*American Journal of Nursing Research, 2016, Vol. 4, No. 2, 25-33*
Available online at http://pubs.sciepub.com/ajnr/4/2/1

DOI:10.12691/ajnr-4-2-1

# Nurses' Perceptions and Barriers for Adoption of Evidence Based Practice in Primary Care: Bridging the Gap

**Magda M. Mohsen[1,*], Nahla Ashour Safaan[1], Omayma M. Okby[2]**

[1]Community Health Nursing, Faculty of Nursing, Menoufia University, Egypt
[2]Pediatric Nursing, Faculty of Nursing, Menoufia University, Egypt
*Corresponding author: magda.mohsen2000@hotmail.com

**Abstract** Evidence Based Nursing is the process by which nurses make clinical decisions using the best available research evidence, their clinical expertise and patient preferences. The aim of this study was to investigate nurse's perceptions and barriers to adopt evidence based practice in their Primary Care setting. Design: descriptive correlation design was used. Setting; this study was conducted in: 1) Maternal & Child Health Centers Governorate (2) Faculty of Nursing- Menoufia University. The sample (1) A convenience sample of 120 clinical nurse specialists who have a bachelor degree in nursing science and working in MCHC was selected. (2) A convenience sample of 80 academic faculty educators who finished their Master or/ Doctorate degree in nursing were selected. Tools; I. a structured questionnaire to collect Socio-demographic data such as: age, educational level and experiences. II. Nursing' Attitudes towards Evidence-Based Practice and Perceptions of its Related Barriers Questionnaire: It was developed by the researchers based on the current related literatures. This tool measures Nurses' perceptions and barriers for adoption of evidence-based practice. The results of this study; All nurses had a positive attitude toward EBP; the total mean score of nurses' was 7.38±1.73 having a maximum of 10 and minimum of 5. Two third of nurse' educator and clinical nurse specialists (73.8.0 % and 85.8 % respectively) reported that they had insufficient time at work place to search & read research articles. Conclusions: This study revealed a positive attitude among nurses toward EBP. But it was found that several barriers were hindering nurses from adopting EBP. Recommendations: to close the gap between research findings and nursing practice; A) Education and training are required on evidence-based nursing. B) Increase time availability to conduct online search C) Equipped the health facilities with new informatics infrastructure.

***Keywords:*** *Nurses' Perceptions- Barriers to Evidence Based Practice*

**Cite This Article:** Magda M. Mohsen, Nahla Ashour Safaan, and Omayma M. Okby, "Nurses' Perceptions and Barriers for Adoption of Evidence Based Practice in Primary Care: Bridging the Gap." *American Journal of Nursing Research*, vol. 4, no. 2 (2016): 25-33. doi: 10.12691/ajnr-4-2-1.

## 1. Introduction

Nursing is a science and it is essential to derive its knowledge from the findings of research. Scientific research is the standard by which sciences derive knowledge. Research findings define, explain, and identify phenomena fundamental to nursing care. Nursing practice serves as the source for research questions, while research serves as the foundation for current practice. Practice and research therefore exist in a circular continuum with one another [1]. Nursing is a practice-based discipline; the knowledge generated by researchers should be informed in practice, research findings are being used only sporadically in practice [2].

Inadequate research utilization was seen as obstacles to acquiring credible professional status for nursing. The Institute of Medicine (IOM) described the gap between science and implementation in practice. This research-based gap or the gap between producers and users of knowledge is not restricted to nursing. This gap appears to be narrowing slowly and at best unevenly. The average length of time for knowledge to become applicable and begin to be accepted on the market is 20 years [3].

The gap between available knowledge and its application in policy and practice is not new. New approaches should promote the use of best available scientific evidence and strategic research. They should also harness field experience and innovation with an emphasis on problem-solving to address priority health problems, both at the global and local levels. To bridge the know-do gap, knowledge must be leveraged effectively to achieve better health. The generation and sharing of knowledge are necessary steps in its effective application in practice [4].

The apparent loss of evidence between generation of new knowledge and its implementation in routine care has become a concern of practitioners, professional organizations, legislators, research funding agencies and academic institutions. The research-based gap or the gap between producers and users of knowledge is not

restricted to nursing [5]. Applying research evidence to daily clinical practice may not only enhance the quality of nursing care, but also can lead to enhance nurse' personal and professional performance [6,7].

Evidence-based practice (EBP) is not clinical problem solving. It is a mechanism for solving clinical problems and making decisions about the best evidence for interventions. It is distinct from traditional problem solving approaches in health care. Conventional decision making about clinical practices relied on expert opinion sometimes achieved by consensus, but rarely through experimentation combined with "standard practice." evidence-based practice (EBP) is a systematic process of reviewing the best available research evidence and then incorporating clinical experience and patient preferences into the mix [8].

Evidence-based practice (EBP) is clinical decision making process through the integration of the best research evidence considering the patient values, and the clinical experts' views. It is a framework to response to clinical questions through the assessment and applying the best knowledge related to patient, unit and clinical procedures [9]. Evidence-based practice (EBP) is composed of five steps, including: asking answerable questions in specific clinical situations, finding the best evidence, appraising evidence critically and applying evidence with patient's preferences in clinical decision making and evaluating or assessing the effectiveness and efficiency of process; five training steps; "ask, find, evaluate, use and analyze/adjust which are known as the key skills acquired during the training course of professional decision making" [10,11].

To effectively apply the EBP process, in addition to the basic skills required to undertake nursing work, a nurse must have the ability to: (1) identify knowledge gaps, (2) formulate relevant questions, (3) conduct an efficient literature search, (4) apply rules of evidence to determine the validity of studies, (5) apply the literature findings appropriately to the patient's problem, and (6) appropriately involve the patient in the clinical decision making [12]. Previous literature also highlights the challenges for new nurses because EBP involves reconciling client values with evidence and clinical judgment, which may be particularly difficult for them due to their limited experience [13].

Nurses' perceptions were studied previously showed that; nurses generally view EBP positively and consider it important to better patient care [14]. Nevertheless, it is a fact of accepting and implementing EBP is rather slow [15]. Previous study has tried to investigate possible barriers to adopting EBP. One barrier that some studies revealed was the enormous amount of health care literature, published in a variety of sources, which makes it almost impossible for individual medical professionals to keep up to date. It is estimated that around 8,000 articles relevant to family practice are published monthly, and a family medicine practitioner would need to dedicate approximately 20 hours a day to stay abreast of new evidence [16].

The top two barriers cited were ''not having enough authority to change patient care procedures'' and ''having insufficient time on the job to implement new ideas". The lack of time, lack of resources, and difficulty in understanding statistical analysis were the top barriers to adopting EBP by community nurses [17,18]. O'Connor and Pettigrew investigated the perceived barriers to implementing EBP for therapists working in southern Ireland [19]. The most significant barrier they reported was the lack of time to search for, understand, and interpret research findings. Also the same barriers were found through a comparison of participants' experiences with EBP across three distinct health professions [20,21]. Other barriers to adopting EBP include inadequate access to information technology (IT), limited IT skills, and lack of information searching skills [22].

International Council of Nurses (ICN) has obliged nurses to participate actively in research and applying this research to develop EBP. It said that there are benefits for EBP such as improving quality of care and its outcomes, positive results in clinical practice and patient care outcomes, nurse satisfaction and standardizing the care [23]. However, implementation of evidence-based practice has been challenging. Unfortunately, just a small percentage of nurses are working in the context of EBP .There are several reasons why nurses do not use evidence in their routine practices, such as lack of awareness of research, lack of skills to evaluate quality of research, lack of access to related information. Also there is no association between nurses' perception of the level of knowledge and skills related to Evidence-based practice EBP [24].

## 2. Aim of the Study

The aim of this study was to investigate nurse's perceptions and barriers for adopting Evidence based practice in their primary care settings.

### 2.1. Research Questions:

1. What are the nurses' beliefs and attitudes Towards Evidence Based Practice?
2. Do nurses working in Maternal and child Health care centers understand and apply evidence based practice?
3. What are the barriers facing nurses working in Maternal and child Health care centers for adopting EBP?
4. Does Nurses' Practice; "Perception of ability to undertake different EB activities" and Perception of Barriers for adoption EBP affected by Educational Level & Years of Experience?

## 3. Operational Definitions

**Nurses** was operationally defined in this study as all categories of nurses who are working as a nurse educator in the faculty of nursing and clinical nurse specialists who work in MCH Centers in one range of specialties, such as pediatrics, family and Community Health nurse. They described **as required highly graduate-level education** "Bachelor **Degree" and clinical training.**

**Perception:** was defined as how nurses' perceive (beliefs and attitudes) the importance of EBP in their clinical setting.

**Barriers:** were obstacles for implementing EBP. These barriers could be related to the nurses' experience, the environment, resources, and lack of administrative support.

**Nurses' Practice:** was operationally defined in this study as the perception of ability to undertake different Evidence Based activities.

# 4. Subjects and Method

**Design:** Descriptive, correlation design was used.

**Setting:** This study was conducted in two settings:

(1) Faculty of Nursing-Menoufia University to collect data from nurse' educators.

(2) Maternal and child health centers in Menoufia Governorate-Egypt to collect data from clinical nurse specialists.

**Sample:** based on the previous studies that examined the same outcomes, the average sample size ranged from 150 to 220. So, a sample of 200 subjects was required. To achieve a power of 80% and significance level of 0.05. The sample consisted of two types;

1 **Nurses sample**; A convenience sample of 120 clinical nurse specialists who have a Bachelor **Degree** in nursing and working in MCHC was select and included in the sample. Menoufia Governorate- includes twenty-five MCHC centers. A convenience sample was used to select 5 nurses from each MCH center to be included in the study sample.

2 **Nurse Educators Sample;** a convenience sample of 80 academic nurse educators from Faculty of nursing – Menoufia University according to the following criteria; who finished Master or doctorate degrees and agree to participate in the study was selected to be included in the sample.

## 4.1. Instruments for Data Collection

Two instruments were used to fulfill the aim of this study.

**1.** A structured questionnaire for the clinical nurse specialists and nurse' educators. It was designed to include; Socio-demographic data such as: age, educational level, years of experience and Services that they are provided and training in evidence-based practice.

**2.** Nursing' Attitudes towards Evidence-Based Practice and Perceptions of its Related Barriers Questionnaire: It was developed by the researchers based on the current related literatures [2,14,25,26,27]. This tool measures nurses' perceptions in the three parts of;-

A) It assessed nurses' beliefs and attitude toward EBP, It included 5 items. The nurses were asked to rate the extent to which they perceive each statement either by positive= yes or negative= no.

B). It assessed the nurses' Practice**;** Perception of the ability to undertake different EB activities. It included 9 items. It includes information about identify clinical problems, translate clinical problem into well-formulated clinical question, distinguish between types of questions, conduct online search, relate research finding to clinical practice, ect... The nurses are asked to rate the extent to which they perceive each statement either by yes or no.

C). It assessed nurses' barriers to EBP; including motivators to and barriers to adopting EBP. It included 9 items. The nurses were asked to rate the extent to which they perceive each statement by either yes or no.

Validity; the questionnaire was reviewed for content validity by a five of experts (3 from in pediatric nursing and 2 from family and community health nursing). Reliability: The internal consistency of the questionnaire was calculated using Cronbach's alpha coefficients. Test-retest was used. The Cronbach's alpha of the questionnaire was between 0.95 indicate good reliability, "indicating that data collected through this questionnaire were reliable".

## 4.2. Procedure for Data Collection

- Study period: This study was conducted during the period starting from January 2015 to the end of June 2015.
- Approval: an official permission to carry out the study was obtained from the responsible authorities; faculty of Nursing, Menoufia University, by the researcher to the administrators of the Maternal and Child Health Centers, where the data were collected to conduct the study after an explanation of the purpose of the study.
- Ethical consideration: protection of nurse's rights, oral consent was obtained from the participants to share in the study, the researchers initially introduced themselves to all participants. They were informed about aim of the study and what was expected of her. Each participant was notified about the right to refuse to participate in the study, before taking her verbal consent.
- Tools development: the two tools were developed by the researchers after reviewing of related literature. Tools were reviewed and tested for content Validity by 5 experts in the field of nursing; modification was done accordingly to ascertain relevance and completeness. The reliability of instrument was calculated by Cronbach' alpha, it was equal to 0.95.
- Pilot study, a pilot study was conducted on 10 % of the study sample to evaluate the developed tools before starting the actual data collection. Based on the results of the pilot study, modifications, clarifications, omissions, and rearrangement of some questions were done. It also helped to estimate the time needed to fill in the questionnaire. And these were not included in the sample to ensure stability of the answers.
- The time taken for every questionnaire to be completed was about 20-30 minutes for each nurse and faculty of nursing staff.
- Clinical nurse specialists and nurse educator who agreed to participate in the study are requested to complete the required tools. The researchers introduced themselves to the respondents, and explained the aim and objectives of the study to the nurses in the study settings. Anonymity and confidentiality of the information gathered was ensured. Then, the designed questionnaire was distributed to them, with instructions about its filling. This was repeated in each place of the study setting. The researchers were available all the time to clarify any ambiguity.

### 4.3. Statistical Analysis

Up on completion of data collection, data entry was done. Then data were coded, analyzed using Statistical Software Packages. SPSS v.20. Descriptive and analytical statistics were applied. Data were presented using Frequency, and percentages, cumulative frequency and mean were calculated for descriptive data analyses. Pearson correlation was used to assess the relationship between practice, attitude and knowledge/skills sub-scales.

## 5. Results

Table 1 clarified that the same percentage (45.0 %) of the studied sample their age were ranged from 30 to less than 40 years old, from 40 years and above, and the least 9 % less than thirty years old. Approximately two third of studied nurses (68 %%) had more than five years experience while, the same percent 16 % of studied nurses had 1 to less than 3years and 3 years to less than 5 years experience.

**Table 1. Socio-demographic Characteristics of the Studied Subjects**

| Socio-demographic characteristics | 200=N | |
|---|---|---|
| | No. | % |
| **Age in years:** | | |
| 30> | 18 | 9.0 |
| 30- | 91 | 45.0 |
| 40- and over | 91 | 45.0 |
| **Educational level:** | | |
| Bachelor Degree in Nursing | 120 | 60.0 |
| Master Degree in Nursing | 52 | 26.0 |
| Doctorate Degree in Nursing | 28 | 14.0 |
| **Years of Experiences Since the Last Degree/Years** | | |
| 1- | 32 | 16.0 |
| 3- | 32 | 16.0 |
| 5 Years and More Years | 136 | 68.0 |

Table 2 On the whole, it appeared that majority of the nurses had a positive attitude toward new nursing techniques, provided they were given adequate time off from work to learn and adopt such techniques, including EBP. It revealed that 54.2 % of clinical nurse specialists said that "I prefer using more traditional methods instead of changing to new approaches" compared to 11.2 % of nurse educator. Approximately nearest percent (65.8 % and 62.5 % of clinical nurse specialists and nurse educator respectively) who said that "My workload is too high to keep up to date with all new evidence".

Table 3: shows the nurses ' Practice; perception of ability to undertake different EB Activities. It pointed out that 95.0 % & 40.0% of nurse educator compared to clinical nurse specialists respectively) answer "yes" about they are able to translate a clinical nurse specialists issue/problem into a well-formulated clinical question. The largest percent of nurses educators (90.0 %) compared to 56.7 % of clinical nurse specialists apply an intervention based on the most applicable evidence.

Table 4: shows the barriers for adoption EBP. The majority of clinical nurse specialists and nurse educator (82.5% & 47.5 % respectively) reported that there is difficulty in judging the quality of research articles and reports. Also approximately two third of nurse educator and clinical nurse specialists (73.8.0 % and 85.8 % respectively) reported that they had insufficient time at work place to search & read research articles.

Table 5: A statistical significant relation was found between nurses' Practice; perception of ability to undertake different EBP activities and educational Level T= 98.66 for nurse educator and T= 38.97 for clinical nurse specialists. A statistical significant relation was found between nurses' Barriers for adoption EBP and educational Level T= 40.96 for nurse educator and T= 71.22 for clinical nurse specialists.

Table 6: A highly statistical significant relation was found between " Nurses' Practice; perception of ability to undertake different EBP and years of experience, T= 98.7 for nurse educator compared to T= 38.9 for clinical nurse specialists. Also A highly statistical significant relation was found between nurses' barriers toward EBP and years of experience, T= 40.9 for nurse educator and T= 71.3 for clinical nurse specialists.

Table 7 Shows that the year of experience of less than one year showed to be the best rating for practice; perception of ability to undertake different evidence-based activities and perception of barriers for adoption EBP for 16.00±0.00 & 16.50±2.12 respectively for the nurse educator compared to 11.57±3.25 & 16.28±2.50 for clinical nurse specialist.

Table 8 shows the correlations among nurses' practice & attitude to **EBP** of the studied sample. A statistically negative correlation – 0.221 was found between total nurses' practice and total nurses' attitude.

**Answer Research Question No. 1:-**

What are the nurses' beliefs and attitudes Towards Evidence Based Practice?

**Table 2. Nurses' beliefs and attitudes Towards Evidence Based Practice**

| Nurses ' beliefs and attitudes toward evidence based practice (EDP) | Nurse Educator (80) | | Clinical Nurse Specialists (120) | | Chi-square | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | $X^2$ | P |
| I prefer using more traditional methods instead of changing to new approaches | | | | | | 0.000 |
| No | 71 | 88.8 | 55 | 45.8 | 37.9* | |
| Yes | 9 | 11.2 | 65 | 54.2 | | |
| I don't like people questioning my clinical practices, which are based on established methods | | | | | | 0.000 |
| No | 67 | 83.8 | 61 | 50.8 | 22. 7* | |
| Yes | 13 | 16.3 | 59 | 49.2 | | |
| Most research articles are not relevant to my daily practice | | | | | 25. 1* | 0.000 |
| No | 52 | 65.0 | 35 | 29.2 | | |
| Yes | 28 | 35.0 | 85 | 70.8 | | |
| I believe EBP has only limited utility | | | | | | 0.000 |
| No | 67 | 83.8 | 46 | 38.3 | 40.3* | |
| Yes | 13 | 16.3 | 74 | 61.7 | | |
| My workload is too high to keep up to date with all new evidence | | | | | | |
| No | 30 | 37.5 | 41 | 34.2 | 0. 3 | 0.63 |
| Yes | 50 | 62.5 | 79 | 65.8 | | |
| Overall mean score | 7.38±1.73 | | *Maximum* 10.0 | | *Minimum* 5.0 | |

* Statistical Significant
No ="Negative" Yes= "Positive".

**Answer Research Question No. 2**

Do nurses working in Maternal and child Health care centers understand and apply EBP?

**Table 3. Nurses' Practice; "Perception of ability to undertake different EB Activities"**

| Nurses' Practice; "Perception of ability to undertake different EB Activities" | Nurse Educator (80) | | Clinical Nurse Specialists (120) | | Chi-square | |
|---|---|---|---|---|---|---|
| | No. | % | No. | No. | $X^2$ | P |
| Identify clinical issues/problems | | | | | | |
| No | 3 | 3.8 | 36 | 30.0 | 21.07* | 0.000 |
| Yes | 77 | 96.2 | 84 | 70.0 | | |
| Translate a clinical issue/problem into a well-formulated clinical question | | | | | | |
| No | 4 | 5.0 | 71 | 59.2 | 61.64* | 0.000 |
| Yes | 76 | 95.0 | 49 | 40.0 | | |
| Distinguish between different types of questions (e.g., intervention,) | | | | | 44.3* | |
| No | 7 | 8.8 | 65 | 54.2 | | 0.000 |
| Yes | 73 | 91.2 | 55 | 45.8 | | |
| Conduct online searches | | | | | 111.8* | |
| No | 5 | 6.2 | 99 | 82.5 | | 0.000 |
| Yes | 75 | 93.8 | 21 | 17.5 | | |
| Relate research finding to clinical practice and point out similarities and differences | | | | | | |
| No | 11 | 13.8 | 85 | 70.8 | 62.6* | 0.000 |
| Yes | 69 | 86.2 | 35 | 29.2 | | |
| Use a checklist to assess research articles | | | | | | |
| No | 13 | 16.2 | 90 | 75.0 | 66.3* | 0.000 |
| Yes | 67 | 83.8 | 30 | 25.0 | | |
| Read a research report and have a general notion about its strength and weaknesses | | | | | | |
| No | 4 | 5.0 | 84 | 70.0 | 82.3* | 0.000 |
| Yes | 76 | 95.0 | 36 | 30.0 | | |
| Apply an intervention based on the most applicable evidence | | | | | 25.40* | |
| No | 8 | 10.0 | 52 | 43.3 | | 0.000 |
| Yes | 72 | 90.0 | 68 | 56.7 | | |
| Evaluate the application of intervention and identify areas of improvement | | | | | 53.69* | |
| No | 10 | 12.5 | 78 | 65.0 | | 0.000 |
| Yes | 70 | 87.5 | 42 | 35.0 | | |
| Overall mean score | 14.52±3.49 | | *Maximum* 32.0 | | *Minimum* 9.0 | |

* Statistical Significant.

**Answer Research Question No. 3**

What are the barriers facing nurses working in Maternal and child Health care centers for adopting EBP?

**Table 4. Distribution of Nurses' Barriers for adoption EBP**

| Barriers for adoption of EBP | Nurse Educator (80) | | Clinical Nurse Specialists (120) | | Chi-square | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | $X^2$ | P |
| Difficulty in finding time at work place to search for and read research articles and reports | | | | | | |
| No | 21 | 26.2 | 17 | 14.2 | 4.55* | .033 |
| Yes | 59 | 73.8 | 103 | 85.8 | | |
| Inability to understand statistical terms used in articles | | | | | | |
| No | 44 | 55.0 | 26 | 21.7 | 23.5* | .000 |
| Yes | 36 | 45.0 | 94 | 78.3 | | |
| Inadequate understanding of research terms used in articles | | | | | | |
| No | 50 | 62.5 | 17 | 14.2 | 50.4* | .000 |
| Yes | 30 | 37.5 | 103 | 85.8 | | |
| Difficulty in judging the quality of research articles and reports | | | | | | |
| No | 42 | 52.5 | 21 | 17.5 | 27.3* | .000 |
| Yes | 38 | 47.5 | 99 | 82.5 | | |
| Insufficient time at work place to implement changes in their current practice | | | | | | |
| No | 28 | 35.0 | 36 | 30.0 | 0.55 | |
| Yes | 52 | 65.0 | 84 | 70.0 | | .46 |
| Insufficient resources to implement EBP | | | | | | |
| No | 24 | 30.0 | 14 | 11.7 | | .001 |
| Yes | 56 | 70.0 | 106 | 88.3 | 10. 8* | |
| Inability to properly interpret results of research studies | | | | | | |
| No | 55 | 68.8 | 21 | 17.5 | 53.5* | .000 |
| Yes | 25 | 31.2 | 99 | 82.5 | | |
| Difficulty in determine applicability of research finding | | | | | | |
| No | 46 | 57.5 | 35 | 29.2 | 15.9* | 0.000 |
| Yes | 34 | 42.5 | 85 | 70.8 | | |
| Inability to implement recommendations of research studies into clinical practice | | | | | | |
| No | 52 | 65.0 | 19 | 15.8 | 50.8* | .000 |
| Yes | 28 | 35.0 | 101 | 84.2 | | |
| Overall mean score | 15.16±3.1 | | *Maximum* 9.0 | | *Minimum* 18.0 | |

* Statistical Significant.

**Table 5. Relation between Total Nurses' Perceptions of evidence–based practice EBP & Educational Level**

| Total Nurses' attitudes, Practice; Perceptions, barriers to EBP & Educational Level | Nurse Educator (80) | t | p | Clinical Nurse Specialists (120) | t | p |
|---|---|---|---|---|---|---|
| | Mean ±SD | | | Mean ±SD | | |
| | Educational Level 2.35±0.48 | | | Educational Level 1.0±0.00 | 43.79* | 0.000 |
| Nurses' beliefs and attitudes toward EBP | 6.41±1.19 | 47.87* | 0.00 | 8.02±1.74 | 50.35* | 0.00 |
| Total Nurses' Practice; Perception of ability to undertake different EB activities | 15.25±1.38 | 98.66* | 0.00 | 11.57±3.25 | 38.97* | 0.00 |
| Nurses' Barriers for adoption EBP | 13.48±2.94 | 40.96* | 0.00 | 16.28±2.50 | 71.22* | 0.00 |

* Statistical Significant.

**Table 6. Relation between Total Nurses' Practice; Perception of EBP and years of experience**

| Total Nurses' attitudes, Practice; Perceptions, barriers to EBP & Years of experience | Nurse Educator (80) | T | Clinical Nurse Specialists (120) | T |
|---|---|---|---|---|
| | Years of experience | | Years of experience | |
| | Mean ± SD | | Mean ± SD | |
| | 2.78±0.79 | | 4.00±0.00 | 31.21* |
| Nurses' beliefs and attitudes toward EBP. | 6.41±1.19 | 47.8* | 8.02±1.74 | 50.4* |
| Total Nurses' Practice; Perception of ability to undertake different EB activities | 15.25±1.38 | 98.7* | 11.57±3.25 | 38.9* |
| Nurses' Barriers for adoption EBP | 13.48±2.94 | 40.9* | 16.28±2.50 | 71.3* |

***** Statistical Significant.

## Answer Research Question No. 4

Does Nurses' Practice; "Perception of ability to undertake different EB activities" and Perception of Barriers for adoption EBP affected by Educational Level & Years of Experience?

**Table 7. Overall Mean Score of Total Sample' Practice; Perception and Barriers for adoption EBP according to their demographic characteristics**

| Overall mean score | Nurse Educator "Master degree and Doctorate degree" N=80 | | Clinical Nurse Specialists N= 120 | |
|---|---|---|---|---|
| | Total Nurses' Practice ; Perception of ability to undertake different EB activities | Perception of Barriers for adoption EBP | Total Nurses' Practice; Perception of ability to undertake different EB activities | Perception of Barriers for adoption EBP |
| | Mean ± SD | Mean ± SD | Mean ± SD | Mean ± SD |
| Educational Level:- | | | | |
| Master degree | 15.12±1.48 | 14.08±2.84 | 11.57±3.25 | 16.28±2.50 |
| Doctorate degree | 15.50±1.17 | 12.36±2.84 | | |
| Total | 15.25±1.38 | 13.48±2.94 | 11.57±3.25 | 16.28±2.50 |
| Years of Experience | | | | |
| Less than one year | 16.00±0.00 | 16.50±2.12 | | |
| 1-2 years | 14.90±1.54 | 13.93±2.68 | | |
| 3-4 years | 15.53±0.98 | 12.63±3.15 | | |
| 5 years and more | 15.25±1.73 | 13.94±2.74 | 11.57±3.25 | 16.28±2.50 |
| Total | 15.25±1.38 | 13.48±2.94 | 11.57±3.25 | 16.28±2.50 |

**Table 8. Correlation Matrix for Total Nurses' Practice, Perception of ability to undertake different EB activities and Total nurses' attitude towards EBP**

| Total nurses' Practice, and Total nurses' attitude towards EBP | Pearson correlation coefficient | |
|---|---|---|
| | Sig. "2-tailed" | Sig. "2-tailed" |
| | Total Nurses' Practice; Perception of ability to undertake different EB activities | Total Nurses' Attitude |
| Total Nurses' Practice; Perception of ability to undertake different EB activities | 1.000 | - 0.221** |
| Total Nurses' Attitude | - 0.221** | 1.000 |

* Statistical Significant.

# 6. Discussion

Improving patient outcomes will be achieved if they use the best research evidence in nursing care. Implementation of Evidence-based practice (EBP) in health care organizations is known as a challenge of the nursing practice. A complex set of skills including formulate questions that arise during the work and capability to do research about that, evaluate information, appraisal information critically and implementation of the outcomes in patient care process is required to use this knowledge [14]. Evidence-based practice (EBP) has emerged as a marker for quality of care [28]. The aim of this study was to investigate nurse's perceptions and barriers for adopting evidence based practice in their primary care settings.

The current study revealed that the total mean score of nurses' beliefs and attitude towards EBP was 7.38±1.73 having a maximum of 10 and minimum of 5. That mean the nurses had a positive attitude toward EBP. This result

was congruent with [29] who studied "The Adopting evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers". They reported that more than 64% of the nurses in their study expressed a positive attitude toward EBP. However, they added that due to heavy workload, they cannot keep up to date with new evidence.

Furthermore, the current study was in line with [30] who studied "Nurses' perceptions of evidence-based practice: a quantitative study at a teaching hospital in Iran". They reported that the overall mean score of the evidence-based practice in their study was 4.48±1.26 from 7, and the three subscales of practice, attitude and knowledge/skill in evidence-based practice were, 4.58±1.24, 4.57±1.35 and 4.39±1.20, respectively. There was a strong relationship between knowledge and performance subscale ($r=0.73$, $p<0.01$).

On the other hands [31] who studied "Nurses' wishes, knowledge, attitudes and perceived barriers on implementing research findings into practice among graduate nurses in Austria". They found that more than half percent of the participants considered nursing research and research utilization as an advantageous aspect in nursing care, valuable to nurses and neither irrelevant to the real day-to-day work nor only relevant to nursing education with a significantly higher percentage of nurses of the diploma group. Those variations between the different studies may be due to differences in the educational level of nurses and /or in the research settings. Those results may be due to that; nursing educators are now including relevant research findings in lectures and other educational activities, with appropriate documentation of sources. These activities will encourage future nurses to value research and apply it in practice.

The current study showed that most of nurse educators and majority of clinical nurse specialists can identify clinical issues/ problems, whereas, most of nurse educator only can translate the clinical problem into a well-formulated clinical question and able to distinguish between different types of questions than clinical nurse specialists. That means clinical nurse specialists in the current study are in need for intensive training to be able to perform those basic skills of EBP. Although they have a bachelor degree in nursing science and studied nursing research but they were in need more practical application on EBP. Those results were similar to [29] who pointed out that information about nurses' abilities related to identify potential clinical issues or problems where they can implement EBP. The mean score for this statement was 3.25, which indicated that the nurses felt that they possessed slightly above average ability to identify clinical problems. However, the mean score for the ability to translate a clinical problem into a well-formulated clinical question was comparatively lower, at 3.01. It appeared the nurses had relatively less confidence in their ability to adequately express their information needs and translate these needs into a well-crafted clinical question. For almost all the remaining statements, the mean scores occurred in a very narrow range of 2.96–3.17, which indicated that the participating nurses perceived themselves to possess moderate levels of skills to undertake different EBP activities.

The current study showed that most of clinical nurse specialists reported that inability to implement recommendations of research studies into clinical practice. This result was consistent with [7] who stated that despite the availability of increasingly research-based information with the potential to improve nursing care quality in several fields of nursing, nurses often fail to incorporate current research findings in their practices. [32] Point out that the implementation of evidence in practice is often not accomplished. Thus, one can still spot a considerable gap between what is known in the research evidence and what happens in practice, although considerable efforts have been made to increase the delivery of scientific evidence-based care.

Regarding conduct online searches the current study revealed that most of clinical nurse specialists can not conduct online searches whereas, the most of nurse educators did it perfectly. These findings were consistent with the study of [21] which identified a lack of information searching skills as a barrier for implementing evidence-based medicine by general practitioners. A literature searching skills needs to be included in EBP training programs. Also the current study revealed that most of clinical nurse specialists and nurse educators reported insufficient resources to implement EBP and considered as a main barriers to EBP. To overcome this barrier the health facilities should be equipped with new informatics infrastructure and there is a need to build basic searching skills to nurses to help them benefit from the online information. Similarly [33] concluded that the findings pointed the need for research-based information, exposure to professional journals and, in particular, organizational support for evidence-based nursing practice.

The current study showed that the most common top barriers for adoption of evidence based practice among nurses was that; difficulty in judging the quality of research articles and reports, Insufficient time at work place to read research articles and also to implement change in their current practice, and insufficient resources to implement EBP (Table 6). The total barriers mean score for adoption of evidence based practice among nurse educators was that 15.16±3.01 having a maximum of 18 and minimum of 9. That mean all nurses are facing much difficulties in implementing EBP (Table 8). These results are consistent with [29] who studied "The Adopting evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers". They reported that the top three barriers to adopt EBP were; lack of time, inability to understand statistical terms, and inadequate understanding of termenology used in research articles. The next three barriers identified were their inability to understand statistical terms, and difficulty in judging the quality of research articles and reports. Also similar to results of [34] who studied "Barriers to and Facilitators: in-line with of research utilization among Iranian Nurses Literature Review". They concluded that Iranian nurse's encounter with the same difficulties as to other countries regarding Research utilization; while setting related barriers were the predominant obstacles among them. Therefore, health managers are expected to plan appropriate strategies to smooth the progress of research utilization by nurses in their practice. Whereas, [35] concluded that the moderate level of attitude among nurses can provide a good potential in promoting evidence-based nursing in teaching hospitals. Therefore,

more attention should be paid to enhance the awareness and skills of nurses toward evidence-based care.

The current study showed that a statistical significant relation was found between nurses' Practice; perception of ability to undertake different EBP activities and educational Level T= 98.66 for academic nurse educator and T= 38.97 for clinical nurse specialists. A statistical significant relation was found between nurses' Barriers for adoption EBP and educational Level T= 40.96 for academic nurse educator and T= 71.22 for clinical nurse specialists (Table 5). This result was consistent with [36] who studied "Quality Improvement Needs Assessment for Evidence -Based Practice Readiness in Primary Care. He concluded that the Level of education is strongly associated with beliefs about EBP and implementation of EBP, suggesting that graduate level of Nurses Practitioners education increase awareness and appreciation of the positive impact of EBP and instills a desire to use EBP to improve patient outcomes. Also [33] pointed out that the more education the participants had, the higher the probability that their reported practice would be evidence-based. Also [37] indicated that the highest mean score of nursing educators' attitudes toward EBP were identified among those who had doctorate degree in nursing sciences. Also, statistical significant differences were found among nursing educators in relation to their attitudes towards EBP according to their educational levels. Similarly [38, 39] found that nurses who had post degree were found to hold more positive attitudes to EBNP implementation than those who did not. Furthermore, nurses with degrees implement study findings more frequently than other nurses in the sample [38,39,40].

The current study showed that a highly statistical significant relation was found between " Nurses' practice; perception of ability to undertake different EBP and years of experience, T= 98.7 for academic nurses educator compared to T= 38.9 for clinical nurse specialists. Also A highly statistical significant relation was found between nurses' barriers toward EBP and years of experience, T= 40.9 for academic nurses educator and T= 71.3 for clinical nurse specialists (Table 6). This result was in-line with [29] who found that nurses who had longer experience in nursing were likely to be more confident in implementing EBP, supporting the finding of [13] who reported that new nurses, due to limited practical knowledge and experience, felt less confident and willing to engage in EBP. Those nurses who had attended EBP training considered themselves more comfortable in integrating EBP into their practice [17]. As nurses play a crucial role in the delivery of health care, they need to adopt new and innovative techniques to provide effective and best possible treatment to their patients. Like many previous studies, this study also discovered a positive attitude among nurses toward EBP.

## 7. Conclusions

Based on the findings,

- Academic nurse educators have positive perceptions of evidence-based nursing practice, whereas clinical nurse specialists was at average level of perceptions of EBP, certain barriers were addressed which may interfere with their acceptance, adoption and implementation of evidence-based practice.
- The most common top barriers for adoption of Evidence Based Practice among nurses was that; Insufficient recourses resources to implement EBP, difficulty in judging the quality of research articles and reports, Insufficient time at work place to read research articles, also to implement change in their current practice, and inability to understand statistical terms used in articles

**Recommendations**:- to close the gap between research findings and nursing practice;

**for the Nurse Educator:-**

- Training provision to build basic online searching skills for nurses about health care information.
- Building EBP competencies through proper training, to help nurses to be familiar with EBP steps including; formulating questions to be answerable, critically evidence evaluating and its use in performance seems to be essential.

**for the Nurse Manager:-**

- Equipped the health facilities with new informatics infrastructure to actively pursuing integrate EBP.
- Facilitate access to libraries, computers and Internet for online search of EB nursing practice.
- Increase time availability for application of EBP.

**for the researchers:-**

- It is of necessity to select the problems to be searched based upon clinical problems.
- It is of necessity to present research reports in a simple, clear and concise manner to facilitate nurse's comprehensibility and rapid transfer into daily practice.

**for nurses:-**

The willingness to participate in understanding EBP training, preferably offered for interventions regarding its uses in clinical.

## References

[1] Schmidt, J. M. (2009): Evidence-based practice for nurses. Sudbury: Jones and Bartlett Publishers.

[2] Melnyk BM, Fineout-Overholt E, Fischbeck Feinstein N, Li H, Small L, Wilcox L, et al., (2004): Nurses' perceived knowledge, beliefs, skills, and needs regarding evidence-based practice: implications for accelerating the paradigm shift. Worldviews Evidence Based Nurs. 1(3):185-93.

[3] (AHRQ) Agency for Healthcare Research and Quality (2006). National health care quality report. Rockville, MD: AHRQ.

[4] Canadian Health Services Research Foundation (2005): Lever aging Knowledge: tools & strategies for action. Report of the 7th CHSRF Annual Invitational Workshop, Montreal, Quebec; March 3.

[5] Green, L. W., Glasgow, R. E., Atkins, D., & Stange, K. (2009). Making evidence from research more relevant, useful, and actionable in policy, program planning, and practice. American Journal of Preventive Medicine, 37 (1), 1.

[6] Chien WT, Bai Q, Wong WK, Wang H, Lu X. (2013): Nurses' perceived barriers to and facilitators of research utilization in mainland china: a cross-sectional survey. Open Nurs J; 7: 96-106. (5): 314-22.

[7] Kajermo, KN, Undén, M., Gardulf, A., Eriksson LE, Orton ML, Arnetz BB, et al. (2008); Predictors of nurses' perceptions of barriers to research utilization. J Nurs Manag; 16 (3): 305-314.

[8] Houser, J., Oman, K. S., Donnelly, P., Shuster, R. (2011): Evidence-Based Practice in Health Care pade1-2 Kevin Sullivan Acquisitions.

[9] Straus S., Richardson W.S, Glasziou P, Haynes R.B. (2005): Evidence-based_Medicine: How to practice and Teach EBM (3rd ed.), Edinburgh: Churchill Living- stone.

[10] Dawes M, Summerskill W, Glasziou P, Carta-bellotta A, Martin J, Hopayian K, et al. (2005): Sicily statement on Evidence-Based Practice. BMC Med Educ. 5(1):1.

[11] Ciliska D. (2005): Educating for Evidence-Based Practice, Journal of professional nursing: official journal of the American Association of Colleges of Nursing, 21(6):345-50.

[12] Guyatt GH, Haynes RB, Jaeschke RZ, Cook DJ, Green L, Naylor CD., Wilson MC, Richardson WS. (2000): Users' guides to the medical literature: XXV. Evidence-based Medicine: principles for applying the users' guides to patient care. Evidence-Based Medicine Working Group. JAMA. Sep13; 284 (10):1290-6.

[13] Ferguson LM, Day RA. (2007): Challenges for new nurses in Evidence-based practice. J Nurse Manag. 15:107-13.

[14] Upton D, Upton, P. (2006): Development of Evidence-Based Practice Questionnaire for Nurses. J Adv. Nurs, 53 (4):454-8.

[15] Pravikoff DS, Tanner AB, Pierce ST. (2005); Readiness of U.S. Nurses for Evidence-Based Practice. Am J Nurs. 105(9):40-51.

[16] Alper BS, Hand JA, Elliott SG, Kinkada S, Hauan MJ, Onion DK, Sklar BM. (2004): How much effort is needed to keep up with the literature relevant for primary care? J Med Libr Assoc. Oct; 92(4):429-37.

[17] Griffiths JM, Closs SJ, Bryar RM, Hostick T, Kelly S, Cooke J. (2001): Barriers to research implementation by community nurses. Br J Community Nurse, 6(10):501-10.

[18] Solomons NM, Spross JA. (2010): Evidence-based practice barriers and facilitators from a continuous quality improvement perspective: an integrative review. J Nurs Manag. Jan;19 (1):109-20.

[19] O'Connor S, Pettigrew CM. (2009): Barriers perceived to prevent the successful implementation of evidence-based practice by speech and language therapists. Int J Lang Commun Disord. 44(6):1018-35.

[20] Asadoorian J, Hearson B, Satyanarayana S, Ursel J. (2010); Evidence based practice in dental hygiene: exploring the enhancers and barriers across disciplines. Can J Dent Hyg, 44(6):271-6.

[21] Mclnerney P, Suleman F. (2010); Exploring knowledge, attitudes, and barriers toward the use of evidence-based practice amongst academic health care practitioners in their teaching in a South African university: a pilot study. Worldviews Evid Based Nurs. 7(2):90-7.

[22] McKenna HP, Ashton S, Keeney S. (2004): Barriers to evidence-based practice in primary care. J Adv Nursing; 45(2):178-89.

[23] International Council of Nurses ICN. (2007): Position Statement on Nursing Research.

[24] Hagbaghery, MA. (2007): Nurses' perceptions of evidence-based nursing: a qualitative study. Feyz Journal of KUMS.;11(2):44-52

[25] Al Hadid, L.A., Hasheesh, M.A., Al Momani, M. (2011).Validating a tool that explores factors influencing the adoption of principles of evidence-based practice. Journal of Nursing Education, 50(12), 681-687.

[26] Mohsen, M.M., Abdalla W. H. & Abd-Elrazek A. A. (2004). A Study of Research Utilization in Nursing Practice: Is it applicable? Bulletin of Institute of Public Health Alexandria University, Vol.34, No. 1.

[27] Johnston, J.M., Leung, G.M., Fielding, R., Tin, K.Y.K., Ho, L.M. (2003); the development and validation of a knowledge, attitude and behavior questionnaire to assess undergraduate evidence-based practice teaching and learning. Medical Education, 37 (11), 992-1000.

[28] Ozsoy SA, Ardahan M. (2008): Research on knowledge sources used in nursing practices. Nurse education today, 28(5):602-9.

[29] Majid, A., Foo, S., Luyt, B., Zhang, M., Theng, Y., Chang, Y., Intan A. (2011): Adopting evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers, J Med Libr Assoc 99(3).

[30] Shafiei,E., Baratimarnani,A., Goharinezhad,S., Kalhor,R., Azmal, M., (2014): Nurses' perceptions of evidence-based practice: a quantitative study at a teaching hospital in Iran. Medical Journal of the Islamic Republic of Iran (MJIRI), Vol. 28.135.24. http://mjiri.iums.ac.ir.

[31] Breimaier, H. E., Halfens, R. JG and Lohrmann, C. (2011): Nurses' wishes, knowledge, attitudes and perceived barriers on implementing research findings into practice among graduate nurses in Austria. Journal of Clinical Nursing, 20, 1744-1756.

[32] Thompson D.S., Estabrooks C.A., Scott-Findlay K.M. & Wallin L. (2007) Interventions aimed at increasing research use in nursing: a systematic review. Implementation Science 2 (15), 1-16.

[33] Eizenberg, M.M. (2011): Implementation of evidence-based nursing practice: nurses' personal and professional factors? Journal of Advanced Nursing, 67(1), 33-42.

[34] Heydari, A., Zeydi, A. E. (2014): Barriers to and Facilitators of Research Utilization among Iranian Nurses: a Literature Review. Journal of Caring Sciences, 3(4), 265-275.

[35] Seyyedrasooli, A., Zamanzadeh, V., Valizadeh, L., and Tadaion, F., (2012): Individual Potentials Related to Evidence-Based Nursing among Nurses in Teaching Hospitals Affiliated to Tabriz University of Medical Sciences, Tabriz, Iran. J Caring Sci.; 1(2): 93-99.

[36] Eberhart, A.(2014): Quality Improvement Needs Assessment for Evidence-Based-Practice Readiness in Primary Care. Presented as Partial Fulfillment of the Requirements for the Degree Doctor of Nursing Practice, in the Graduate School of the Ohio State University.

[37] Hussein, A.H.M., Hussein, R. G. (2013): The Attitudes and Barriers towards Evidence-Based Practice among Nursing Educators. Journal of American Science; 9(12).

[38] Shemy G. & Eizenberg M. (2004): The influence of academic education on attitudes of nurses toward nursing research. Guf Yeda 1(1), 35-41.

[39] Veeramah V. (2004) Utilization of research findings by graduate nurses and midwives. Journal of Advanced Nursing 47(20), 183-191.

[40] Rodgers S.E. (2000) A Study of the utilization of research in practice and the influence of education. Nurse Education Today20, 279-287.