

## Evidence- Based Practice: Barriers and Facilitators among Nurses

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### Abstract:

**Background:** Evidence-based nursing has become an international issue in health care field. One strategy to enhance research utilization and change current nursing practice is to examine factors that may facilitate or hinder nurses' utilization of relevant researches. **Aim of the study:** to examine nurses' perceived barriers, as well as to identify the facilitators for evidence based practice (EBP). **Subjects & methods: Research design:** A descriptive correlational design was utilized. **Setting:** The study was conducted at health facilities in Beni-Suef city namely (University hospital, health insurance hospital, and 20 Primary care units). **Subjects:** Convenience sample was utilized. **Tools of data collection:** Three tools were used namely: questionnaire sheet, Barriers Scale to EBP and Facilitators Scale to EBP. **Results:** More than half of participants mentioned that there was unavailability of information resources on EBP to be used in their work areas. The nurses' barriers that to greater extent prevent them from accessing information on EBP were; nurses didn't see the value of research for practice, feel capable of evaluating the quality of research & have computer skills. Most of participants mentioned facilitators that to greater extent were helping them to access information on EBP were; cooperative and supportive colleagues, sufficient staffing, resources, improving nurses' attitudes toward research, and giving rewards for using research. **Conclusion:** More than two thirds of participants were not familiar with EBP. The barriers reported by participants included; access to research evidence is poor, and administration perceived EBP as a low management priority. Facilitators reported by participants also included; translation of the articles in familiar language & improving nurses' attitudes toward research. **Recommendations:** Provide nurses with sufficient time on the job to read researches & empower them to change patient care procedures according to research evidence, improve nurses' computer skills by attending training programs and workshops, give rewards for using research and provide information resources.

**Key words:** Evidence based practice; Facilitators; Barriers.

### Introduction:

Evidence-Based Nursing (EBN) is a systematic approach to problem solving for health care providers, including registered nurses, characterized by the use of the best evidence currently available for clinical decision making, in order to provide the most consistent and best possible care to patients. EBN implements the most up to date methods of providing care, which have been proven through appraisal of high quality studies and statistically significant research findings. The goal of EBN is to improve the health and safety of patients while also providing care in a cost-effective manner to improve the outcomes for both the patient and the healthcare system. EBN is a process founded on the collection,

interpretation, appraisal, and integration of valid, clinically significant, and applicable research.<sup>(1)</sup>

Evidence based practices "the process of synthesizing, disseminating, and using research-generated knowledge to make an impact on or a change in the existing practices in society".<sup>(2)</sup> Evidence-based practice requires the use of the best available research evidence and practical experience to make clinical decisions.<sup>(3)</sup> Evidence based practice leads to cost-efficient, quality patient care and improved patient outcomes.<sup>(3-7)</sup> However, an increase in the implementation of research based clinical practices at the bedside has not been found.<sup>(8,9)</sup> Its implementation has recurrently been reported as a

difficult undertaking in medicine <sup>(10)</sup>, physiotherapy<sup>(11)</sup>, occupational therapy, and nursing.<sup>(12,13)</sup>

Evidence-based practice needs to be organized by nurses themselves. The effects of the adoption of such practices are valuable and reflect on the standardization of care, the effective provision of nursing care and enhancing nurses' clinical decision-making, critical thinking, autonomy and nursing profession generally.<sup>(14)</sup> A number of challenges remain, however, regarding the content of nursing education and the transition from education into working life.<sup>(15-17)</sup>

It is evident by Nguyen and Turpin <sup>(18)</sup> that there are many factors that impede or facilitate the use of research findings in practice. These factors should be identified if evidence-based practice is to become a reality in clinical practice. However, many studies have shown that a gap exists between what is known and what is done in practice, i.e., many routines are still present in health care although research-based knowledge on more effective interventions are available. One assumption to account for this persistent gap is that professionals in healthcare face diverse types of barriers that hamper them in changing clinical practice. Therefore, to bridge the gap between 'the known and the done' a commonly suggested strategy is to identify barriers for changing practice and then implement interventions to reduce identified barriers.<sup>(10,19)</sup>

The National Institute of Nursing Research (NINR)<sup>(20)</sup> published a strategic plan outlining research findings that can greatly improve the lives of people of all ages from infancy to maturity. This strategic plan outlines the need for further nursing research by exploring the factors that are barriers to nursing evidence based practice. Because the nursing profession is accountable for the health and well being of society, it must continuously be critiqued and improved based on research

knowledge.<sup>(2)</sup> The way nurses synthesize and prioritize nursing interventions has an impact on every patient they encounter. Therefore, it is important that these decisions are based on validated evidence. Increasingly, nurses are expected to base their practice on best clinical evidence.<sup>(3)</sup>

### **Significance of the study:**

Within the nursing profession, it is expected that new information in the form of research findings will be incorporated constantly and knowledgeably into nursing practice. The staff nurse is a critical link in bringing research-based changes into clinical practice, but in spite of all the various programs and strategies to promote the use of research findings, there is still a gap between theory and practice. It is important to increase our understanding of barriers and facilitators to the utilization of research by nurses through an exploration of perceived barriers and facilitators on the part of nurses.<sup>(21)</sup>

The study of barriers to the utilization of research is still in its infancy and requires new approaches to generate knowledge in this field. This evidence shows that hospitals and primary care settings have unique characteristics that may affect evidence based practice within them so it is significant to study evidence based practice barriers.<sup>(22-24)</sup>

It is noticed that although provided with research - based guidelines, nursing colleagues still resistant to changing their practice. It is found no studies that explored the barriers or facilitators to evidence based practice perceived by high nurses in hospitals and primary care settings in Beni-Suef City, so the study of this population of nurses will contribute to a new understanding of evidence based practice as regard to barriers and facilitators.

### **Aim of the study:**

The aim of the study was to examine nurses' perceived barriers, as well as

to identify the facilitators for evidence based practice.

**Research questions:**

- What are the perceived facilitators for implementing evidence based practice among nurses?
- What are the perceived barriers for implementing evidence based practice among nurses?

**Subjects and methods:**

**Research design:**

A descriptive correlational design was utilized to examine the perceptions regarding the barriers and identify facilitators for evidence based practice among nurses.

**Setting:**

The study was conducted at health facilities in Beni-Suef city namely (University hospital, health insurance hospital, and 20 Primary care units).

**Subjects:**

A convenience sample was utilized in the current study. The total number was 61 of bachelor nurses who met the following criteria in the above mentioned study settings.

**Inclusion criteria:**

- Female nurses
- Minimum two years of experience.
- Bachelor nurses'- Graduated from faculty of nursing of Egyptian universities.
- Fulltime nurses.

**Tools of data collection:**

Collection of data was achieved by three different tools as following:

**Tool (1): Structured Questionnaire:**

It was used for data collection, it included three parts namely demographic characteristics of study subjects consisted of 3 items, Communicational characteristics consisted of 15 items and questions based on EBP consisted of 24 items.

**Scoring system:**

Responses were scored from 1 to 5, (1, Not at all; 2, Monthly; 3, Weekly; 4, daily and 5, Many times daily).

**Tool (2):Barrier Scale:** Barriers Scale is a measurement tool developed originally for nurses and measures

barriers to evidence based practice developed by Funk et al.<sup>(25)</sup> It consisted of 37 items that examined the nurses' perceptions of the three factors (potential barriers) namely nurse' barriers (10 items), research barriers (14 items) and settings barriers (13 items).

**Tool (3): Facilitators Scale to evidence based practice:** It was adopted from Crane<sup>(26)</sup>, this scale asks the nurses to rate the extent to which they think each item is a facilitator to nurses' use of research to change or improve their practice. It included 12 items.

**Scoring system of barrier and facilitators scales:**

Responses were scored from zero to 4, which displays the point to which each item is considered to be a barrier or facilitator to evidence based practice (1, no extent; 2, a little extent; 3, a moderate extent; and 4, a great extent). A "no opinion" response option was provided and scored zero.

**Content validity and reliability:**

Content validity test was done through a panel of five experts (they are faculty members of community Health Nursing, medical surgical, and administration departments). For testing the internal consistency of the instrument a Cronbach's alpha was used. Cronbach's alpha for the whole questionnaire was 0.80.

**Pilot study:**

A pilot study was carried out on 10% of the sample size (6 nurses) to test the content of the questionnaire as well as to estimate the time needed for data collection and the necessary modifications was done. Those who shared in the pilot study were excluded from the study sample.

**Field work:**

The field work of this study was accomplished through two phases as following:

**First phase:** Concerned with preparing the data collection tools that was carried out over a period of two months from January 2013 to February 2013. The questionnaire was accompanied with a cover letter that

explained the purpose of the study to the participants.

**Second phase:** It aimed at examining nurses' perceived barriers, as well as to identify the facilitators for evidence based practice. The aim of the study and the questionnaire format was explained to the nursing directors, as well as to the studied nurses. Then the questionnaire was distributed to all nurses present at the time of study. Each nurse received a copy of the questionnaire. The average time of filling the questionnaire was 15-20 minutes.

**Administrative and ethical considerations:**

Official letters were taken from the Dean of Faculty of Nursing at Beni-Suef University to the directors of the three health facilities. All nursing directors of the selected settings were also contacted and written approval was obtained from them. All principles of ethics in research were followed. The participants were informed about the purpose and procedures of the study, and their verbal informed consent was obtained. They were informed about their rights to refuse participation or withdrawing at any time. They were also reassured that all obtained information will be confidential, and will only be used for the purpose of research. The study maneuvers could not entail any harmful effects on participants.

**Statistical analysis:**

The collected data were organized, tabulated and statistically analyzed using SPSS version 19. For each variable the number and percentage distribution was calculated. The total barrier score was calculated by summation of the score of the 38 questions related to barriers to research. The range, mean and standard deviation of the total score was calculated. Differences in the mean total barrier score was tested in relation to age and place of work using analysis of variance (ANOVA). When the F value of ANOVA was found significant, Bonferroni test was used to test differences between each two

groups. The level of significance was adopted at  $p < 0.05$ .

**Results:**

**Table (1):** Shows the characteristics of studied nurses. The data showed that more than half of studied nurses their age were less than 35 years (55.7%) and working at primary care units (50.8%) and the rest were working at hospitals. Less than half of them reported that they were occasionally searching information or evidence to support their practice and the main sources of information were asking assistance from their colleagues (45.9%) and search through the internet (31.1).

**Table (2):** Presents frequency of search of information and participation in activities of evidence based practice. It indicated that most of the studied nurses did not use hospital library, research reports, Journal articles nor textbooks at all to search for information on evidence based practice (95.1%, 83.6, 80.3 and 49.2% respectively). Over the past year, most of them were not involve in the following activities; participation in research, implementation or development of guidelines or solution of research problems at all (85.2%, 75.4% respectively).

**Figure (1):** Illustrates that studied nurses mentioned unavailability of information resources in their workplace; online resources, other information resources, and printed materials (96.7%, 90.2% and 55.5%, respectively).

**Figure (2):** Indicates that 68.9% of studied nurses were not familiar with evidence based practice, and only 8.2% and 3.3% of them were familiar either completely or to a great extent familiar.

**Table (3):** Clarifies that, more than half of studied nurses mentioned that the nurses' barriers to a great extent prevents them from accessing information on evidence based practice; do not have access to the library, unaware of the research, 3- not have computer skills, 4-feel capable of

evaluating the quality of research, and 5- the nurses didn't see the value of research for practice (73.8%, 57.4%, 55.7%, 54.1% & 50.8% respectively).

**Table (4):** Shows that, more than one third of studied nurses stated that the research' barriers to a great extent prevents them from accessing information on evidence based practice; the rewards for using research results are not worthwhile 47.5 statistical analyses are not understandable 44.3, the conclusions are not justified 41.0 (47.5%, 44.3%, 41.0%, respectively), ,research reports/articles are not readily available and implications for practice are not made clear with equally percent (39.3%).

**Table (5):** Indicates that, most of studied nurses stated that the setting' barriers to a great extent prevents them from accessing information on evidence based practice; inadequate facilities for implementation nor read research, no sufficient time to implement new ideas (83.6%, 77.0% respectively), and more than half of them mentioned that they did not have enough authority to change patient care procedures, no support or incentives for clinical practice development, and poor access to research evidence (67.2%, 62.3%, 54.1 respectively).

**Table (6):** Clarifies that, most of studied nurses mentioned that the facilitators that to greater extent were helping them to access information on evidence based practice; sufficient staffing 90.2, financial resources (90.2%, 80.3%, respectively), improving nurses' attitudes toward research and giving rewards for using research had equally percent 78.7%, and a cooperative and supportive colleague (75.4%).

**Table (7):** Illustrates that there were high statistically significant differences in the mean total score of barriers to research in relation to age in years and place of work ( $P= 0.001$ ). The data revealed that the highest range of total score for barriers to

research were for nurses aged <35 with a mean of 126.64 and SD 18.96, and working in health insurance hospital with mean 133.40 and SD 26.36.

**Table (8):** Shows that the higher number of barriers reported by studied nurses was; that the nurse does not have computer skills (95.1%), access to research evidence is poor (85.2%), and administration perceived EBP as a low management priority (72.1%). The higher number of facilitators reported by studied nurses was; translation of the articles in familiar language, improving nurses' attitudes toward research, and giving rewards for using research (100.0%).

#### Discussion:

A crucial component of nurses' knowledge and skills in delivering quality health care is basing practice on information emerging from the best available evidence. The current study results showed that the studied nurses were female nurses, graduated from nursing faculties of Egyptian universities, having at least two years of experience and working full time. More than half of them their age were less than 35 years and working at primary care units and the rest were working in hospitals. Less than half of them reported that their main sources of information were asking assistance from their colleagues while one third of them were searching through the internet, they also reported unavailability of information resources in their workplace either printed materials, online resources, or other information resources. Unfortunately, two thirds of them were not familiar with evidence based practice. These results were inconsistent with study of Panagiari<sup>(27)</sup> who studied the barriers and facilitators for implementing evidence based practice among German nurses, he found that the most frequent source of nurses' information was the internet, and information resources were available to a great degree, especially on-line

resources, but his results were consistent with current study results as regards familiarity with evidence based practice; he also found that nurses were not in a great degree familiar with the term "evidence based nursing". This difference in the results might be due to that nurses in the current study were not knowledgeable enough about health information technology and its application to public health, lack of awareness about benefits and the impact of technology on the performance of health systems and their efficiency, as well as limited connectivity between public health officials, and insufficient awareness of the use of internet among nurses in Egypt.

The present study results indicated that most of the studied nurses did not use textbooks, research reports, Journal articles or hospital library at all to search for information on evidence based practice. Over the past year, most of them were not involved at all in the activities of evidence based practice; research, implementation or development of guidelines or solution to research problems. This might be due to unavailability of online resources to use research reports, Journal articles or the nurses didn't see the value of research for practice nor had enough time to search for information. In the same line, Kajermoet al.,<sup>(19)</sup> have mentioned that lack of time of reading, inaccessibility of research findings and lack of time and resources for implementation of EBP were seen as barriers by majority of their participants.

The current data denoted that, more than half of studied nurses mentioned that the greatest nurses' barriers that prevent them from accessing to information for evidence based practice were; the nurses didn't see the value of research for practice, unaware of the research, feel capable of evaluating the quality of research this might due to the lack of knowledge and education in research methods, it needs to be evaluated whether nursing

curricula are successful in transmitting the skills and knowledge that is required to understand statistical data, they added that they not have computer skills, and not accessed to the library. More than third of studied nurses stated that the greatest research' barriers that hinder them from accessing to information for evidence based practice were; research reports/articles are not readily available, implications for practice are not made clear, statistical analyses are not understandable, the nurse is uncertain the research results, the conclusions are not justified, the literature reports conflicting results, the amount of research information is overwhelming, the rewards for using research results are not worthwhile. Most of studied nurses stated that the greatest setting' barriers that interfere them from accessing to information for evidence based practice were; inadequate facilities for implementation, no sufficient time to implement new ideas or read research, this lack of time reflects the serious and deep seated problem that exists in Egypt 'workplaces as well as other workplaces all over the world, time to read, evaluate, analyze, disseminate and implement research is very limited for nurses everywhere. Also more than half of them mentioned that they haven't enough authority to change patient care procedures might because more than half of them were under 35 years of age and as a result they were in lower levels of hierarchy and were less likely to have authority to change procedures as nurses who belong to higher levels of hierarchy and tend to be older, they added that no support or incentives for clinical practice development, and poor access to research evidence. On the same line, Rassool<sup>(28)</sup> in India, Marie<sup>(29)</sup> in USA and Omer<sup>(30)</sup> in Saudi Arabia identified several barriers were reported by nurses that prevent them from incorporating research findings into their practice. These include; lack of awareness of relevant research findings, lack of knowledge of the

research process and the skills to access, understand, critically evaluate and implement research findings, insufficient time to read, evaluate and implement research findings, not enough support from the organization and from other healthcare professionals as well as a lack of autonomy and authority to change practice, shortage of colleagues with the expertise to discuss research. In accordance with studies of Melnykin<sup>(31)</sup> the USA and Majid et al.<sup>(32)</sup> in Australia, they also support the fact that there are barriers that have the potential to hinder the implementation of using research findings in nursing practice. Stated reasons as to why they did not implement research activities included the following: Insufficient time on the job to implement new ideas, lack of authority, inadequate facilities, lack of understandability of research, physicians' no-cooperation, isolation of knowledgeable colleagues, inability to access research findings, lack of generalized results and unsupportive staff. These barriers to evidence based practice can be summarized in terms of organizational constraints (time, lack of authority, resources, no-cooperation of physicians, no-generalizable results, and opposing co-workers), research communication (research jargon) and the attitude of nurses (lack of communication of insightful co-workers, inability of estimating the quality of research). Similar findings were reported by Orantain<sup>(33)</sup> in Finland, who also added that language of reports, difficulty to understand statistical analyses, unclear recommendations for practice, difficult to comprehend research findings due to unclear reporting as well as ungeneralizable results barriers to evidence based practice from the point of view of Finnish registered nurses.

As regards to the facilitators to the utilization of research, the findings of the present study found that, most of studied nurses mentioned that the greatest facilitators that were helping

them to access information on evidence based practice were; cooperative and supportive colleagues, sufficient staffing, financial resources, improving nurses' attitudes toward research, and giving rewards for using research. These findings were supported by a study by Parahoo<sup>(34)</sup> who noted some facilitators to the use of research in nursing practice. These facilitators included more time available for implementing research findings, more clinically focused, relevant research, accessibility of research reports, support from administration and colleagues and understandability of research reports. These points concerning facilitators of evidence based practice can be summarized in terms of the attitude of organizational factors (time, support, education) and research communication (clinically, relevant research, accessibility of reports, easily to understand reports). Furthermore Kajermoet al.<sup>(19)</sup> has investigated nurses' perceptions of facilitating the use of research findings in practice; she categorized the facilitators in five groups as follows: knowledge, communication, resources, support-attitudes and research. The first category included education in scientific methods, the second translation of the articles in Swedish, the third available time, money and staffing, the fourth support and encouragement from the personnel and the fifth was related to more clinically focused research. On the contrary to this finding Panagiari<sup>(27)</sup> stated that the most frequently mentioned facilitators were 'Increasing time available for research findings' and 'more employees/sufficient staffing' with a percentage of 86% each. Improving availability/accessibility of research reports, enhancing administrative support and encouragement and improving financial resources were the other frequently cited facilitators.

The current study results also were consistent with study among Sweden registered nurses by Boström et al.<sup>(12)</sup>,

who found that the most frequently suggested facilitators' concerned setting included; respondents wanted support from unit managers, colleagues, and practice developers, as well as additional time for reading, discussing, and implementing research in practice. The RNs' proposals regarding presentation related to better accessibility of research findings. For example, research reports should be user-friendly, written in Swedish, and located close to the person's workplace. Some respondents suggested enhanced collaboration and establishment of networks. A few suggestions concerned educational activities.

The present study findings denoted that there were high statistically significant differences in the mean total score of barriers to research in relation to age in years and place of work ( $P= 0.001$ ). The data revealed that the highest range of total score for barriers to research were for nurses aged <35 and working in health insurance hospital. This might be due to the nurses in younger age are newly graduated from the faculty, more motivated to apply their knowledge but they found a gap between what studied and what applied in field work ; they suffer from barriers of work, lack of resources in health facilities, insufficient time, no authority, and lack of co-operation. The current study results showed that the higher number of barriers reported by studied nurses were; that the nurse does not have computer skills, access to research evidence is poor (slow or no computers, or data bases), and administration perceived EBP as a low management priority. The higher number of facilities reported by studied nurses was; translation of the articles in a familiar language, improving nurses' attitudes toward research, and giving rewards for using research. On the same line, Nguyen and Turpin<sup>(18)</sup> studied research utilization barriers perceived by nurses in Texas, they indicated that the greatest barrier to

evidence based practice is "The nurse does not feel she/he has enough authority". This barrier pertains to the setting factor characteristic. The next greatest barrier was from the presentation factor characteristic, "Statistical analyses are not understandable". The third greatest barrier was "The amount of research is overwhelming" from the research factor characteristic. The next two barriers yielded a tie result. These two were "The relevant literature is not compiled in one place" and "There is insufficient time on the job to implement new ideas". They are from the factor characteristic of presentation and setting, respectively. In this context, Panagiari<sup>(27)</sup> examined the item ratings on the nurse subscale and revealed two items that were clearly perceived by this sample as a significant barrier to the use of research by the nurse. Receiving the highest rating was the item, 'The nurse is unaware of the research' and 'the nurse does not feel capable of evaluating the quality of the research'. These results are consistent with study of Boström et al.<sup>(35)</sup> they showed three items most frequently reported as barriers they were: the nurse is isolated from knowledgeable colleagues with whom to discuss the research (89%); the facilities are inadequate for implementation (88%); and, the relevant literature is not compiled in one place (81%). Surveyed RNs suggested more support from unit managers and better availability of user-friendly reports in Swedish to enhance research use.

### Conclusion:

The conclusion can be drawn from this study would be that there were unavailability of information resources to be used by studied nurses in their workplace as; printed materials, online resources, or other information resources. Despite the move towards evidence-based practice, more than two thirds of studied nurses were not familiar with evidence based practice. The higher



number of barriers reported by studied nurses were; that the nurse does not have computer skills, access to research evidence is poor (slow or no computers, or data bases), and administration perceived EBP as a low management priority. The higher number of facilitators reported by studied nurses was; translation of the articles in familiar language, improving nurses' attitudes toward research, and giving rewards for using research.

**Recommendations:**

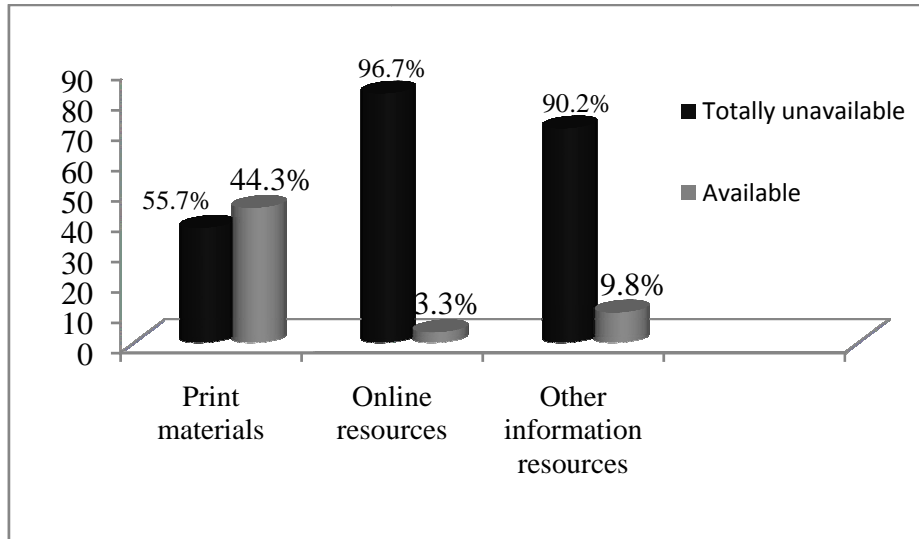
- Provide nurses with sufficient time on the job to read researches & empower them to change patient care procedures according to research evidence.
- Improve nurses' attitudes toward research by attending courses that teach the benefits of the best evidence.
- Give rewards for using research.
- Improve nurses' computer skills by attending training programs and workshops.
- Participate in conferences, meetings and workshops to exchange information with knowledgeable colleagues.
- Provide information resources for nurses as printed materials, online resources to facilitate access to research evidence.

**Table (1): Characteristics of studied nurses (n=61)**

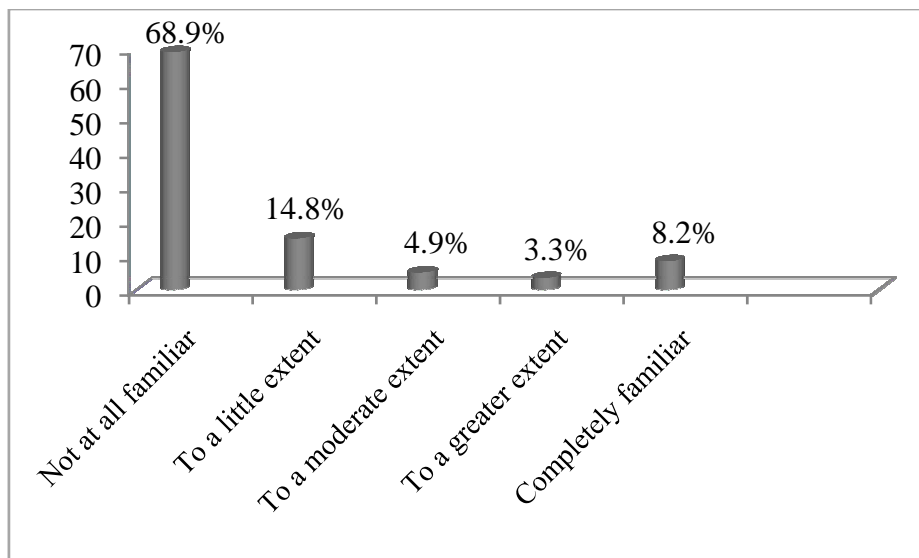
Variables	Number	Percentage
<b>Age in years:</b>		
▪ <35	34	55.7
▪ 35-	23	37.7
▪ >50	4	6.6
<b>Primary work area:</b>		
▪ Primary care units	31	50.8
▪ University hospital	12	19.7
▪ Health insurance hospital	11	18.0
▪ Outpatient clinics	7	11.5
<b>Frequency searching information or evidence to support practice</b>		
▪ Often	5	8.2
▪ Occasionally	28	45.9
▪ Seldom	22	36.1
▪ Never	6	9.8
<b>Main sources of information</b>		
▪ Assistance from colleagues	28	45.9
▪ Journal and textbooks	10	16.4
▪ Bibliographic data base	2	3.3
▪ Search through the internet	19	31.1
▪ Workshops or conferences	2	3.3

**Table (2): Percent distribution of searching information and participation in activities of evidence based practice (n=61)**

Variable	Not at all		Monthly		Weekly		Daily		Many times daily	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Looking for information from:</b>										
Reference textbooks	30	49.2	29	47.5	2	3.3	0	0.0	0	0.0
Research report	51	83.6	4	6.6	6	9.8	0	0.0	0	0.0
Journal article	49	80.3	6	9.8	3	4.9	3	4.9	0	0.0
Hospital library	58	95.1	0	0.0	3	4.9	0	0.0	0	0.0
<b>Participate in the following activities over the past year:</b>										
Research	52	85.2	3	4.9	6	9.8	0	0.0	0	0.0
Implementation or development of guidelines	46	75.4	6	9.8	4	6.6	2	3.3	3	4.9
Solution of research problems	46	75.4	11	18.0	2	3.3	2	3.3	0	0.0



**Figure 1: Percent distribution of studied nurses regarding their evaluation about the availability of information resources in their working place (n=61)**



**Figure (2): Percent distribution of studied nurses regarding their Familiarity with evidence based practice (n=61)**

**Table (3): Percent distribution of nurses' barriers to information on evidence based practice (n=61)**

Nurses' barriers	To some extent		To a little extent		To a moderate extent		To greater extent		No opinion	
	No.	%	No.	%	No.	%	No.	%	No.	%
The nurse is isolated from knowledgeable colleagues	3	4.9	7	11.5	6	9.8	22	36.1	23	37.7
The nurse feels the benefits of changing practice will be minimal	3	4.9	14	23.0	6	9.8	23	37.7	5	24.6
The nurse sees little benefit for self	3	4.9	10	16.4	19	31.1	28	45.9	1	1.6
The nurse does not see the value of research for practice	2	3.3	2	3.3	20	32.8	31	50.8	6	9.8
There is not a documented need to change practice	9	14.8	2	3.3	9	14.8	18	29.5	23	37.7
The nurse is unaware of the research	6	9.8	2	3.3	17	27.9	35	57.4	1	1.6
The nurse is unwilling to change/try new ideas	25	41.0	10	16.4	11	18.0	15	24.6	0	0.0
The nurse does not feel capable of evaluating the quality of the research	0	0.0	5	8.2	22	36.1	33	54.1	1	1.6
The nurse does not have computer skills	0	0.0	12	19.7	14	23.0	34	55.7	1	1.6
The nurse does not have access to the library	8	13.1	4	6.6	3	4.9	45	73.8	1	1.6

**Table (4): Percent distribution of studied nurses regarding research barriers to information on evidence based practice (n=61)**

Research barriers	To some extent		To a little extent		To a moderate extent		To greater extent		No opinion	
	No.	%	No.	%	No.	%	No.	%	No.	%
Research reports/articles are not readily available	6	9.8	7	11.5	2	3.3	24	39.3	22	36.1
Implications for practice are not made clear	8	13.1	2	3.3	5	8.2	24	39.3	22	36.1
Statistical analyses are not understandable	5	8.2	0	0.0	5	8.2	27	44.3	24	39.3
The research is not relevant to the nurse's practice	8	13.1	2	3.3	10	16.4	19	31.1	22	36.1
The research has not been replicated	6	9.8	4	6.6	10	16.4	19	31.1	22	36.1
Research reports/articles are not published fast enough	5	8.2	2	3.3	13	21.3	19	31.1	22	36.1
The nurse is uncertain the research results	4	6.6	3	4.9	8	13.1	21	34.4	25	41.0
The research has methodological inadequacies	5	8.2	2	3.3	13	21.3	19	31.1	22	36.1
The relevant literature is not compiled in one place	1	1.6	13	21.3	8	13.1	17	27.9	22	36.1
The conclusions are not justified	1	1.6	4	6.6	3	4.9	25	41.0	28	45.9
The literature reports conflicting results	0	0.0	2	3.3	12	19.7	21	34.4	26	42.6
The research is not reported clearly and readably	3	4.9	6	9.8	7	11.5	17	27.9	28	45.9
The amount of research information is overwhelming	3	4.9	4	6.6	9	14.8	22	36.1	23	37.7
The rewards for using research results are not worthwhile	0	0.0	2	3.3	4	6.6	29	47.5	26	42.6

**Table (5): Percent distribution of studied nurses regarding settings barriers to information on evidence based practice (n=61)**

Settings barriers	To some extent		To a little extent		To a moderate extent		To greater extent		No opinion	
	No.	%	No.	%	No.	%	No.	%	No.	%
The facilities are inadequate for implementation	5	8.2	2	3.3	2	3.3	51	83.6	1	1.6
The nurse feels results are not generalizable to own setting.	3	4.9	0	0.0	8	13.1	28	45.9	22	36.1
The nurse does not have enough authority to change patient care procedures	8	13.1	5	8.2	7	11.5	41	67.2	0	0.0
Physicians will not cooperate with implementation	15	24.6	11	18.0	7	11.5	29	45.9	0	0.0
Administration will not allow implementation	14	23.0	6	9.8	12	19.7	21	34.4	8	13.1
Other staff are not supportive of implementation	16	26.2	6	9.8	11	18.0	25	41.0	3	4.9
There is insufficient time on the job to implement new ideas	1	1.6	6	9.8	6	9.8	47	77.0	1	1.6
There is insufficient time on the job to read research	0	0.0	0	0.0	10	16.4	51	83.6	0	0.0
Research reports are published in a foreign language	2	3.3	0	0.0	12	19.7	29	47.5	18	29.5
There is not support or incentives for clinical practice development	1	1.6	3	4.9	7	11.5	38	62.3	12	19.7
Administration perceived EBP as a low management priority	13	21.3	3	4.9	5	8.2	31	50.8	9	14.8
There is resistance to make changes in the work setting	22	36.1	5	8.2	2	3.3	30	49.2	2	3.3
Access to research evidence is poor	3	4.9	0	0.0	9	14.8	33	54.1	16	26.2

**Table (6): Percent distribution of studied nurses regarding facilitators to information on evidence based practice (n=61)**

Facilitators	To some extent		To a little extent		To a moderate extent		To greater extent		No opinion	
	No.	%	No.	%	No.	%	No.	%	No.	%
Improving the understand ability of research reports	0	0.0	5	8.2	6	9.8	37	60.7	13	21.3
Improving availability/accessibility of research reports	0	0.0	5	8.2	11	18.0	26	42.6	19	31.1
Enhancing administrative support and encouragement	3	4.9	2	3.3	9	14.8	30	49.2	17	27.9
Cooperative and supportive colleagues	0	0.0	2	3.3	13	21.3	46	75.4	0	0.0
Increasing time available for research findings	0	0.0	5	8.2	10	16.4	42	68.9	4	6.6
Conducting more clinically focused, relevant research	13	21.3	5	8.2	7	11.5	27	44.3	9	14.8
Improving research knowledge	8	13.1	2	3.3	8	13.1	40	65.6	3	4.9
More employees/sufficient staffing	0	0.0	6	9.8	0	0.0	55	90.2	0	0.0
Improving financial resources	3	4.9	5	8.2	0	0.0	49	80.3	4	6.6
Improving nurses' attitudes toward research	0	0.0	5	8.2	6	9.8	48	78.7	2	3.3
Giving rewards for using research	3	4.9	4	6.6	2	3.3	48	78.7	4	6.6
Translation of the articles in familiar language	15	24.6	2	3.3	9	14.8	28	45.9	7	11.5

**Table (7): Comparison of mean total score of barriers to research in relation to age in years and place of work(n=61)**

Variables	Range	Mean	SD	F	P
<b>Age in years:</b>					
▪ <35	95-169	126.64	18.96	20.051	0.001*
▪ 35+	134-166	150.87	6.87		
▪ >50	146-159	152.75	7.23		
<b>Place of work:</b>					
▪ Primary care units	119-166	149.29	9.09	15.452	0.001*
▪ University hospital	107-141	122.83	10.59		
▪ Health insurance hospital	95-169	133.40	26.36		
▪ Outpatient clinics	95-141	117.71	17.65		

(\*) Statistically significant at  $p < 0.05$

**Table (8): Percent distribution of studied nurses regarding the higher number of reported barriers and facilitators to information on evidence based practice (n=61)**

A- barriers	No	%
▪ The nurse does not have computer skills	58	95.1
▪ Access to research evidence is poor	52	85.2
▪ Administration perceived ebp as a low management priority	44	72.1
B- facilitators		
▪ Translation of the articles in familiar language	61	100.0
▪ Improving nurses' attitudes toward research,	61	100.0
▪ Giving rewards for using research	61	100.0

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