

The Perception of Nurses toward Barriers and Facilitators of Evidence-Based Practice in Hospitals

* Amira EzzatAbdElnaser*, HosniaShehata Mohamed

*Lecturer of Psychiatric & Mental Health Nursing – Faculty of Nursing-Assiut University, Egypt

*Corresponding author Amira EzzatAbdElnaser

Abstract: Evidence-Based Practice (EBP) competencies are important in supporting nurses in fulfilling their professional roles as care givers, therefore, lack of appropriate knowledge and skills needed for implementing EBP will impact the quality of care received by patients. **Aim:** This study aimed to examine the perception of nurses to barriers and facilitators of EBP in hospitals. **Design:** A cross sectional, descriptive study design was utilized. **Sample & Setting:** A total of 474 nurses from three hospitals in Al-Jouf city were recruited during the period from March 2015 to May 2015. **Tools** of this study included, a modified barriers scale and facilitators scale. **Results:** The most frequent barrier cited by nurses was "the facilities are inadequate for implementation" with Mean \pm SD (3.72 \pm 1.07), while a facilitator which ranked as number one was "Enhancing managerial support and encouragement of research implementation" with Mean \pm SD (3.74 \pm 1.09). There were statistically significant differences between barriers, facilitators of EBP and all personal variables except marital status. **Conclusion:** Nurses in Al-Jouf city hospitals are facing a numbers of significant barriers in implementing EB researches in health care setting. While, enhancing managerial support might be the most promising facilitators. **Keywords:** Evidence-Based Practice, Perception, Research Utilization, Barriers, Facilitators.

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I. Introduction

Translation of research findings into clinical practice is necessary to improve health care procedures, increase patient safety, and improve patients' outcomes. Translation is termed as Evidence-Based Practice. EBPhas been introduced as an application of a specific sort of knowledge as well as the use of knowledge based on previous researches findings in clinical settings (Almalki et al., 2017). The aim of EBP is to use the ultimate quality of knowledge in providing care to produce the highest impact on patients' health status and healthcare system (Egerod, & Hansen, 2016).

Research utilization improves nurses' performance, advances nurses decision making ability and improves their ability to prepare more focused care plans that lead to efficient care. The term research utilization is used synonymously with the term Evidence-Based Practice (EBP). But, evidence-based practice is more general and form the umbrella under which is encompassed research utilization (Bahador, et al. 2016).

Mounting the expectation of community on high quality health care, forces nurses as a clinical practitioner to utilize evidence-based practice (EBP) to promote the quality of outcomes in health care systems (Heydari & Zeydi, 2014). Applying research evidence to daily clinical practice may not only enhance the quality of nursing care, but also can lead to enhanced nurses' personal and professional performance (Gerrish, et al., 2016).

Although increasing availability of research findings and broad consensus on the importance of its benefits in nursing discipline, using them in nursing practice stills, at best, slow and arbitrary. This "gap between research and practice" is a widespread phenomenon. So, the patient often do not receive nursing care with acceptable quality (Orujlu, et al., 2014).

Some variables and factors affecting EBP have been reported, which include nurse's qualities, nurse's belief toward EBP, self-confidence, time, knowledge, and skills. Clinical nurses' varying backgrounds, education, and attitudes can influence their motivation and ability to integrate evidence into practice (Zeb, et al., 2018).

Many challenges confront professional nurses in health care setting preventing them from research utilization these, challenges called barriers. The most recorded worldwide barriers perceived by nurses include many organizational factors, which were a lack of authority to change practice, lack of fund for research, bureaucracy, a lack of time to implement new ideas and read research, staff shortage, and limited knowledge of EBP. (Chien, et. al., 2019). On the other hand, there are promising approaches to implementing evidence into practice called facilitators. The facilitator supports the participants in searching for evidence-based practice solutions to push skill development, clinical judgment, and reasoning. Facilitation has been defined as a key

component of getting research findings into practice (Cranley, et al., 2017). The most frequently documented facilitators were the availability of enough time to read and implement research findings, the availability of managerial support and resources (Al Ghabeesh, 2015)

Significance of the study:-

It is proven that the incorporation of research findings into practice leads to less costs of health care, more personal productivity, longer and healthier lives for patients, and also will decrease pain and suffering of patients. Nurses in the developing countries do not aware with the benefits of evidence based practice and see implementing research findings into practice 8.6% of patients were injured during hospitalization. These injuries had been judged to be avoidable if actual knowledge had been applied (Friesen-Storms et al., 2015). Despite numerous attempts to detect the barriers to evidence-based practice, gaps remain. It is not easy to discover why these gaps have remained (Kitson & Harve 2016).

Jordan et al., (2016) had reported that 80- 85% of professional nurses had not relied on evidenced based practice and (Al Ghabeesh et al., 2014) Showed that, average gap between knowledge resulted from experimental studies and its utilization in clinical practice is about 17 years. So, the present study could be helpful to point out barriers and facilitators in implementing the Evidence-Based researches in hospitals.

Aim of the study: This study aimed to examine nurses' perceptions toward barriers and facilitators of the EBP.

Research Questions:

What are the perceived barriers and facilitators to

research use among nurses in the Maldives ?

What are the perceived barriers and facilitators to

research use among nurses in the Maldives ?

1- What are the perceived barriers and facilitators of evidence based practice among nurses in Al-Jouf Hospitals?

2- Which nurses' personal characteristics affect their perception to barriers and facilitators of EBP?

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II. Subject and Methods

1- Design

A cross sectional, descriptive design was used in this study.

2- Study setting

The study was conducted in three hospitals (Al-Amal Mental Health Hospital, Obstetrics, Gynecology and Pediatric Hospital, and Prince Meteb Bin Abdul-Aziz General Hospital).

3- Sample

The convenience sample of all nurses was working in three hospitals in Al-Jouf City of Saudi Arabia (207 Al Amal Mental Health Hospital, 287 Obstetrics, Gynecology and Pediatric Hospital, and 206 Prince Meteb Bin Abdul-Aziz General Hospital).

Inclusion criteria:

1- Nurses willing to share in the study (male or female).

2 – Nurses should be working in nursing departments for at least 6 months.

4- Data collection tools

The study tools were three as follow:

Tool (1) Personal data sheet: Its self-administrated questionnaire, developed by the researchers. It was included (age, sex, education, setting, and position....etc.).

Tool (2): The Barriers Scale:

The original barriers scale developed by Funk and Colleagues (1991), then modified and validated by Kajermo and Colleagues, (2008). The scale is composed of 30 items, the respondents were asked to rate to which extent they perceived each item as a barrier to the use of research findings. The respondents rated the

items on a 5- point scale (1= to no extent, 2= to a little extent, 3= to a moderate extent, 4= to a great extent, 5= no opinion). Higher mean overall scores reflected the respondents' belief that those specific barriers are present.

Tool (3): The Facilitators Scale: developed by Hutchinson and Johnston (2004). It consists of 8 items and uses a Likert type scale to identify the degree to which each item is perceived as facilitators to Evidence-Based researches in clinical practice. The respondents rated the items on a 5- point scale (1= to no extent, 2= to a little extent, 3= to a moderate extent, 4= to a great extent, 5= no opinion,). ". Higher mean overall scores reflected the respondents' belief that those specific facilitators are present.

Validity and Reliability

Scales were translated into Arabic language to suit nurses' culture and then back translated into English to confirm concordance and were revised by the researchers to ensure that they give the same meaning of the original ones.

With regard to validity, the barriers and the facilitators scales are established tools that have been validated by jury of five experts in the field of psychiatry, psychiatric nursing and administration to be reviewed and evaluated for internal validity, they were found to be acceptable. A statistical Alpha Cronbach's calculation was done. The finding showed fairly reliable tools with a Cronbach's alpha of 0.92 on the barriers scale and 0.84 on the facilitators scale.

Administrative and ethical considerations

Administrative approvals for data collection were obtained from the Dean of Faculty of Applied Medical Sciences, Directors of Al-Amal Mental Health Hospital, Obstetrics, Gynecology and Pediatrics Hospital, and Prince Meteb Bin Abdul-Aziz General Hospital. Ethical approvals were obtained from the University of Al-jouf Research Committee. Participation in this study was voluntary and the anonymity of the participants was preserved because no identifying data were collected.

Pilot study

A pilot study has been conducted on 10% of nurses (who are not included in this study) to evaluate the clarity and applicability of the tool and necessary modifications were done based on their responses. The clarity and applicability of the tool and necessary modifications were done based on their responses.

Procedures:

Questionnaire and scales were distributed by a researcher to a nurse manager in each hospital to redistribute to nurses for answering and fulfilling those tools. Then tools answered by nurses were received from nurse manager to researcher. The total number of nurses in three setting was 700, but the returned filled tools were 474 only. This process began in March 2015 and continued through May 2015.

Data Analysis:

The data were tested for normality using the Anderson-Dorling test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by **number and percent (N, %)**, where continuous variables described by mean and standard deviation (**Mean, SD**), Chi-square test and where to compare between continuous variables by **ANOVA**. A two -tailed $p < 0.05$ was considered statistically significant. All analyses were performed with the **SPSS (21)** software.

III. Results

Distribution of studied group according to age indicated that a (57.6%) of nurses were aged between 30-<40y (n=273) of the total sample. While the least represented age group was more than 50y (0.4%). **Figure (1)**

Regarding gender, female participants represented 81% (n=384) of the respondents, while male participants constituted only 19% of the total sample count (**Figure 2**).

Figure (3) showed that, participants with a diploma degree were representing 67.3% (n=319) of the study sample, followed by bachelor degree which constituted 31.9% (n=151). While, the rest of the sample 0.8% (n=4) do not have a diploma or a bachelor's degree either (Associated nurse).

Figure (4) illustrated that, the medical, pediatrics and obstetric departments were the most highly represented areas in the sample by a percentage of 17.5%, 17.1% and 15.8%, respectively. While the lowest represented area was for the CCU area, with a percentage of 3% of the total sample.

Table (1) revealed that, married nurses were representing 57.4% (n=272) followed by single nurses were 31.6% (n=150) then divorced and widowed nurses were (10.3% and 0.6%) respectively.

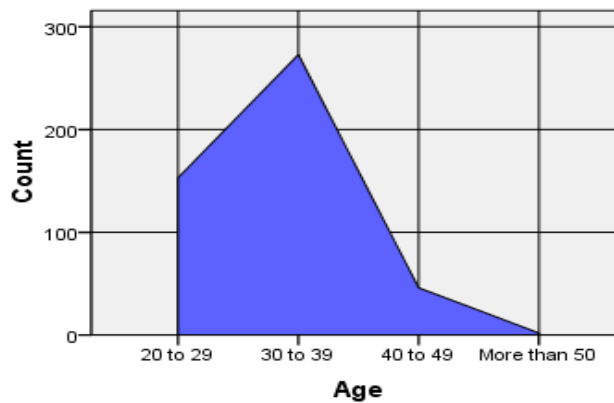
As regard nurses positions, the dominance participants was the staff nurses that constituted 94.5% (n=448) of the study sample, then head nurses 4.2% (n=20) and finally administrators 1.3% (n=6).

As can be depicted from **Table (2)** the most important barriers to EBP identified by the participant nurses were that 'the facilities are inadequate for implementation' with Mean \pm SD (3.72 \pm 1.07). Followed by, 'There is insufficient time on the job to implement new ideas' with Mean \pm SD (3.61 \pm 1.07). The latest reported barrier was, 'the conclusions drawn from the research are not justified' (2.01 \pm 0.93).

Table (3) revealed that, the greatest facilitators to EBP among nurses participated in the study were 'Enhancing managerial support and encouragement of research implementation' with Mean \pm SD (3.74 \pm 1.09), followed by 'Advanced education to increase research reports' (Mean \pm SD 3.69 \pm 1.07). However, 'providing colleagues support network/mechanisms' (Mean \pm SD 3.18 \pm 1.18) did rank eight in this study.

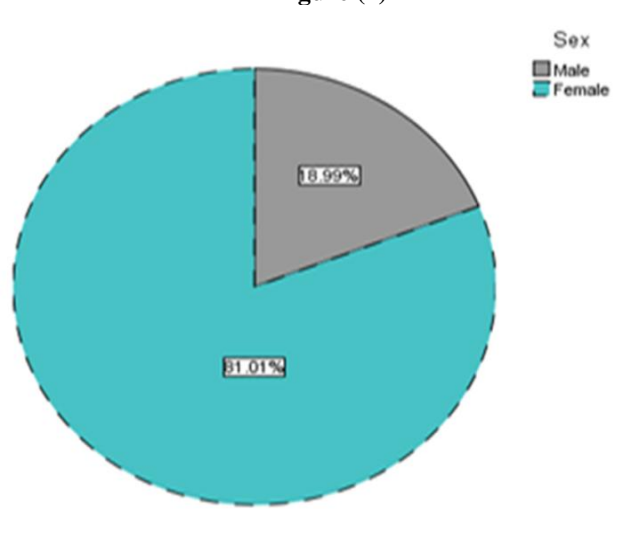
The χ^2 test was used to find out the correlation between the personal variables, barriers and facilitators scales using the SPSS software (version 0.21). The level of significance was set at $p < 0.001^{**}$ or $P < 0.05^*$. **Table (4)** reflected that, there were statistically significant differences between barriers to EBP and all personal variables. Also, there was a significant difference between barriers and surgical nursing area. In addition, there were statistically significant differences between facilitators, personal characteristics and ICU area.

Figure (1)



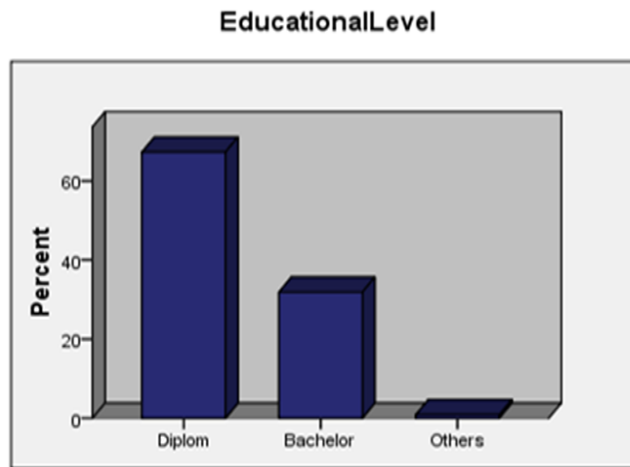
Distribution of nurses according to age

Figure (2)



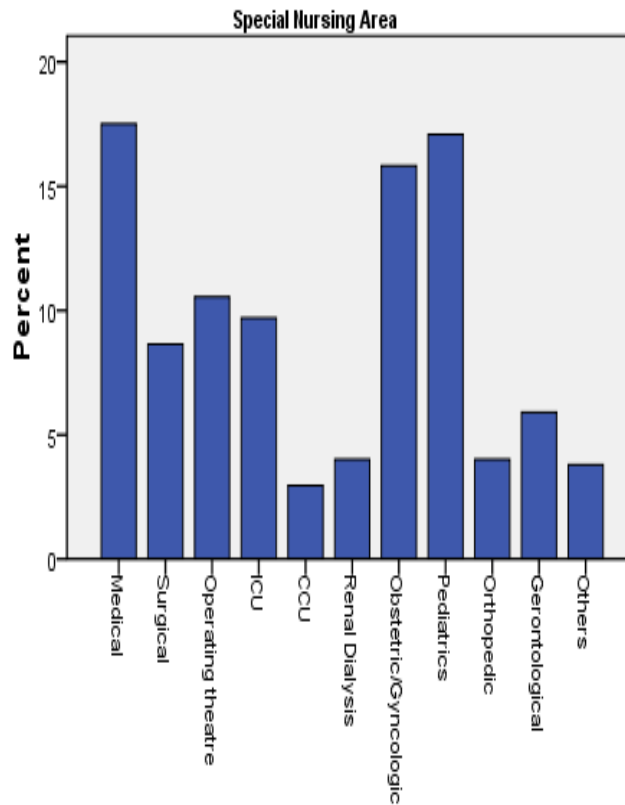
Gender distribution of the sample

Figure(3)



Distribution of nurses according to level of education

Figure (4)



Distribution of sample according to special nursing area

Table (1): Personal data of the study group (n=474)

Items	No	%
Marital Status		
Single	150	31.6%
Married	272	57.4%
Divorced	49	10.3%
Widowed	3	0.6%
Position		
Staff Nurse	448	94.4%
Head Nurse	20	4.2%

Administrator	6	1.3%
Educator	0	0.0%
Others	0	0.0%
Hospital		
Al-Amal Mental Health Hospital	135	28.5%
Obstetric, Gynecologic&pediatric hospital	203	42.8%
Prince Meteb Bin Abdulaziz hospital	136	28.7%

Table (2) Ranking and ordering of Barriers items of research utilization scale

Rank of the item	Item statement	Mean ±SD
1	The facilities are inadequate for implementation	3.72±1.07
2	There is insufficient time on the job to implement new ideas	3.61±1.07
3	The nurse does not feel she or he has enough authority to change patient care procedures	3.51±1.03
4	The nurse does not have time to read research	3.46±1.14
5	The nurses feels the results are not generalizable to own setting	3.39±1.03
6	Implications for practice are not made clear	3.27±1.10
7	Administration will not allow implementation	3.23±0.95
8	Research reports/articles are written in English	3.17±0.74
9	The research has methodological Inadequacies	2.71±0.71
10	The research has not been replicated	2.59±0.85
11	The nurse is isolated from knowledgeable colleagues with whom to discuss the research	2.59±0.88
12	The nurse sees little benefits for self	2.57±0.96
13	The research is not reported clearly and readable	2.57±0.87
14	Research reports/articles are not publishes fast enough	2.51±0.77
15	The relevant literature is not compiled in one place	2.45±0.91
16	The nurse feels the benefits of changing practice will be minimal	2.44±1.10
17	Research reports/articles are not Readily available	2.41±0.88
18	Physicians will not cooperate with the implementation	2.38±0.93
19	There is not a documented need to change practice	2.36±1.03
20	Statistical analyses are not understandable	2.32±0.84
21	The nurse is unwilling to change/ try new ideas	2.31±0.74
22	The amount of research information is overwhelming	2.30±0.89
23	The literature reports conflicting results	2.29±0.85
24	The nurse is unaware of the research	2.28±1.05
25	The nurse doesn't feel capable of evaluating the quality of the research	2.24±.73
26	Other staff are not supportive of implementation	2.21±0.87
27	The research in not relevant to nurses' practice	2.17±0.81
28	The nurse doesn't see the value of research for practice	2.09±1.04
29	The nurse is uncertain whether to believe the results of the research	2.07±0.86
30	The conclusions draw from the research are not justified	2.01±0.93

Table (3) Facilitators Scale items in rank order by mean score

Item	Item	Mean ±SD
1	Enhancing managerial support and encouragement of research implementation	3.74 ±1.09
2	Advancing education to increase your research knowledge base	3.69 ±1.07
3	improving the availability and accessibility of research reports	3.66±1.02
4	Improving the understandability of research reports	3.56±1.04
5	Increasing the time available for reviewing and implementing relevant research	3.36±1.13
6	Conducting more clinically focused and relevant research	3.31±1.06
7	Employing nurses with research skills to serve as role models	3.09±1.12
8	Providing colleagues support network/mechanisms	3.18±1.18

Table (4)Relationship between Personal characteristics, barriers and facilitators of EBP scales.

Personal Characteristics	Barriers scale Mean±SD	P value	Facilitators scale Mean±SD	P value
Age				
20-29	2.31±0.82	(0.051)	3.46±0.78	(0.267)
30-39	2.47±0.64	(0.009)*	3.57±0.83	(0.004)**
40-49	2.98±0.61	(0.188)	3.02±1.30	(0.105)
More Than 50	2.29±0.58	(0.162)	3.06±1.07	(0.146)
Educational Background				
	2.59±0.71			

Diploma	2.03±0.87	(0.177)	3.62±1.01	(0.284)
Bachelor	2.03±0.45	(0.015)*	3.73±1.09	(0.154)
Others		(0.018)*	3.41±0.87	(0.049)*
Hospitals				
1- Al-Amal Mental Health Hospital	3.03±0.73	(0.026)*	3.32±0.74	(0.099)
2-Obstetric, Gynecologic&pediatric, hospital	2.87±0.91	(0.061)	3.47±0.69	(0.195)
3-Prince Met'eb Bin Abdulaziz hospital	2.74±0.58	(0.008)*	3.01±0.49	(0.254)
Gender				
Male	2.72±0.85	(0.038)*	3.01±1.03	(0.184)
Female	3.17±0.63	(0.137)	3.63±1.17	(0.046)*
Marital Status				
Single	3.21±0.71	(0.086)	3.37±1.03	(0.103)
Married	3.07±0.59	(0.050)*	3.05±0.97	(0.105)
Divorced	2.87±0.78	(0.058)	2.83±1.10	(0.053)
Widowed	2.63±0.65	(0.063)	2.71±0.88	(0.041)*
Position				
Staff Nurse	3.14±0.64	(0.031)* (0.008)*	3.09±0.83	(0.031)*
Head Nurse	3.27±0.70	(0.103)	3.41±1.17	(0.006)*
Administrator	3.29±0.61		3.17±1.06	(0.003)*
Educator	0		0	
Other	0		0	
Special Nursing Area				
Medical	3.13±0.64	(0.169)	3.74±1.13	(0.174)
Surgical	3.37±0.49	(0.023)*	3.63±0.87	(0.071)
Operating Theatre	2.89±0.80	(0.075)	3.71±0.93	(0.065)
ICU	2.03±0.76	(0.117)	3.01±0.63	(0.041)*
CCU	2.31±0.81	(0.061)	3.06±0.71	(0.136)
Renal Dialysis	2.62±0.86	(0.131)	3.27±1.14	(0.168)
Obstetric/Gynecologic	2.33±0.83	(0.107)	3.44±0.95	(0.103)
Pediatrics	2.77±0.59	(0.093)	3.31±0.89	(0.131)
Orthopedic	2.61±0.47	(0.287)	3.39±1.01	(0.091)
Gerontological	2.32±0.47	(0.084)	3.06±0.48	(0.136)

IV. Discussion

In medical sciences, research implementation and the utilization of research results is considered a vital matter, especially in nursing field where nurses are required to renew their knowledge in the light of those researches and to build their practice on the basis of their research results. This study examined barriers and facilitators of EBP as perceived by nurses.

As reported by the nurses much work is still needed if EBP is to be implemented and some of the reasons given for not using research were the same as in many other studies. In the current study, the major three dominant barriers to EBP are: lack of facilities, lack of time and insufficient authority to change patient care procedures, this result means the potential source of change and implementation of research findings is the organizational structure of hospitals that inhibit nursing motivation for innovation. This finding is consistent with several other studies done by **Zeb et al.,(2018)** who studied (Barriers to Evidence Based Nursing Practice in Tertiary Care Hospitals of Peshawar, Pakistan) ,the study conducted on 285 nurses in 2 hospitals. They cited that, the major barriers to EBP were insufficient time, limited resources and equipment and unsupportive administration to implement evidence based practice. Also, the study conducted by **Duncombe,(2018)** who studied (A multi-institutional study of the perceived barriers and facilitators to implementing evidence-based

practice), the study carried out in The Bahamas on 100 of registered nurses. He identified that, the most frequent barriers as follows: "Inadequate resources for implementing research findings"; "Inadequate training in research methods"; "Lack of access to individuals who can serve as EBP mentors"; and "Insufficient authority".

A possible explanation for these findings could be the lack of facilities like equipment and finance which are necessary for research utilization that could consequently limit nurses' utilization of research findings. While lack of authority barrier could be attributed to the traditional hierarchical structure in the hospitals and lack of time barrier, could be due to the nursing staff are practicing under an overwhelming workload. Therefore they have no time to perform research, read articles or contribute in any research activities.

The finding of the present study have pointed that, the less frequent barriers as nurses perceived are "The nurse is uncertain whether to believe the results of the research" and "The conclusions draw from the research are not justified". This observation is also confirmed by the results of **Shifaza et al., (2014)** who studied (Nurses' Perceptions of Barriers and Facilitators to

Implement EBP in the Maldives), their study conducted on 198 nurses and reported that, more than half of the respondents (56.6%) felt that "the nurse is uncertain whether to believe the results of research" was not a barrier. This could be explained in the bases of that; nurses take this as an excuse to avoid uptake evidence-based utilization.

Examining of the research facilitators scale had revealed that "Enhancing managerial support and encouragement of research implementation" and "Advanced education to increase research reports" were ranked descendingly as the first two corner facilitator (Mean±SD = 3.74±1.09 & 3.69 ±1.07). While the item "employing nurses with research skills to serve as role models" was ranked as the number seven that facilitating the task of nurses in implementing EBP with (Mean±SD=3.29±1.12). Eventually, the item "providing colleagues support network/mechanism" (Mean±SD=3.18±1.18), was ranked as the last facilitators of research utilization as perceived by our studied sample. These results are supported by the results of **Al Ghabeesh, (2015)** who studied (Barriers and Suggested Facilitators to the Implementation of Best Practice: An Integrative Review), in Amman, Jordan on 192 reviewed studies. She found that, "Improving the scientific knowledge of nurses" was the most frequently mentioned facilitators to RU and "Education in scientific methods, developing skills in searching for appropriate literature, and guidance from knowledgeable colleagues were the most suggested facilitators related to the knowledge". Also, **Bach-Mortensen et al., (2018)** who investigated (Barriers and facilitators to implementing evidence-based interventions among third sector organizations: a systematic review) in US, the study conducted on one hundred twenty-eight previous studies, they found that, the most important facilitating factors related to evidence based implementation are organizational factors and prioritization of the EBI, and supportive manager. Possible explanation for that is the managerial support could increase the availability and accessibility to research reports, as well as could minimize and reduce the various barriers, especially those related to settings.

As regard the relationship between personal characteristics of studied group and barriers of EBP. The current study conveyed that, there were statistically significant differences between all personal variables and barriers of EBP. In addition to the significant relation between barriers and surgical area which nurses occupied. This finding is agree with findings of **Cline et al., (2017)** who examined (Promoting the utilization of science in healthcare (PUSH) project: A Description of the Perceived Barriers and Facilitators to Research Utilization Among Pediatric Nurses) in US, they reported that, there were significant differences between research utilization barriers and nurses' age, level of education, position of nurse, and gender. In contrast, no significant relationship between barriers and demographic variables were found in study carried by **Kousar et al., (2017)** who studied (Barriers of Research Utilization in Nursing Practices in Public Hospitals in Lahore, Pakistan) Also, **Duncombe, (2018)** suggested that having a higher level of education was not necessarily associated with better EBP knowledge and skills, but there may be other factors such as culture and background affect those implementation.

The result of current study indicated that, there were statistically significant differences between all personal variables and facilitators of EBP.

Regarding relationships between facilitators and area occupied by nurses, there was significant relationship between facilitators and ICU area. These finding compatible with finding of **Al-Ghabeesh et al., (2014)** who studied (Predictors of Research Utilization among Jordanian Registered Nurses: A Descriptive Correlational Study) they reported that, significant impact of some demographical variables on the overall score of facilitators to EBP.

V. Conclusion

This study concluded that: The findings from this study confirm that there are many of barriers for nurses, and these are consistent with results that have been recorded in previous researches. To enhance EBP, strategies should be placed to minimize barriers and enhance the facilitators of research utilization. However,

the findings from this study also indicate that the majority of the nurses are not familiar with EBP and hadn't the opportunities or authority to implement the Evidence-Based researches in their setting.

VI. Recommendations

- 1-Plan appropriate strategies to smooth the application of EB findings by nurses in their practice.
- 2-Encourage adoption of EBP.
- 3-Encourage nurses to upgrading their knowledge and skills.
- 4-Nurse administrator must provide nurses with opportunities to access to research activities.

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