

# BACHELOR NURSES' PERCEPTION OF THE BARRIERS AND FACILITATORS FOR IMPLEMENTING EVIDENCE-BASED NURSING PRACTICE

## Abstract

Integration of research findings in to practice is now a necessity as it provides the best scientific evidenced for practice, which help to improve the quality of patient care and outcomes. It is important for nurses to become familiar with the available evidence and its application to daily patient care. The study aimed at evaluating the perception of bachelor nurses of the barriers and facilitators for implementing evidence-based nursing practice. **Methods:** A descriptive exploratory design was utilized. A convenient sample of all bachelor nurses working at The New Kaser El-Aini Teaching Hospital was used; a total of 112 nurses returned the questionnaire, representing 86% response rate. A questionnaire was developed based on the work of Funk, Champagne, Tornquist and Wiese, 1991, Fineout-Overholt & Melnyk, 2006, and Panagiari, 2007 and on review of related literature. **Results:** The greatest barriers were insufficient time on the job to read research (92.2%) or to implement new ideas (76.8%), unavailable research reports/articles (87.5%), lack of authority for the nurses to change patient care (87.5%) and poor access to research evidence (91.1%). The greatest facilitators were improving nurses' attitude toward research (96.4%), integrating the EBP in the curricula of the nursing schools and faculties (95.5%), giving rewards for using research (92.8%), hiring more nurses (93.7%) and improving availability/accessibility of research reports (98.2%). **Conclusion:** Nurses were not familiar with the term evidence-based practice, even though it had been widely discussed in the literature over the last years. The major barriers identified were inadequate facilities, lack of authority to change the patient care, insufficient time on the job to read or to implement the new ideas and unavailable research reports/articles. On the other hand, the major facilitators were hiring more nurses, giving rewards, improving availability of research reports and arranging regular meetings to discuss the new evidences. **Recommendations:** Establishment of Small libraries in each unit or department, formulation of Evidence-based practice committee in the hospital, provision of Internet access in each unit or department, and establishment of research dissemination center in the hospital. Also, improving nurses' attitude through increasing their awareness regarding research results utilization in order to make research-based practice a reality

**Key words:** Evidence-based practice, barriers, facilitators, research utilization.

## Introduction

Evidence-based practice in nursing (EBP) is a framework for clinical practice that integrates the best available scientific evidence with nurse's expertise and the patient's preferences and values to decide about healthcare of individual patients. EBP has flourished in nursing and in health care generally (Levin, Feldman, 2006).

Evidence-based practice (EBP) positions nurses to be a significant influence on health-care decisions and a partner in improving quality of care. Beyond an expectation for professional practice, EBP provides a major opportunity for nurses to enlighten practice and add value to the patient experience. Today, nursing interventions and processes informed by the best evidence are critical to realizing health-care improvements and cost savings (Newhouse et al., 2007).

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. Only a small percentage of health care providers implement research findings into practice, due to demanding patient loads, the great amount of journal articles related to their nursing practices and of misunderstandings of the time and procedures implementing practice based on evidence (Melnyk, et al., 2000, Waddell, 2002).

The most important reason for consistently implementing EBP are that it leads to the highest quality of care and the best patient's outcomes ( Reigle, Stevens, belcher, et al., 2008; Talasma, grady,Feetham, et al., 2008). In addition, EBP reduces healthcare costs and geographical variation in the delivery of care (Williams, 2004; McGinty & Anderson, 2008). Findings from studies also indicate that clinicians report feeling of more empowered and satisfied in their roles when they engage in EBP ( Maljanian, et al., 2002; Strout, 2005).

A search of the literature revealed a lot of studies (Funk, 1991; Carroll, 1997; Kajermo, 1998; Retsas, 1999; Parahoo, 2000; Oranta, 2002; and Panagiari, 2008) describing barriers nurses perceive in trying to apply research findings in their practice. A lot of countries had surveyed their nursing staff, on research-related activities meaning that it is not a local issue, but a global issue.

The main barriers for utilizing the research results in practice are lack of authority to change nursing practice, time constraints such as insufficient time on the job to read or to implement the new evidences, organizational constraints such as lack of administrative support or incentives, lack of EBP mentors, resistance to change, nurses' lack of awareness of the research process, inadequate facilities for implementation, lack of access to the research evidences, and unavailable research reports/articles in the work settings.

On the other hand, the main facilitators for using the research findings can be summarized in terms of organizational factors (time, support, encouragement and education), resources availability (facilities, staff, and money) and research communication (clinically relevant research, accessibility of reports, easily to understand reports).

In order to develop a plan for the implementation of research findings into practice, potential local barriers and potential facilitators needed to be identified. It is evident that these barriers and facilitators are global issues within the healthcare community. For this reason we should sensitize ourselves in all the ways we can about the importance and value of evidence-based nursing.

There is increasing recognition that efforts to change practice should be guided by conceptual models or frameworks (Graham, Tetroe, and the KT theories research group, 2007). Numerous models have been designed to help clinicians implement an evidence-based change in practice.

Seven models have been created to facilitate change to evidence-based practice. These seven models include:

- ✚ The Stetler model of evidence-based practice.
- ✚ The IOWA model of evidence-based practice to promote quality care.
- ✚ The model of evidence-based practice change.
- ✚ The Advancing Research and Clinical practice through close Collaboration (ARCC) model.
- ✚ The Promoting Action on Research Implementation in Health Services (PARIHS) framework.
- ✚ The clinical scholar model.
- ✚ The Johns Hopkins nursing evidence-based practice model.

(Melnik and Fineout-Overholt, 2011)

### Methods & Subjects

#### Aim of the study:

The study aimed at investigating the perception of bachelor nurses of the barriers and facilitators for implementing evidence-based nursing practice.

#### Operational definition:

For the purpose of the present study, evidence based practice (EPB) refers to the use of the research results in practice.

#### Research questions:

To fulfill the aim of the study the following questions were formulated:

- Is Evidence-based Practice implemented in a large scale among nurses in the New Kaser El-Aini Teaching Hospital?
- What are the barriers that hinder nurses' application of evidence based practice?
- What are the facilitators that enhance nurses' application of evidence based practice?

### Research Design

A descriptive exploratory design was utilized to study the perception of bachelor nurses of the barriers and facilitators for implementing evidence-based nursing practice.

### Setting:

This study was conducted at the New Kaser El-Aini Teaching Hospital which is a private hospital affiliated to Cairo University. It is also a unique center for medical researches over the Middle East region.

### Sampling:

All bachelor nurses in the hospital (130) including the nursing director, supervisors, head nurses, charge nurses and staff nurses that actually in the active workforce during the time of data collection were involved in the study. A total of 112 nurses returned the questionnaire, representing 86% response rate.

### Tools:

A questionnaire was developed by the investigator to collect data for the present study based on extensive review of related literature and on revision of the work of Funk, Champagne, Tornquist and Wiese, 1991, Fineout-Overholt & Melnyk, 2006, and Panagiari, 2007.

It was consisted of four parts; demographic data questionnaire, information or communication characteristics of nurses, barriers and facilitators for using research findings in the practice questionnaire, and the organizational culture and readiness for system-wide integration of EBP.

#### ❖ 1<sup>st</sup> part: "The demographic characteristics"

It included data pertaining nurses' educational background, position, work area in the hospital, years of experience and number of attended training courses.

#### ❖ 2<sup>nd</sup> part: "The communication or information characteristics"

This part measured the communication or information characteristics of the study nurses; included:

The frequency of times nurses looked for information or evidences to support their practice.

The frequency nurses' looked for information using reference text/ manual, journal article, research.

The nurses' accesses of getting information.

The frequency of nurses' participation in research data collection, research implementation and research application over the last 3 years

Finally, the nurses' evaluation of the availability of hospital information resources (print materials, online resources, other information resources).

❖ 3<sup>rd</sup> part; "barriers and facilitators for using research findings in the practice"

This part consisted of 2 dimensions:

- First dimension measured the barriers to EBP; was consisted of 34 barriers to research utilization. This scale asked the nurses to rate their agreement to which they think each item is a barrier to nurses' use of research to change or improve their practice. Responses were rated from 1 to 5, which displays the point to which each item is considered to be a barrier to research utilization (1, strongly disagree; 2, disagree; 3, undecided or neutral; 4, agree; and 5, strongly agree)
- Second dimension measured the facilitators to EBP; involved a list of facilitators that can enhance the use of research findings in nursing practice. This scale asked the nurses to rate their agreement to which they think each item is a facilitator to nurses' use of research to change or improve their practice. Responses were rated from 1 to 5, which displays the point to which each item is considered to be a barrier to research utilization (1, strongly disagree; 2, disagree; 3, undecided or neutral; 4, agree; and 5, strongly agree).

❖ 4<sup>th</sup> part; " The organizational culture & readiness for system-wide integration of EBP"

This part measured the organizational readiness for system-wide integration of EBP. This scale was adopted from Fineout-Overholt & Melnyk, 2006 and modified by the investigator for the present study. This tool consisted of 12 structured items. Responses were rated on a five-point scale (1) "Don't know"; (2) "Not at all"; (3) "To a little extent"; (4) " to a moderate extent"; and (5) "To a

great extent". Content validity of this scale had been supported and Cronbach alphas had been  $\geq$  0.69.

#### Validity of the tool:

Content validity was established by nine experts in nursing research, education and training including three professors from the faculty of nursing-Cairo University; vice medical director for training, education and quality in New Kasr El-Aini teaching hospital, nursing director of the New Kasr El-Aini teaching hospital, vice nursing director for training and education in the General Kasr El-Aini, and three head nurses working at different departments in the hospital.

Face validity was established and assured by this panel in addition to four assistant lecturers and three clinical instructors in the nursing administration department-faculty of nursing. All of them were asked to examine the instrument for content coverage, clarity, wording, length, format, and overall appearance.

#### Pilot study

A pilot study was carried out on 13 bachelor nurses working at different departments at New Kaser El-Aini Teaching Hospital to test the applicability and clarity of the questions, estimate the time needed to complete the questionnaire, and to add or omit questions. Based on the pilot study analysis minor modifications were made as omitting some items such as an open question for adding extra items that could be a barrier or a facilitator to EBP, adding other items such as position in the hospital and communication of the new evidences among supervisors and subordinates. Also some modifications were made in the structure of some items for more clarification and avoiding misunderstanding. This sample was included in the total of study sample.

#### Ethical Considerations

An official permission to conduct the proposed study was obtained from the Vice Dean of post graduate studies and research at the Faculty of Nursing - Cairo University. In addition, an approval of the ethical committee was obtained to carry out the study. Also, an official permission was obtained

from the Medical Director General and Nursing Director General of New Kaser El-Aini Teaching Hospital.

Participation in the study was voluntary for all bachelor nurses in the hospital after informing them with the other ethical issues considerations including explaining the purpose and nature of the study and stating the possibility to withdraw at any time. Confidentiality of the information was assured and the participation was with no risk.

#### Procedure:

Upon receiving the formal approval through formal channels, the investigator developed a list of all bachelor nurses working in the hospital different departments (medical, surgical, ICU, Operating Units, Emergency, X-Ray, Infection control, education, and administration) from the nursing office. Then participants were invited to participate in the study at all three shifts. The questionnaire was given to the participants individually by the investigator after explaining the main idea and purpose of the study and what is meant by the evidence-based practice.

The time spent to fill the questionnaire ranged between 20 to 30 minutes. This has been done on regular basis: three times on the week until all the data had been collected. Data were collected in a seven months period from May 2012 till November 2012.

#### Statistical Design

The data collected were coded and entered into the Statistical Package for the Social Sciences (SPSS), version 20.0 for analysis. The data were analyzed using descriptive statistics in the form of frequency distribution, percentages and mean. Person's correlation coefficient was also used to test the nurses' perception of barriers and facilitators of EBP in relation to years of experience and the attended training courses. Analysis of variance (ANOVA) was used to illustrate the difference among nurses' perception of barriers and facilitators of EBP and each of level of education, position and work place in the hospital. Cronbach's Alpha was used to determine internal reliability. The significance level of all statistical analysis was at 0.05 (P-value). The P-value > 0.05 indicates the insignificant results while the P-value < 0.05 indicates the significant results.

## Results

Table (1): Demographic data of the nurses (educational background, position and experience)

(n= 112)

Demographic data		Number (No)	Percentage (%)
Educational background	Bachelor degree	100	89.3
	High Diploma	2	1.8
	Master degree	10	8.9
Position in the hospital	Director	1	0.9
	Supervisor	35	31.3
	Head nurse	40	35.7
	Charge nurse	33	29.5
	Staff nurse	3	2.7
Years of experience	1- < 5	13	11.6
	5- < 10	26	23.2
	10- < 15	32	28.6
	15 and more	41	36.6

Table (1) shows that the majority (89.3%) of the study nurses had baccalaureate's degree, only 1.8% obtained high diploma and 8.9% obtained a master's degree. Regarding their positions in the hospital, about one third (35.7%) were head nurses, 31.3% were supervisors, 29.5% were charge nurses, and 2.5% were staff nurses. As regards years of experience, 36.6% of the study nurses had 15 years of experience and more, 28.6% had 10- < 15 years of experience, and 23.2% had 5- < 10 years of experience, while 11.6% had 1-< 5 years of experience.

Table (2): Nurses' evaluation of the availability of hospital information resources (print materials, online resources, other information resources)

(n= 112)

Item	Print Materials		Online Resources		Other Information Resources	
	No	%	No	%	No	%
1. Totally unavailable	10	8.9	45	40.2	5	4.5
2. Partially available	59	52.7	62	55.4	48	42.9
3. Available	43	38.4	5	4.5	59	52.7

Table (2) shows that 38.4% of the study nurses reported that the print materials such as references, procedure and policy books were available, 52.7% reported it partially available. Regarding the availability of the online resources, only 4.5% reported the online resources as



available, 55.4% reported it partially available, and 40.2% reported it totally unavailable. The other information resources such as peers, seniors, physicians were reported available by more than half (52.7%) of the study nurses.

**Table (3): Perceived barriers for implementing Evidence-Based Practice:**

n= 112

Items	Disagree		Undecided		Agree	
	No	%	No	%	No	%
1. There is insufficient time on the job to read research	2	1.8	6	5.4	104	92.8
2. Nurses do not have time to read research	4	3.6	6	5.4	102	91.1
3. Access to research evidence is poor (slow or no computers, or data bases)	4	3.6	7	6.3	101	90.1
4. There is insufficient time on the job to implement new ideas	6	5.4	6	5.4	100	89.3
5. The facilities are inadequate for implementation	7	6.3	5	4.5	100	89.3
6. Research reports/articles are not readily available	4	3.6	10	8.9	98	87.5
7. Nurses do not feel enough authority to change patient care procedures	9	8.1	5	4.5	98	87.5
8. The hospital has no disseminating research center	10	9	5	4.5	97	86.5
9. Nurses are unaware of the research process	7	6.3	10	8.9	95	84.8
10. There is resistance to make changes in the work setting	11	9.8	13	11.6	88	78.6

Table (3) illustrates that the majority (84.8%) of the study nurses agreed that nurses are unaware of the research process and 91.1% agreed that they do not have time to read research. Also, more than three quarters (75.9%) agreed that nurses do not have computer skills and 77.6% agreed that they are isolated from knowledgeable colleagues with whom to discuss the research. The majority (89.3%) perceived that the facilities were inadequate for implementing EBP and 78.6% perceived that there was resistance to make changes in the work setting. Regarding the time factor, the majority (92.8%) perceived that there was insufficient time on the job to read research or to implement new ideas in percentage of (76.8%). In addition, more than three quarters of the participants perceived that they didn't feel enough authority to change patient care procedures, the hospital had no disseminating research center, and the research reports/articles aren't readily available in the following percentages respectively 87.5%, 78.5%, and 87.5%.

**Table (4): Perceived facilitators for implementing EBP:**(n= 112)

Items	Disagree		Undecided		Agree	
	No	%	No	%	No	%
Improving nurses' attitudes toward research	2	1.8	3	2.7	107	96.4
Increasing nurses' awareness regarding the EBP	1	0.9	7	6.3	104	92.8
Conducting more clinically focused, relevant research	0	0.0	4	3.6	108	96.4
Increasing time available for research findings	3	2.7	8	7.1	101	90.2
Enhancing administrative support and encouragement	1	.9	5	4.5	106	94.7
Giving rewards for using research	0	0.0	8	7.2	104	92.8
More employees/sufficient staffing	4	3.6	3	2.7	105	93.7
Translation of the articles in Arabic language	0	0.0	8	7.1	104	92.9
Improving availability/accessibility of research reports	0	0.0	2	1.8	110	98.2
Arranging regular meetings to discuss the new evidences (research results)	2	1.8	1	0.9	109	97.3

Table (4) demonstrates the majority of the study nurses agreed that all the following could enhance using the research results in practice; Improving nurses' attitudes toward research, Increasing nurses' awareness regarding the EBP, Integrating the EBP in the curriculum of the nursing schools and faculties, Conducting more clinically focused, relevant research, Increasing time available for research findings, Enhancing administrative support and encouragement, presence of Cooperative and supportive colleagues, Giving rewards for using research, more staff, Translation of the articles in Arabic language, Improving the understandability of research reports, Improving availability/accessibility of research reports, and Arranging regular meetings to discuss the new research results in the following percentages respectively; 96.4%, 92.8%, 95.5%, 96.4%, 90.2%, 94.7%, 95.5%, 92.8%, 93.7%, 92.9%, 96.4%, 98.2%, and 97.3%.

**Table (5): Organizational readiness for system wide integration of EBP**(n= 112)

Item	Don't Know		Not at all		To little extent		To moderate extent	
	No	%	No	%	No	%	No	%
- To what extent is EBP (Evidence Based Practice) clearly described as central to the mission and vision of the hospital?	57	50.9	5	4.5	12	10.7	38	33.9

- To what extent you are familiar with the term evidence-based practice?	9	8.0	65	58.0	7	6.3	31	27.7
- To what extent do nurses have access to computers for searching for best evidence?	3	2.7	61	54.5	38	33.9	10	8.9
- To what extent do nurses have access to electronic databases for searching for best evidence?	7	6.3	87	77.7	10	8.9	8	7.2
- To what extent do staff nurses have proficient computer skills?	3	2.7	20	17.9	77	68.8	12	10.7
- To what extent are fiscal resources used to support EBP (e.g. education attending EBP conferences and workshops)?	4	3.6	22	19.6	66	58.9	20	17.9

Table (5) shows that more than half (50.9%) of the study nurses didn't know to what extent was EBP clearly described as central to the mission and vision of the hospital and 33.9% of them reported that EBP was clearly described as central to the mission and vision of the hospital. More than half (58.0%) of the respondents reported they were not familiar with the term and only 27.7% were familiar with it. Also more than half (54.5%) of them reported that they hadn't access to computers for searching the best evidence and 77.7% reported that they hadn't access to electronic databases for searching the best evidence. Staff nurses had little computer skills and the fiscal resources provide little support to EBP such as attending EBP conferences and workshops.

### Discussion

Results of the study clarified that the majority of the nurses in the hospital had the baccalaureate degree. Nurses having higher education such as high diploma and master constituted few numbers. Nurses perceived these grades as over qualifications as they didn't change in their positions in work setting (table1).

The majority of the nurses were head nurses and supervisors and their experience was 15 years and more. Bachelor nurses that worked as bedside nurses were at low percentage; this may be because the bachelor nurses become charge nurses after one year of their hiring in the hospital (table 1).

Regarding the information resources in the hospital, they were partially available including the printed material and the online resources. Print materials such as text books, procedure books and policies manual were available in some units as ICUs (in the head nurse office). Online resources were

paid and only available in the library during the morning shift. More than half of the study nurses perceived the other information resources such as peers, seniors and physicians as available (table 2).

Concerning the barriers, the major barrier was related to time (nurses' insufficient time to read research on-duty and off-duty hours). This finding is supported by several studies (Kajermo, 1998; Carroll, 1997; Retsas, 1999) and may indicate the lack of time for someone to read research findings in this profession. Lack of time reflects the serious and deep seated problem that exists in Egypt as well as other hospitals all over the world. Time to read, evaluate, analyze, disseminate and implement research is very limited for nurses everywhere.

'Access to research evidence is poor; no computers or databases' had been identified by 90.1% of the participants as a second barrier in this study. It was not from the major barriers in other studies may be because the other studies were performed in setting with adequate online resources and powerful governmental healthcare systems.

'Insufficient time on the job to implement new ideas' had been identified by 89.3% of the participants as a third barrier in this study. It was the first barrier in Retsas' study. Inadequate facilities was also perceived as a major barrier that could hinder the implementation of EBP in the hospital as some basic supplies as gloves or face masks or gowns were sometimes unavailable in some units.

Nurses' belief that they lack authority to change practice was ranked as a fourth barrier in this study. This barrier was the first in Funk's and Parahoo's study and the second in Retsas' study. Lack of authority may reflect an organization that has a traditional system of working, in which the nurses cannot develop their own job independently. Funk et al (1991) identified a way for clinicians to improve their authority. She signified that a decentralized administration and management divided to more than one person as a solution for nurses to increase their authority.

In addition to the organizational barriers, the hospital had no disseminating research center that is so critical step for implementing and continuing the EBP. The New Kaser El-Aini Teaching Hospital is also a unique center for medical researches over the Middle East region, why it had not disseminating research center for best medical and nursing research studies. Also resistance to make changes in the work setting was identified by 78.6% of the participants as an organizational barrier; this resistance may be from the physicians or the administration due to traditional lack of trust in nurses' knowledge and skills.

Concerning the facilitators, improving the availability and accessibility of research reports, giving rewards for using research, discussing the new evidences among supervisors, head nurses and the staff nurses in regular meetings, hiring more staff, enhancing the administrative support and translation of the articles in to Arabic language were perceived as major facilitators for implementing the EBP at the

work setting. Sufficient time and staff was also suggested from the other studies as a major facilitator. Time is important to go to the library, read, explore ideas, attend courses, discuss new evidences with colleagues and develop protocols to fully implement changes in practice.

In addition, improving nurses' attitude toward research through increasing their awareness regarding the EBP and conducting more clinically focused and relevant researches were identified from the first 10 facilitators for enhancing use of research results in practice. Clinically focused and relevant studies that actually face us in daily practices, could be implemented with the available resources, and theoretically or non-theoretically based is a necessity for successful implementation of EBP. When the manager is open, positive, interested and enthusiastic, supports the staff and knows the recent research studies, he/she serves as a role model for them and supports them to go on courses. As a result, nurses will have better attitudes towards research.

Regarding the organizational readiness for system-wide integration of EBP, the present study revealed that although evidence-based practice had been widely discussed in the literature over the last years, more than half (58.0%) of the respondents reported they were not familiar with the term and only 27.7% were familiar with it; this may be due to old years of experience, lack of computer skills and lack of electronic databases in the hospital depending on the tradition or basic ways of care.

### **Conclusion**

Nurses were not familiar with the term evidence-based practice, even though it had been widely discussed in the literature over the last years. The top ten barriers identified were insufficient time to read research during the on-duty and off-duty hours, poor access to research evidence, insufficient time to implement new ideas, inadequate facilities, unavailable research reports/articles in work setting, lack of authority to change patient care, lack of awareness regarding the research process, non-existence of research disseminating center, and resistance to change as a normal response in any change process.

The major perceived facilitators were improving nurses' attitude toward using research results, increasing their awareness regarding EBP, conducting more clinically focused and relevant research, improving availability and accessibility of research reports, increasing time available for research findings, enhancing administrative support and encouragement, giving rewards for using research, hiring more staff, arranging regular meetings to discuss the new evidences, and translation of research reports in to Arabic language.

### **Recommendations**

- ✚ Establishment of Small libraries in each unit or department.
- ✚ Formulation of Evidence-based practice committee in the hospital.
- ✚ Provision of Internet access and electronic databases at least in each unit or department.
- ✚ Establishment of research dissemination center in the hospital.
- ✚ Improving nurses' attitude through increasing their awareness regarding research results utilization in order to make research-based practice a reality.

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