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ORIGINAL ARTICLE

Knowledge, Attitudes, Practices and Related Factors among Nurses Regarding Evidence-Based Practice in Bahrain

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ABSTRACT

Objective: The study aimed to determine the factors related to knowledge, attitudes, and practice of nurses regarding evidence-based practice (EBP) in Bahrain.

Methods: A descriptive, cross-sectional study was conducted in Salmaniya Medical Complex hospital in Bahrain from 2017 to 2018. Nurses from all shifts, both genders, and age range between 30–65 years old work in different inpatient departments were included in the study. Research instruments were distributed and completed during the nurses' shift duty which comprised of nurses' demographic characteristics questionnaire and the validated English version of Upton & Upton's self-reported Evidence-Based Practice Questionnaire (EBPQ).

Results: Of 404 nurses' the majority of nurses were females 369 (91.6%), with a mean age was 37.7 + 7.7 years. most of the nurses 313 (77.5%) had moderate score of knowledge, and 312 (77.2%) were moderate implementers for EBP, and 179 (44.3%) had a positive attitude. Nurses who were working in the gynecology units reported significantly higher knowledge about EBP with mean scores 68.6 ± 7.06 as compared to pediatrics 67.0 ± 4.78, critical care 65.9 ± 4.67, surgical 65.8 ± 4.94 and medical 66.4 ± 4.20 (p-value 0.004) respectively. An insignificant association between attitude (p-value 0.123) and practice (p-value 0.123) of EBP was found in a work setting.

Conclusion: The EBP is a vital and effective instrument for raising the quality of health care. Healthcare organizations should focus more on developing training programs for nurses to improve their clinical skills, knowledge, and attitude on the use of EBP to elevate the quality of care.

Keywords: Attitude, Bahrain, Evidence Based Practice, Knowledge, Nurse, Practice.

INTRODUCTION

Despite the nurses' providing high-quality nursing care, there is a gap between research and practice. Therefore, the practitioner can bridge the gap using stepwise evidence-based practice (EBP) and integrate the updated published research into clinical practice.[1]

Giuffrida, 2017 defied the EBP as "the integration of the clinical expertise, clinical values and preferences, and the best research evidence into the decision-making process for clinical care".[2]

Pickler (2018) emphasized that nursing science must incorporate all types of research, from discovery to interpretation and implementation, from bench to bedside, and from mechanism to holistic.[3] Implementation of EBP requires a clear understanding of the concept and steps of EBP for accurate application. However, healthcare professionals must acquire the research skill to convert the patient's problem into an answerable clinical research question to deliver optimal patient care.[4] Meanwhile, Terhorst *et al*. (2016), highlighted that most healthcare providers recognize the importance of EBP, but the implemen-tation of EBP in the health disciplines hasn't reached an acceptable level.[5] Integration of EBP competency into micro and macro healthcare systems could drive higher quality of care with consistency, reliability, and cost effectiv-eness.[6]

The practice of EBP is a critical element for ensuring patient safety. Although strategies to improve EBP knowledge and practice have been recommended, recent research indicates nurses might not be adequately prepared to apply EBP.[7] Furthermore, many studies reported that nursing and midwifery practitioners lack knowledge and practice of EBP, although nurses and midwives believe that EBP will improve the quality of patient outcomes and they consider it a core value or standard of practice.[8] Nurses are lacking in EBP knowledge and abilities such as using technology as a database, identifying and developing clinical questions, looking for and discovering relevant evidence in the literature, critically analyzing the

research, and integrating and applying the evidence.[9] Nurses must have an optimistic attitude, enough knowledge/skills, and relevant research application to properly use EBP and enhance excellence in care.[10] Similarly, the International Council of Nurses' Code of Ethics stresses the need of nurses being aware of research findings and incorporating them into clinical practice.[11]

In Bahrain, the nurses' knowledge, attitude, and practice toward EBP have not been adequately addressed, therefore, the present study aimed to determine the amount and factors related to the knowledge, attitudes, and practice of Bahraini nurses regarding EBP.

METHODS

A descriptive, cross-sectional survey design that was carried out in Salmaniya Medical Complex hospital from 2017 to 2018 with a non-probability, convenient sample of 404 nurses. To adhere with the university's guidelines for ethical research, members of the Research Technical Support Team (RTST) obtained ethical consideration from the Institutional Review Board of the higher studies committee at the University of Bahrain, and then approval from the Ministry of Health's ethics committee board RTST. In addition, permission from the College of Health Sciences' Scientific Research and Publication Committee (CHS SRPC recommendation No: 2/2018-17U) was obtained. All nurses who agreed to participate gave their formal consent.

Nurses involved in the study were selected according to the following criteria: Qualified nurses from all shifts, both genders, and age range between 30–65 years old work in different inpatient departments' namely in medical, surgical, pediatrics, gynecology, and critical care areas. Nurses working in outpatient clinics and student nurses were excluded.

Epi-info program version 7 was used to estimate the sample size using the following parameters: population size of 2681 nurses, Confidence coefficient of 95%, expected frequency of 50%, and acceptable error of 5%. The minimum required sample size is 336 nurses.[12]

Research instruments were distributed and completed during the nurses' shift duty which comprised of nurses' demographic characteristics questionnaire and the validated English version of Upton & Upton's self-reported Evidence-Based Practice Questionnaire (EBPQ) (2006).[13] The construct validity of the measure was validated by positive correlations ranging from 0.3 to 0.4 (p-value <.001) between the measure and an independent measure of awareness of EBP, and internal consistency was established by Cronbach's alpha for each subscale exceeding 0.70. Additionally, the subscales were deemed to have sufficient internal consistency, with an overall alpha of 0.87 and alphas of 0.79 for attitudes toward EBP, 0.91 for knowledge of EBP, 0.85 for usage, and 0.91 for use of EBP. The six components of nurses' demographic characteristics questionnaire are age, gender, nationality, educational background, work experience, and workplace. The EBPQ measures EBP knowledge (14 items), attitudes (4 items), and practice (6 items) on a seven-point Likert scale with 24 items. Each question is graded from 1 to 7, with a higher score denoting the most affirmative response (according to the highest amount of knowledge, a more upbeat attitude, and EBP practice) and a lower score denoting the most unfavorable response (1).

The sum of the scores for each question yields a final score of 168 points, the total Score of Knowledge range from 14-98. Total Score of Attitude range from 4-28, total Score of practice range from 6-42. In our study, the total scores were summed-up and transformed into 3 categories; using Equal Interval Classification.[14] Knowledge score categorized as (14-42) low knowledge, (43-70) moderate knowledge, and (71-98) high knowledge. Practice score categorized as (6-18) low implementer, (19-30) moderate implementer, and (31-42) high implementer. Attitude score categorized as (14-42) negative attitudes, (43-70) moderate positive attitudes, and (71-98) high positive attitudes.

Data entry and analysis were done using Statistical Package for Social Sciences (SPSS) version 20.0. Mean ± SD were computed for quantitative variables like age, knowledge, attitude and practices. While frequency and percentages were computed for categorical variables like gender, nationality, education, and work setting. To compare knowledge, attitude and practices with demographic characteristics of nurses, Independent t-test and One Way ANOVA test was used. The p-value of ≤ 0.05 was considered statistically significant.

RESULTS

Of 404 nurses' the majority of nurses were females 369 (91.6%), with a mean age was 37.7 + 7.7 years. Most of the participants were Indian 219 (54.2%) and held associate diplomas 203 (50.25%) and around two-thirds of nurses had varied years of experience of ranged between 6-20 years 203 (50.25%).

The nurse's knowledge, practice, and attitude scale

Table 1: Knowledge, attitudes, and practice of nurses regarding evidence-based practice (n = 404)

Item	n (%)
Knowledge	
Low Knowledge	00 (0.0)
Moderate Knowledge	313 (77.5)
High Knowledge	91 (22.5)
Practice	
Low Implementer	00 (0.0)
Moderate Implementer	312 (77.2)
High Implementer	92 (22.8)
Attitude	
Negative Attitudes	00 (0.0)
Moderate Positive Attitudes	142 (35.2)
High Positive Attitudes	179 (44.3)

Table 2: Mean comparison of knowledge score with general characteristics of nurses (N = 404)

Item	Total	Mean± SD	p-value
Gender			
Male	35	65.1 ± 4.47	0.049*~
Female	369	67.0 ± 5.45	
Nationality			
Bahraini	176	67.1 ± 6.04	
Indian	219	66.5 ± 4.84	0.326^
Filipino	9	68.8 ± 4.80	
Academic Qualification			
Associate Diploma	203	66.9 ± 5.73	
Bachelor's Degree	192	66.8 ± 5.05	0.799^
Master's Degree	9	65.6 ± 5.19	
Work Setting			
Gynecology	91	68.6 ± 7.06	
Pediatrics	91	67.0 ± 4.78	
Critical Care	100	65.9 ± 4.67	0.004*^
Surgical	71	65.8 ± 4.94	
Medical	51	66.4 ± 4.20	

~ Independent t-test test and ^One way ANOVA test applied, *p-value ≤ 0.05

Table 3: Mean comparison of practice and attitude score with work setting of nurses (N = 404)

Work Setting	Attitudes		Practice	
	Mean± SD	p-value	Mean ±SD	p-value
Gynecology	20.3 ± 1.05		29.1 ± 1.66	
Pediatrics	20.0 ± 0.71		29.4 ± 1.55	
Critical Care	20.1 ± 1.00	0.123	29.4 ± 1.54	0.123
Surgical	20.0 ± 0.80		29.5 ± 1.52	
Medical	20.0 ± 0.73		28.8 ± 1.42	

One way ANOVA test applied

levels of EBP are displayed in table 1, most of the nurses 313 (77.5%) had moderate score of knowledge, and 312 (77.2%) were moderate implementers for EBP, and 179 (44.3%) had a positive attitude. Table 2 demonstrates the relationships between sociodemographic data and nurses' EBPQ, female nurses showed significantly highest knowledge mean score 67.0 ± 5.45 as compared to male nurses 65.1 ± 4.47 (p-value 0.049). Surprisingly Filipino nurses reported insignificantly highest knowledge mean score 68.8 ± 4.80 as compared to

Bahraini nurses 67.1 ± 6.04, and Indian nurses 66.5 ± 4.84 (p-value 0.326). Nurses with associate diplomas reported insignificantly highest knowledge mean score 66.9 ± 5.73 than bachelor's 66.8 ± 5.05 and master's degree holders 65.6 ± 5.19 (p-value 0.799). Moreover, nurses who were working in the gynecology units reported significantly higher knowledge about EBP with mean scores 68.6 ± 7.06 as compared to pediatrics 67.0 ± 4.78, critical care 65.9 ± 4.67, surgical 65.8 ± 4.94 and medical 66.4 ± 4.20 (p-value 0.004) respectively.

Table 3 illustrates the associations between attitude and practice of EBP in a work setting. An insignificant association between attitude (p-value 0.123) and practice (p-value 0.123) of EBP was found in a work setting.

DISCUSSION

The EBP is described as "Research Utilization". Since a recent study reported that nurses and midwives misinterpreted the EBP as "research-led practice/ proven practice or skills", the finding of the study highlighted those nurses had confusion between those concepts as improving patient care decision making, quality of patient care delivery, and nursing practice improvement, and the more common answer was knowledge of safe and effective practice.[15]

According to the study's findings, registered nurses exhibited a modest degree of knowledge-followed practice and an attitude toward EBP. Participants achieved a moderate level of knowledge on the EPB subscales, followed by practice and attitude (KPA). This implies that nurses' understanding of EBP differs from their attitude toward and capacity to apply it. Other studies showed nurses with insufficient EBP knowledge and competence.[16] Although Bahraini nurses were more knowledgeable about EBP and used some of it in their work, they lacked the necessary attitude to put it into practice. The statistically significant association between nurses' knowledge, attitudes, and application of EBP revealed nurses who were highly knowledge-able/skilled about EBP, had a moderate proclivity to use EBP, and had a relatively favorable attitude toward EBP. Nurses, on the other hand, reported having just slightly more awareness of EBP than the average level and having a negative attitude about EBP. It reinforced the findings of Milner et al (2006) research study, which discovered that not all of these clinical nurses have the necessary understanding of research capabilities.[17]

According to the study findings, nurses' awareness of EBP rose as they acquired experience. Registered nurses with master's degree reported more knowledge than registered nurses with a bachelor's degree. Postgraduate programs often include more particular courses in research technique than bachelor's degree programs. Perhaps more experienced nurses with high academic degrees and who attended training courses provided by their employer had better understanding of EBP.[18] Similarly, Eizenberg et al, 2011 discovered that qualification level of nurses reported more evidence-based professional conduct than bachelor's degree-level nurses.[19]

The findings of the current study revealed that education remained an independent predictor in all the variables, including knowledge, attitudes, and the use of EBP. This showed how KPA is a valuable variable. Al-Busaidi et al, 2019 recommended preparing nurses to be qualified to produce different types of evidence through education initiatives such as research skills, critical appraisal, and overwhelming work duty via institutional policy changes to enhance the implementation of EBP.[20]

A self-administered questionnaire was used to assess knowledge, attitude, and behavior related to EBP among 440 nurses in Italy. Nurses valued a higher degree of expertise and the perceived necessity of using strategies and guidelines within the technique. They thought that the evidence-based experience had to be backed up with evidence. The study's 49% response rate suggests that focusing on a continuous education program improves nurses' understanding and practice of EBP.[21] Furthermore, in Iran, a descriptive-analytical research study of 260 nurses working in 6 hospitals was conducted to measure nurses' degree of comprehension and identify obstructions to EBP research utilization. The findings demonstrated that the nurse's understanding of total EBP was greater than the national average (3.91 out of 7). The survey found that the average knowledge score was 3.74, the average attitude was 3.78, the average practice was 4.14, and the average obstacles were 3.07. A significant link was established between adoption and communication knowledge and abilities (p-value 0.05) and practice. The study's findings show that further in-service education for evidence-based nursing is required.[22]

In contradiction with the current study finding, in Oman, a recent study explored the knowledge, practice, and attitudes toward EBP among 262 nurses and found that the highest mean score was the nurse's attitude, followed by knowledge and practice.[20] Moreover, in Saudi Arabia, Alqahtani, et al, 2020 found that nurses had the highest mean score in attitude toward EBP followed by knowledge and practice.[23] In

addition, another recent study conducted in Saudi Arabia by Alshammari et al., 2020 reported that the participants showed a positive attitude and a good level of knowledge and practice [15.25 (5.07), 63.44 (19.81), 28.02 (6.68)] respectively.[24]

In disagreement with the present study findings, a recent study was done by Cleary-Holdforth, 2020 who investigated in Ireland whether nurses understood the concept of EBP and had the knowledge, attitude, and practice to utilize EBP, and found that the participants had a substantial lack of knowledge and poor scores in all three cohorts on the EBP implementing scale.[16]

Besides the importance of exploring the nurses' KPA toward EBP, it is also crucial to identify the challenges to implementing the EBP as recognized globally and regionally as limitations in the use of evidence in clinical practice as lack of time to implement the new practice, high workload, resistance to change, lack of resources, nursing managers, and lack of knowledge and research skills.[25-27]

The current study identified the level of nurses' knowledge, practice, and attitude to improve the quality of care and it was the first step in changing traditional nursing care to advanced care based on updated evidence, whereas the limitations and challenges faced by investigators during data collection that the nurse's busyness during whole duty shift to complete the self-questionnaire and the investigators faced challenges during data collection. As per the study's findings, institutional support is needed to bridge this gap by expanding knowledge of scientific inquiry, delivering the best evidence-based clinical training for nurses, and implementing evidence-based nursing practice in a health care organization.

CONCLUSION

EBP is a critical and valuable tool for improving health care outcomes. The study reported that Filipino nurses reported the highest knowledge level compared to other nationalities. Additionally, the clinical setting environment encouraged nurses to understand the concept of EBP as nurses who were working in the gynecology unit whereas identified significantly higher knowledge levels compared to other departments. The present study findings highlighted the importance of healthcare organizations should pay more attention to designing training strategies for nurses to enhance their knowledge, clinical practice, and attitude toward the application of EBP for improving the quality of care.

ETHICAL APPROVAL: The study was approved by the Scientific Research and Publication Committee, College of Health and Sport Sciences, University of Bahrain (CHSS SRPC RecommendationNo:2/2018-17U.Feb 3, 2018).

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MMB: Final approval of the version to be published and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolve.

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