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# Knowledge, Attitudes, and Practice about Evidence-Based Practice: A Jordanian Study

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## Abstract

**Background:** Evidence-based practice has become a worldwide concern for healthcare staff and administrators as well as researchers. Evidence-based practice has been considered as critical element to improve quality of health services and achieving excellence in patient care. The implementation of Evidence-based practice in clinical environments has been challenging. One of the most important barriers to implement Evidence-based practice is knowledge deficit.

**Objective:** The aim of this study was to describe Jordanian nurses' knowledge, attitudes, and practice regarding evidence-based practice.

**Methods:** A descriptive cross-sectional correlational study was conducted in seven major hospitals in Amman/Jordan. Five hundred nurses answered a self-reported questionnaire. Descriptive statistics and multiple linear regressions were used to analyze the data.

**Results:** Attitudes toward Evidence –Based Practice had the highest mean followed by the knowledge/skills and finally the practice. Female nurses practice research less, have less positive attitude, and less knowledge about research compared to male nurses. Nurses with MSc degree, working in ICU and private hospitals have more positive attitude, reported higher levels of knowledge and skills compared to nurses with BSc, nurses working in other units, and nurses working in ministry of health and Royal Medical Service respectively.

**Conclusion:** Ongoing education for nurses and minimizing barriers are recommended to promote the use of Evidence –Based Practice in Jordan.

**Keywords:** Evidence-based practice; Nurses; Attitudes; Knowledge

## Introduction

Evidence-based practice (EBP) has become a worldwide concern for healthcare staff and administrators as well as researchers [1]. In nursing profession, EBP has gained its importance by influencing the knowledge and practice of nurses [2]. Evidence-based practice is the integration of the best current evidence for clinical decision making process [3]. It serves as an approach for problem- solving and a framework for decision making to answer emerging clinical questions [3,4] while considering the patient's values and practitioner's own views [3,5]. Therefore, EBP has been considered as critical element to improve quality of health services and achieving excellence in patient care [6]. Furthermore, EBP is considered as a keystone for health care quality [7].

The World Health Organization emphasized that health and social services should be based on the best research evidence [8]. Also, the importance of EBP has been shown as a reason behind 28% of improvement in patient outcomes when clinical care was based on evidence rather than traditional practices [9]. Evidence-based practice implementation is associated with all aspects of quality in health care such as efficient use of resources, improvement of patient care, decreasing costs and length of hospital stay, increasing patient satisfaction and elimination of unnecessary practices [3,9].

Despite the substantial advantages of EBP, the implementation in clinical environments has been challenging [10,11]. The greatest barriers were lack of time and lack of skills to find and manage research evidence [12]. Other barriers such as Language barriers, inability to access, interpret, and use the research findings, and knowledge deficit about EBP were reported [13,14]. Studies in Arabic countries showed approximate results. In a study that was conducted in Oman; 83% of nurses were moderately successful in searching the internet, while only 36% of the nurse had adequate searching skills using the data bases [13]. Also the findings indicated that nurses had lower scores on knowledge and skills, and moderate scores on attitudes. Another study in the Kingdom of Saudi Arabia about the same topic reported a moderate knowledge about EBP in nurses, however the positive attitudes toward EBP was lacking [15].

Nurses implementing EBP needs skills such as conducting literature searches and evaluating evidence [16]. Knowledge, skills, attitudes and practice are the keystone of implementing EBP [10,17]. Findings from previous studies indicated that nurses' knowledge, attitudes and beliefs about EBP can play a crucial role to the extent to which EBP is implemented [13,14,18]. Consequently, Knowledge, attitudes can potentially predict future behavior in regard to EBP implementation [1,9]. Nursing legislations in Jordan started to adopt EBP in a step for improvement and professionalism.

## Methods

### General objective and research questions

A paucity of information is available regarding assessing the factors influencing EBP adoption till now. Therefore, the general purpose of this study was to describe Jordanian nurses' knowledge, attitudes, and practice about evidence-based practice. Specifically the study was designed to answer the following questions in addition to the major purpose: 1) to determine if there was an associations between selected demographic variables (age, gender, academic qualifications, years of experience, participation in research, and availability of data base at the hospitals) and perceived EBP practice, attitudes, knowledge/skills; 2) to determine if there was a difference in perceived EBP practice, attitudes, knowledge/skills among area of practice (i.e., ICCU, ER, general wards); 3) to determine if there was a difference in perceived EBP practice, attitudes, knowledge/skills among different types of hospitals (private, governmental and royal medical services); and 4) to determine if there was a difference in perceived EBP practice, attitudes, knowledge/skills based on educational level (Bachelor's and Master's).

### Design and sample

This study used a descriptive cross-sectional design. A convenience sample of registered nurses who agreed to participate in the study and met the following inclusion criteria were included: 1) holding at least Bachelor's degree in nursing, 2) has been working more than three months, and 3) signed an informed consent. To make sure that the sample size was sufficient to detect statistical significance with a medium effect size, a power of 0.80 and type I error of 0.05, a power analysis based on Cohen's power table was done [19]. The statistical tests were multiple regression with 6 independent variables for research question number one, ANOVA with three groups for question number two and three, and t test for question number four. Based on that, 97 participants were needed for question number one, 156 participants for question number two and three, and 64 for questions number four. Therefore, we used the largest number as a reference to guide us during the recruitment process. A total number of 560 questionnaires were distributed and 500 were returned resulting in 89.3% response rate. The response rate was sufficiently high that the results are considered generalizable to the hospital setting where the participants were recruited.

### Setting

The study was conducted in seven major hospitals, Amman, Jordan. These hospitals included two major governmental hospitals, four private hospitals, and one major military city. The governmental hospital number one is the oldest and the largest governmental hospital in Jordan. This hospital deals with all specialties in-patient and out-patient from all cities in Jordan. Furthermore, the nurses working in this hospital are diverse from all cities in the country. The capacity of this hospital is approximately 1000 beds. In addition to that, this hospital is one of the major teaching hospitals for all health care specialties. The second governmental hospital is the second largest decentralized governmental hospital in Jordan. This hospital deals with all specialties, with a capacity of 450 beds. These two governmental hospitals do not have any international accreditation.

The four private hospitals are accredited hospitals dealing with all specialties, receiving patients from all over Jordan and nearby Arabic countries. These hospitals are considered as teaching centres for health care specialties and the leader of health care system in Jordan. The capacities of these hospitals are 300, 200, 170, and 160 beds respectively.

The last hospital included in this study was one of the Royal Medical Services. It is the first Arabic medical city where organ transplant was done in early 1980s. This city is the largest hospital of this sector (Royal Medical Services). Again, this city does not have any accreditation; however, they deal with all specialties in two general hospitals and 4 specialized centres located in one huge area.

### Ethical consideration

The study was approved by the IRB committee at Applied Science Private University, Amman, Jordan (IRB # Faculty 007) and from the hospitals where data were collected. Research assistant explained the study to the participants and asked them to sign informed consent if they want to participate. The participation was voluntary and anonymously.

### Data collection instrument

Data collection instrument consisted of two portions. In the first portion, knowledge, attitudes, and practice about evidence-based practice were measured by 24-item self-reported Evidence-Based Practice (EBP) Questionnaire developed by Upton et al. [20]. This tool has three subscales: practice of EBP, attitudes towards EBP, and knowledge of/skills associated with EBP. The practice subscale has six items, the attitudes subscale has four items, and the knowledge subscale has 14 items. All items are scored from one to seven with a higher score indicating a more positive attitude towards EBP, greater use (practice), and greater knowledge of EBP. Each subscale, of these three subscales, can be totalled. Therefore, the total score for the practice subscale can range from 6-42, and for the attitudes subscale can range from 4-28, and for the knowledge subscale from 14-98. To clarify the instrument more, each item in the attitudes subscale had two pairs of

opposing statements, a negative and a positive. The participants were asked to rank their attitudes towards EBP using these statements. If scores were greater than four, then they were considered as positive.

The second portion of the questionnaire was about sociodemographics of the participants. This part consist of seven questions about (age, gender, academic qualifications, years of experience, area of practice, if the participant participated in any research previously, and if the hospital/unit has an access to data base that might be used as a reference for EBP when needed).

Previous studies demonstrated that this instrument is valid and reliable. The original study done to check the validity and reliability of the instrument showed the following results: Cronbach's was 0.87 for the entire questionnaire, 0.85 for practice of EBP, 0.79 for attitude towards EBP, and 0.91 for the knowledge/ skills associated with EBP subscale. There was a significant moderate positive correlation between the scores of this questionnaire and an independent measure of awareness of EBP which supports the construct validity of this instrument [20]. Furthermore, a study done by Alamori et al. in Oman supported the reliability of this instrument as the following: the Cronbach's alpha coefficient was 0.91 for the entire questionnaire, 0.84 for the practice subscale, 0.74 for the attitudes subscale and 0.94 for the knowledge/skills subscale. In this study, the Cronbach's alpha coefficient was 0.96 for the entire questionnaire, 0.93 for the practice subscale, 0.82 for the attitudes subscale, and 0.95 for the knowledge/skills subscale.

## Data analysis

All data were analyzed by Statistical Package for the Social Sciences (SPSS), Version 21 (IBM Corp., Chicago, Illinois, USA). An alpha of 0.05 was set a priori. The general purpose of the study was analyzed by measuring the mean and the standard deviation of the total scores of the three subscales. In addition, each item in the subscales was rank-ordered, based on their means, to determine the priority of each item as a top learning need. Furthermore, the percentages of the positive responses for the total subscales and each item in each subscale were reported. To answer research question number one, a serial of bivariate correlation was done between the sociodemographics and the three subscales as the following; Pearson r for interval measures and Spearman  $\rho$  for ordinal measures. Predictor variables with significant correlation ( $p$ -value<0.1) were selected for further analyses and added to the multiple regression model. Multicollinearity was not a problem as VIF values were less than three [21]. To answer research question number two and three, ANOVA with post hoc analysis was done. To answer research question number four, independent sample t test was done.

## Results

### Descriptive statistics

The sample of the study consisted of 500 nurses. The mean age of the participants was  $28.54 \pm 5.24$  years and the mean number of years of experience was  $6.22 \pm 5.03$  years. More than half of the sample was females (58.0%), and the majority (87%) held BSc. Sociodemographics are presented in **Table 1**.

**Table 1** Sociodemographic characteristics of the sample.

Characteristics	Entire sample (N=500) mean $\pm$ SD	Entire sample (N=500) n(%),
<b>Gender</b>		
Male		210 (42)
Female		290 (58)
Age (years)	28.54 $\pm$ 5.24	
Years of experience	6.22 $\pm$ 5.03	
<b>Educational level</b>		
BSc		435 (87)
MSc		57 (11.4)
PhD		8 (1.6)
<b>Area of practice</b>		
ICU		156 (31.2)
ER		105 (21.0)
General wards		239 (47.8)
<b>Hospital type</b>		
Governmental		195 (39)
Private		186 (37.2)
Royal Medical Service		119(23.8)
<b>Data base access</b>		
Yes		310 (62.0)
No		190 (38.0)
<b>Participation in research</b>		
Yes		192 (38.4)
No		308 (61.6)

### General objective

Describe Jordanian nurses' knowledge, attitudes, and practice about evidence-based practice. The results showed that the attitudes subscale had the highest mean score ( $4.07 \pm$

1.34) followed by the knowledge/skills subscale ( $3.99 \pm 1.26$ ) and then the practice subscale ( $3.84 \pm 1.41$ ) (Table 2).

**Table 2** Nurses' questionnaire scores regarding their perceived knowledge, skills, attitude and practice of evidence-based practice (N=500).

Item	Scores	
	Total % of positive responses	(mean $\pm$ SD)
<b>Attitude</b>	<b>42.8</b>	<b>4.07 <math>\pm</math> 1.34</b>
My workload is too great for me to keep up to date with all the new evidence/New evidence is so important that I make the time in my work schedule	34	3.73 $\pm$ 1.83
I recent having my clinical practice questioned/I welcome questions on my practice	39	4.08 $\pm$ 1.58
Evidence based practice is a waste of time/Evidence based practice is fundamental to professional practice	41.2	4.20 $\pm$ 1.65
I stick to tried and trusted methods rather than changing to anything new/My practice has changed because of evidence I have found	41.6	4.27 $\pm$ 1.64
<b>Knowledge/skills</b>	<b>47.5</b>	<b>3.99 <math>\pm</math> 1.26</b>
Research skills	22.8	3.36 $\pm$ 1.62
IT skills	23.2	3.73 $\pm$ 1.60
Ability to determine how useful (clinically applicable) the material is	34.8	3.84 $\pm$ 1.66
Converting your information needs into a research question	33.6	3.93 $\pm$ 1.58
Monitoring and reviewing of practice skills	37.4	3.97 $\pm$ 1.58
Ability to apply information to individual cases	36.4	3.98 $\pm$ 1.60
Awareness of major information types and sources	40	4.04 $\pm$ 1.53
Ability to analyze critically evidence against set standards	40.8	4.09 $\pm$ 1.61
Ability to identify gaps in your professional practice	40	4.10 $\pm$ 1.61
Knowledge of how to retrieve evidence	42.6	4.12 $\pm$ 1.58
Ability to determine how valid (close to the truth) the material is	43.8	4.13 $\pm$ 1.61
Sharing of ideas and information with colleagues	41.8	4.13 $\pm$ 1.66
Dissemination of new ideas about care to colleagues	39.3	4.13 $\pm$ 1.60
Ability to review your own practice	45.8	4.30 $\pm$ 1.67
<b>Practice</b>	<b>42</b>	<b>3.84 <math>\pm</math> 1.41</b>
Formulated a clearly answerable question as the beginning of the process towards filling this gap	13.4	3.60 $\pm$ 1.68
Tracked down the relevant evidence once you have formulated the question	13.40%	3.69 $\pm$ 1.59
Critically appraised, against set criteria, any literature you have discovered	31.60%	3.71 $\pm$ 1.58
Integrated the evidence you have found with your expertise	33.40%	3.84 $\pm$ 1.62
Evaluated the outcomes of your practice	41.00%	4.08 $\pm$ 1.72
Shared this information with colleagues	42.00%	4.19 $\pm$ 1.79

Based on Table 2; the most important learning needs for the three subscales are the following: attitude subscale; my workload is too great for me to keep up to date with all the new evidence ( $3.73 \pm 1.83$ ); knowledge subscale; research skills ( $3.36 \pm 1.62$ ); and practice subscale; formulated a clearly answerable question as the beginning of the process towards filling this gap ( $3.60 \pm 1.68$ ) Research question number one: to

determine if there was an associations between selected demographic variables (age, gender, academic qualifications, years of experience, participation in research, and availability of data base at the hospitals) and perceived EBP practice, attitudes, knowledge/skills.

**Table 3** shows the correlation between the selected demographics and the three subscales.

**Table 3** Correlations between the nurses' demographic variables and their scores on the evidence-based practice questionnaire by subscale (N=500).

Variable	Questionnaire subscale		
	Practice	Attitude	Knowledge/skills
Age	-0.013 (NS)	-0.034 (NS)	-0.003 (NS)
Gender	-0.122***	-0.158***	-0.061*
Educational level	0.066*	0.101**	0.116***
Years of experience	-0.015 (NS)	-0.04 (NS)	-0.028 (NS)
Participation in research	-.197***	0.142***	0.201***
Data base access	-0.221***	0.146***	0.235***

NS: Not significant; \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Based on the results from **Table 3**, age and years of experience does not have any significant correlation with any of the three subscales. Therefore, they were excluded from the next step of analyses (multiple regression). It is worthy to note that these two variables do not have any problem of multicollinearity. Interestingly, participation in research and having access to a research data base in the hospitals were negatively associated with practice. This means that if the nurses participated previously in any research or if the hospital has an access to research data base, this will be associated with a decrease in their practice in research. However, this will be associated with an improvement in their attitude toward and their knowledge about research. Female gender has a negative correlation with all subscales. This means that female nurses practice research less, have less positive attitude, and less knowledge about research compared to male nurses. The same results were found with age; it has negative correlations with the three subscales. This means that older nurses practice research less, have less positive attitude, and less knowledge about research compared to younger nurses.

In order to understand the effect of each variable that have a significant relationship with three subscales, a multiple regression models were done **Table 4**.

According to **Table 4**, female nurses reported practiced EBP less than male nurses. Nurses with MSc degree have more positive attitude, reported higher levels of knowledge and skill than BSc nurses. The presence of data base at the hospitals improved the attitude of nursing regarding EBP, increased knowledge, enhanced skills about EBP. However, it made it more difficult for the nurses to practice EBP. When the nurses participated previously in research, this increased their

knowledge and skills, but it discouraged them from participating in research thereafter.

**Table 4** Multiple regression analyses of the evidence-based practice questionnaire subscales on selected demographic variables (N=500).

Predictor	Standardized $\beta$	t	Model statistics
<b>Attitude</b>			
Female gender	-0.105	-2.4	R <sup>2</sup> =0.054; F(4,495)=7.12, p<0.001
Educational level	0.093	2.10*	
Data base access	0.121	2.58**	
Participation in research	0.078	1.63	
<b>Knowledge/skills</b>			
Female gender	-0.013	-0.29	R <sup>2</sup> =0.074; F(4,495)=10.8 9, p<0.001
Educational level	0.1	2.19*	
Data base access	0.206	4.44***	
Participation in research	0.1	2.11*	
<b>Practice</b>			
Female gender	-0.086	-1.98*	R <sup>2</sup> =0.061; F(4,495)=9.11, p<0.001
Educational level	0.023	0.52	
Data base access	-0.171	-3.66***	
Participation in research	-0.11	-2.32*	

\*p<0.05, \*\* p<0.01, \*\*\* p<0.001

Research question number two: to determine if there was a difference in perceived EBP practice, attitudes, knowledge/skills among area of practice (i.e., ICU, ER, general words). ANOVA with post hoc test was performed to answer this question. There was a significant difference in total knowledge (F(2,498)=2.63, p<0.05), and attitude (F(2,498)=4.04, p<0.005), regarding EBP among the hospitals. There was no main effect significant difference regarding practice. Post hoc analyses showed that nurses working in ICU were responsible for the significant main effect. They have higher levels of knowledge, and attitude than nurses working in general words **Table 5**.

**Table 5** Post hoc LSD test for differences of total knowledge, practice, and attitude subscales means among areas of practice.

Dependent variable	Area	Compared with	Mean difference	Sig
Knowledge	ICU	General words	0.14	<0.005
Attitude	ICU	General words	0.15	<0.05

Research question number three: to determine if there was a difference in perceived EBP practice, attitudes, knowledge/skills among different types of hospitals (private, governmental

and royal medical services). ANOVA with post hoc test was performed to answer this question. There was a significant difference in total knowledge ( $F(2,498)=8.36, p<0.001$ ), practice ( $F(2,498)=13.21, p<0.001$ ), and attitude ( $F(2,498)=13.07, p<0.001$ ), regarding EBP among the hospitals. Post hoc analysis showed that nurses working in private hospitals were responsible for the significant main effect. They have higher levels of knowledge, attitude, and practiced EBP compared to nurses working in governmental and royal medical service hospital **Table 6**.

**Table 6** Post hoc LSD test for differences of total knowledge, practice, and attitude subscales means among hospitals.

Dependent variable	Hospital	Compared with	Mean difference	Sig
Knowledge	Private	Governmental	0.5	<0.001
		RMS	0.43	<0.001
Practice	Private	Governmental	0.67	<0.001
		RMS	0.63	<0.001
Attitude	Private	Governmental	0.43	<0.001
		RMS	0.53	<0.001
RMS: Royal Medical Services				

Research question number four: to determine if there was a difference in perceived EBP practice, attitudes, knowledge/skills based on educational level (Bachelor's and Master's). Independent sample t test was performed to answer this question. There was no significant difference in regard to the practice level between the two groups. However, nurses holding MSc degree were more knowledgeable than nurses holding BSc ( $4.30 \pm 1.35$  vs.  $3.94 \pm 1.25, p<0.05$ ). Moreover, they have more positive attitude ( $4.42 \pm 1.56$  vs.  $4.01 \pm 1.29, p<0.05$ ).

## Discussion

This study was designed specifically to describe Jordanian nurses' knowledge, attitudes, and practice about evidence-based practice. This was the first study to be conducted in Jordan for this aim. The results of this study indicated that the attitudes toward EBP had the highest mean score followed by the knowledge/skills and then the practice. This means that nurses have positive attitude and knowledge about EBP. However, they were not practicing EBP and their knowledge and attitude toward EBP are not reflected in their daily practice. These results were consistent with previous studies describing attitudes, practices and knowledge/ skills associated with EBP [11,22,23].

The results of this study showed that female nurses practice research less, have less positive attitude, and less knowledge

about research compared to male nurses. The result of current study is in contrary with previous study conducted in Saudi Arabia who reported the opposite results [15]. More studies are needed to explore the effect of gender on EBP.

Nurses with MSc degree have more positive attitude, reported higher levels of knowledge and skill than BSc nurses. Usually, the master degree curricula contain more specialized courses about nursing research methodology than the baccalaureate degree curricula. In Master level, nursing students apply the steps of research and learn how they can effectively implement EBP. Many assignments in Master program required finding significant clinical problem, performing an integrated literature review, reading and interpreting research findings; critiquing previous researches, writing research proposals and publishing scientific papers. Such assignments and requirement are lacking at the baccalaureate level and varied based on the student performance.

Previous studies findings focused on the need of adopting teaching strategies of EBP approach via nursing school curriculum plans to encourage nurses in implementing EBP within their work [24,25]. Majid et al. [26], found that when the nurses are graduated from higher levels, including the graduate studies, they were more capable to benefit from the EBP activities. However, this study showed that there was no difference between MSc and BSc degree nurses regarding to practice. The reason behind that is both of them are working together in the same areas. Therefore, both are facing the same barriers; workload and complaining of insufficient time to conduct and search for evidence in practice.

Previous participation in research in the hospitals was negatively associated with practice. This means that if the nurses participated previously in any research, this will be associated with a decrease in their practice in research. The previous experience in research process conducting and publishing increase nurses knowledge about the steps of research process and improve their awareness about the importance of EBP. However, it decreased practicing the EBP because conducting research is a time consuming process that is lacking due to the workload and responsibilities toward patients.

The availability of database in the hospital is a crucial element in conducting research. The results of the current study revealed that database improved nurses' attitude toward EBP and improved their knowledge about research. However, it decreased practicing the EBP for time consuming reason and the priority that nurses give to patient routine care. It is worthy to note that Jordan is one of the poor developing countries and access to data base is very restricted to major university not to hospitals.

The current study indicated that nurses working in ICU were responsible for the significant main effect. They have higher levels of knowledge, and attitude than nurses working in general words. This might be related to the nature of ICU work requirement and what the hospital administrators required from ICU nurses. Most of the Jordanian hospitals required that

ICU nurses to be updated on knowledge and new guidelines and or protocols. Moreover, all ICU nurses have to be certified to Advance Cardiac Life Support and Basic Life Support. Participating in training program for these requirement increased nurses awareness "knowledge" about research steps and EBP in clinical setting. Previous studies showed that nurses who got training tend to show positive attitude toward EBP more than nurses working in general words [13]. The results of this study lend more credence to this hypothesis.

Moreover, the nature of intensive care setting services and critical patient types that ICU received required from the registered nurses in ICU not only to perform routine nursing care as general ward but also they need more skills. Critical thinking, decision making process, integration between theory and practice, pain management, dealing with high alert, administering danger action medications and applying advance interventions are key skills that want continuous search for EBP.

The results of this study also showed that nurses working in private hospitals have higher levels of knowledge, attitude, and practiced EBP more compared to nurses working in governmental and royal medical service hospital. Nurses viewed workload as the main challenge for them to be updated with all the new evidence. Lacking of time to search for evidence and lacking of resources to change the routine practice to evidence based practice are reasons that make nurses working in private hospitals have higher levels of knowledge, attitude, and practiced EBP more compared to nurses working in governmental and royal medical service hospital. Ammori et al. stated that the greatest barriers to developing EBP among nurses were insufficient time for research and insufficient resources to change practice.

In addition, the problems of nursing shortage, workload and lack of resources as database and the availability of library are barriers facing the governmental and royal medical service hospital more than private hospital. Nurses in most private sectors in Jordan have better environment, database, sufficient time to search and use EBP to achieve the optimum performance and to apply the quality accreditation standards.

Being accredited hospital influence positively on nurses' attitude, knowledge and use of EBP. According to Joint commission Accreditation Standards the hospital plans and designs information management processes have to meet internal and external information needs for staff and patient. Availability of effective information management system will facilitate the communication of relevant information, all private hospital in this study are accredited to JCI that may justify our results.

## Summary and Conclusion

The findings of current study provided basic information to hospital managers and educators about the starting point to enhance the use and implement EBP among nurses. This study revealed that nurses' attitudes toward EBP had the highest mean score followed by the knowledge/skills and then the practice. Female nurses reported practiced EBP less than

males. Nurses with MSc degree have more positive attitude, reported higher levels of knowledge and skill than BSc nurses. Nurses working in ICU have higher levels of knowledge, and attitude than nurses working in general words. Furthermore, nurses working in private hospitals have higher levels of knowledge, attitude, and practiced EBP more compared to nurses working in governmental and royal medical service hospital.

These findings can be used by Nurse Directors, Educators and hospitals managers who are positioned in a situation that they can decide and change the condition to overcome EBP barriers, help nurses get benefit from the EBP and enhance knowledge, attitudes, and practice of Jordanian nurses about EBP.

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