4(3): p. 73.
- Hoffmann T Bennett S & Del Mar C, Evidence-Based Practice Across the Health Professions. Text book, 2013: p. <http://evolve.elsevier.com/AU/Hoffmann/evidence/>.
- Institute of Medicine, The future of nursing: Leading change, advancing health. National Academies Press, 2011.
- International Council of Nurses, G., Switzerland, Nursing research: a tool for action. Fact sheet, 2009. 2nd edition p. 1-3.
- Jiang, H., *et al.* Nurses' roles in direct nursing care delivery in China. *Applied Nursing Research*, 2015. 28(2): p. 132-136.
- Kang, Y. and I.-S. Yang, Evidence-based nursing practice and its correlates among Korean nurses. *Applied Nursing Research*, 2016. 31: p. 46-51.
- Khammarnia, M., *et al.*, Barriers to implementation of evidence based practice in zahedan teaching hospitals, Iran, 2014. 2015. 2015: p. 357140.
- Khammarnia, M., *et al.*, Barriers to implementation of evidence based practice in zahedan teaching hospitals, Iran, 2014. *Nurs Res Pract*, 2015. 2015: p. 357140.
- Knops, A.M., *et al.*, Attitudes, awareness, and barriers regarding evidence-based surgery among surgeons and surgical nurses. *World J Surg.*, 2009. 33(7): p. 1348-55.
- Koivunen, M., M. Välimäki, and H. Hätönen, Nurses' information retrieval skills in psychiatric hospitals – Are the requirements for evidence-based practice fulfilled? *Nurse Education in Practice*, 2010. 10(1): p. 27-31.
- Kyalo Mutisya, A., A. KagureKarani, and C. Kigundu, Research Utilization among Nurses at a Teaching Hospital in Kenya. *J Caring Sci*, 2015. 4(2): p. 95-104.

- Linjawi, B., Knowledge, attitude, and barriers towards the use of evidence based practice among senior dental and medical students in western Saudi Arabia. *Saudi Med J*, 2014. 35(10).
- Majid, S., *et al.*, Adopting evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers. *J Med Libr Assoc*, 2011. 99(3): p. 229-36.
- Makic, M.B.F., *et al.*, Putting Evidence Into Nursing Practice: Four Traditional Practices Not Supported by the Evidence. *Critical Care Nurse*, 2013. 33(2): p. 28-42.
- Malik, G., L. McKenna, and D. Griffiths, How Do Nurse Academics Value And Engage With Evidence Based Practice Across Australia: Findings From A Grounded Theory Study. *Nurse Education Today*, 2016.
- McCaughan, D., *et al.*, Acute care nurses' perceptions of barriers to using research information in clinical decision-making. *J Adv Nurs*, 2002. 39(1): p. 46-60.
- McInerney, P.A., Evidence-Based Nursing and Midwifery: The State of the Science in South Africa. 2004: p. 207-208.
- Melnyk MB. & Ellen Fineout-Overholt, Evidence-Based Practice in Nursing & Healthcare - A Guide to Best Practice, Second Edition. 2011.
- Melnyk, B.M., *et al.*, Nurses' perceived knowledge, beliefs, skills, and needs regarding evidence-based practice: implications for accelerating the paradigm shift. *Worldviews Evid Based Nurs*, 2004. 1(3): p. 185-93.
- Melnyk, B.M., *et al.*, The State of Evidence-Based Practice in US Nurses. *JONA: The Journal of Nursing Administration*, 2012. 42(9): p. 410-417.
- Middlebrooks, R., Jr., H. Carter-Templeton, and A.R. Mund, Effect of Evidence-Based Practice Programs on Individual Barriers of Workforce Nurses: An Integrative Review. *J Contin Educ Nurs*, 2016. 47(9): p. 398-406.
- Olade, R.A., Evidence-based practice and research utilization activities among rural nurses. *J Nurs Scholarsh*, 2004. 36(3): p. 220-5.
- Pravikoff, D.S., A.B. Tanner, and S.T. Pierce, Readiness of U.S. nurses for evidence-based practice. *Am J Nurs*, 2005. 105(9): p. 40-51; quiz 52.
- Raj Subramaniam P.Siraja KC& Sarita P, Barriers and Facilitators of Utilizing Research Among Nurses in Nepal. *J Contin Educ Nurs*, 2016. 47(4): p. 171-9.
- Rousseau, D.M. and B.C. Gunia, Evidence-Based Practice: The Psychology of EBP Implementation. *Annu Rev Psychol*, 2016. 67: p. 667-92.
- Ruzafa-Martinez, M., *et al.*, Effectiveness of an evidence-based practice (EBP) course on the EBP competence of undergraduate nursing students: A quasi-experimental study. *Nurse Educ Today*, 2016. 38: p. 82-7.
- Sackett, D.L., *et al.*, Evidence based medicine: what it is and what it isn't. *BMJ*, 1996. 312(7023): p. 71-2.
- Saunders, H. and K. Vehviläinen-Julkunen, Nurses' Evidence-Based Practice Beliefs and the Role of Evidence-Based Practice Mentors at University Hospitals in Finland. *Worldviews Evid Based Nurs*, 2017. 14(1): p. 35-45.
- Saunders, H. and K. Vehviläinen-Julkunen, The state of readiness for evidence-based practice among nurses: An integrative review. *International Journal of Nursing Studies*, 2016. 56: p. 128-140.
- Saunders, H., K. Vehviläinen-Julkunen, and K.R. Stevens, Effectiveness of an education intervention to strengthen nurses' readiness for evidence-based practice: A single-blind randomized controlled study. *Appl Nurs Res.*, 2016. 31: p. 175-85.
- Smith, J.R. and A. Donze, Assessing environmental readiness: first steps in developing an evidence-based practice implementation culture. *J Perinat Neonatal Nurs*, 2010. 24(1): p. 61-71; quiz 72-3.
- Stetler *et al.*, Leadership for Evidence-Based Practice: Strategic and Functional Behaviors for Institutionalizing EBP. *Worldviews on Evidence-Based Nursing*, 2014. 11(4): p. 219-226.
- Stevens, K., "The impact of evidence-based practice in nursing and the next big ideas". *OJIN: The Online Journal of Issues in Nursing.*, 2013. 18(2).
- Stichler, J.F., *et al.*, Faculty knowledge, attitudes, and perceived barriers to teaching evidence-based nursing. *J Prof Nurs*, 2011. 27(2): p. 92-100.
- Stokke, K., *et al.*, Evidence based practice beliefs and implementation among nurses: a cross-sectional study. *BMC Nursing*, 2014. 13(8).
- Tastan, S., *et al.*, Evidence for the existing American Nurses Association-recognized standardized nursing terminologies: a systematic review. *Int J Nurs Stud*, 2014. 51(8): p. 1160-70.
- Thorsteinsson, H.S., Icelandic nurses' beliefs, skills, and resources associated with evidence-based practice and related factors: a national survey. *Worldviews Evid Based Nurs*, 2013. 10(2): p. 116-26.
- Ubbink DT., *et al.*, Framework of policy recommendations for implementation of evidence-based practice: a systematic scoping review. *B Med.Journal*, 2013. 3.
- Upton, P., *et al.*, The evidence-based practice profiles of academic and clinical staff involved in pre-registration nursing students' education: a cross sectional survey of US and UK staff. *Nurse Educ Today*, 2015. 35(1): p. 80-5.
- Upton, P., L. Scurlock-Evans and D. Upton, Development of the Student Evidence-based Practice Questionnaire (S-EBPQ). *Nurse Educ Today*, 2016. 37: p. 38-44.
- Varnell, G., *et al.*, Effect of an educational intervention on attitudes toward and implementation of evidence-based practice. *Worldviews Evid Based Nurs*, 2008. 5(4): p. 172-81.
- Wang, L.P., *et al.*, Barriers to and facilitators of research utilization: a survey of registered nurses in China. *PLoS One*, 2013. 8(11): p. e81908.
- Warren, J.I., *et al.*, The Strengths and Challenges of Implementing EBP in Healthcare Systems. *Worldviews Evid Based Nurs*, 2016. 13(1): p. 15-24.
- Waters, D., *et al.*, Views on evidence from nursing and midwifery opinion leaders. *Nurse Education Today*, 2009. 29(8): p. 829-834.
- Williams, B., S. Perillo and T. Brown, What are the factors of organisational culture in health care settings that act as barriers to the implementation of evidence-based practice? A scoping review. *Nurse Educ Today*, 2015. 35(2): p. e34-41.
- Wu, X.-J. and L. Zhang, Enhancing the nursing discipline and developing nursing science in China. *International Journal of Nursing Sciences*, 2014. 1(4): p. 325-329.
- Yi-Hao Weng, *et al.*, Increasing utilization of Internet-based resources following efforts to promote evidence-based medicine: a national study in Taiwan. *BMC Medical Informatics and Decision Making*, 2013. 13(4).
- Zhang, Q., *et al.*, Assisting undergraduate nursing students to learn evidence-based practice through self-directed learning and workshop strategies during clinical practicum. *Nurse Educ Today*, 2012. 32(5): p. 570-5.

Zhou, F., *et al.*, Attitude, Knowledge, and Practice on Evidence-Based Nursing among Registered Nurses in Traditional Chinese Medicine Hospitals: A Multiple Center Cross-Sectional Survey in China. *Evid Based Complement Alternat Med*, 2016. 2016: p. 5478086.

Zhou, F., *et al.*, Barriers to Research Utilization among Registered Nurses in Traditional Chinese Medicine

Hospitals: A Cross-Sectional Survey in China. *Evid Based Complement Alternat Med*, 2015. 2015: p. 475340.

Ziviani, J., *et al.*, Mapping allied health evidence-based practice: providing a basis for organisational realignment. *Aust Health Rev*, 2015. 39(3): p. 295-302.

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