

## The Attitudes and Barriers towards Evidence-Based Practice among Nursing Educators

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**Abstract: Background:** Nursing schools are challenged to use evidence-based approach in their own educational practice and to teach students to appreciate and practice it in nursing care. Yet many barriers hinder the widespread use of evidence-based practice within the academic and clinical nursing settings. **Purposes:** This study was developed to assess nursing educators' attitudes towards evidence-based practice and determine their perceptions of its related barriers. **Method:** A questionnaire includes 35 questions was hand delivered to 144 of nursing educators at nine academic nursing departments at the Faculty of Nursing, Alexandria University pertaining to their attitudes towards evidence-based practice and their perceptions of its related barriers. **Results:** A positive attitude towards evidence-based practice was generally found to increase with advancing educational level, academic ranking, years of experience, and teaching and research role. Conversely, demonstrators and assistant lecturers less recognized evidence-based practice and they perceived organizational barriers ( $73.8 \pm 16.8$ ) more than individual barriers ( $65.0 \pm 24.1$ ). **Conclusion:** Although nursing educators showed a positive attitude toward evidence-based practice, certain barriers were addressed which could hinder their smooth adoption to evidence-based practice. It is, therefore, desirable that the management of schools of nursing and health care agencies should develop a comprehensive strategy for building evidence-based practice competencies through proper training. Moreover, hospital libraries should also play an active role in developing adequate information literacy skills among the nurses and nursing educators.

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### 1. Introduction

Evidence-based practice (EBP) is an approach that emphasizes finding and using the best current research evidence to make healthcare decisions (Sackett et al., as cited in Stichler et al., 2011). The goal of EBP is to give patients up-to-date treatment that research has shown to be safe, effective and efficient. Ultimately, the goal of EBP is to continuously improve patient care based on new research developments (Rinchuse et al., 2008). Furthermore, a study developed by El-Nemer et al. (2009) found that most of the studied physicians and nurses had a positive attitude and interested in learning and improving skills necessary to apply EBP. Promoting and improving access to EBP summaries and guidelines would be the more appropriate method of moving to the use of EBP in clinical setting.

With a push from nursing service to meet regulatory requirements to constantly improve patient outcomes and Magnet's emphasis on professional nursing practice, faculty are challenged to use EB approach in their own educational practice and to teach students to appreciate and practice the EB approach in nursing care (Stichler et al., 2011). The National League of Nursing (NLN) is advancing numerous strategies to support the preparation of

students for EBP. The intent is to move the majority of nursing schools to teach and use evidence as their pedagogical framework (Ironside and Speziale, 2006). Two major outcomes must be achieved to accelerate the translation of research findings into clinical practice: (a) direct care nurses must acquire sufficient EBP knowledge and skills as well as strong beliefs about the value of EBP to advance EB care in clinical settings and (b) nursing educators must teach their students the process of EBP to instill in them lifelong skills to deliver the highest quality of care (Melnik et al., 2008).

Traditionally, faculty members have focused on teaching the research process to both undergraduate and graduate students with some applications of research utilization (Stetler, 2001). Because nursing educators incorporate EBP as a basic tenet of their programs, they assume nursing education itself is EB. Most faculty members are supportive of teaching EBP, but some may not fully comprehend the differences between traditional research and an EBP approach. Traditional approaches to teaching research have often resulted in the students' lack of appreciation of the research process and an inability to integrate research into their practice to answer pressing clinical questions (Ferguson and Day, 2005).

As master and doctoral nursing graduates, it is an expectation that graduates can assess organizations and individuals and plan a strategy for implementation of practice change. This requires an understanding of the literature about barriers to research utilization, an understanding of models for implementing EBP, and an ability to use the change process (Ciliska, 2005). Barriers to EBP have included lack of knowledge about statistical analysis and immature skills in searching electronic databases for evidence (Stichler et al., 2011). Rogers (as cited in Stichler et al., 2011) also postulated that the adoption of an innovation likely will be delayed unless the participants see the relative advantage of the change and its compatibility with existing values and current personal needs, which can be influenced by how the innovation is communicated to the participants. With more emphasis placed on EBP by service than in academia, faculty may not recognize the value of teaching an EB approach in patient care to students.

Also there are other many barriers to promote EBP. The first of which would be the practitioner's ability to critically appraise research. This includes having a considerable amount of research evaluation skills, access to journals and clinic/hospital support to spend time on EB nursing. Time, workload pressures, and competing priorities can impede research development. The causes of these barriers related to professional practitioners such as: lack of nursing educators' knowledge of research methods, lack of support from professional colleagues and organizations and lack of confidence and authority in the research arena (Taylor and Allen, 2007). Another barrier is that the practice environment can be resistant to changing tried and true conventional methods of practice. This can be caused because of reluctance to believe results of research study to maintain safe care, change traditional practices, and contain the cost of adopting new practices or gaining momentum to rewrite existing protocols (Loyd, 2008).

### **Conceptual Framework**

The conceptual framework used in this study guided by control theory developed by Carver and Scheier's (as cited in Melnyk et al., 2008). Control theory contends that a discrepancy between an individual's goal or standard (e.g., positive attitudes of nursing educators towards EBP, integration of EBP into curricula and moving EBP into nursing practice) and one's current state (e.g., nursing educators' negative attitudes towards EBP, and teaching traditional nursing research courses) should motivate behaviors to reach one's standard or goal. However, there are certain conditions that may block the initiation of behaviors to attain the standard or goal (barriers to EBP such as lack of time to read research, lack of knowledge about research and statistical

analysis and resistance to change within the environment). Therefore, questions about attitudes and barriers regarding EBP were included in the current study questionnaire.

In a nursing advisory council's survey that was developed by National League of Nursing (NLN, 2006), faculty were queried about their perceptions that the NLN Hallmarks of Excellence in Nursing was reflected in their schools of nursing. Findings from the survey indicated that 88.0% of the faculty believed that their curricula provided experiences that taught students about EBP and prepared them to provide EB nursing care. Seventy percent of the faculty reported implementing innovative strategies to teach EBP to students, and 78.0% indicated that those strategies were based on evidence. Themes identified in this study were consistent with earlier surveys indicating that technology has influenced the teaching/learning environment and that both students and faculty are continually learning new, innovative ways of implementing EB approach to patient care.

The present study is significant to nursing education because few studies were done in the developing countries such as Egypt to investigate the attitudes of the nursing educators towards EBP and their perceptions of the related barriers. A study done in Egypt by Hassona et al. (2013) found that the attitude of the nursing educators towards EBP was initially moderate and did not change post workshop about the EBP. So it is important to understand nursing educators' attitudes towards EBP and its related barriers if schools of nursing can expect that their nursing educators will impart an appreciation of EBP and application of its skills and competencies by nursing educators and students. The **purposes** of the present study were to assess nursing educators' attitudes towards EBP and determine their perceptions of its related barriers.

### **Research Questions**

1. What are the nursing educators' attitudes towards EBP?
2. What are the nursing educators' perceptions of EBP-related barriers?

## **2. Method**

**Research Design:** A descriptive design was used in this study.

**Setting:** The study was carried out in the all academic nursing departments (N=9) at the Faculty of Nursing, Alexandria University. They represent Nursing Administration, Medical and Surgical Nursing, Critical Care Nursing, Nursing Education, Paediatric Nursing, Obstetrics and Gynaecology Nursing, Community Health Nursing, Geriatric Nursing, and Psychiatric and Mental Health Nursing.

**Subjects:** The total population was 189 of nursing educators. The study was carried out on 170 who were working in the previously mentioned academic departments at the time of data collection. Only 144 of the nursing educators accepted to participate in the study, completed, and returned the questionnaire. The response rate was 84.7%, they were classified as follows: 35 professors, 15 assistant professors, 40 lecturers, 26 assistant lecturers, and 28 demonstrators.

Also 25.0% of the nursing educators were in the age group between 30 to less than 40 years old while 97.9% of the nursing educators were females, 63.9% had doctorate degree in nursing sciences, and 27.8% were lecturers. Medical-Surgical Nursing specialty represented the highest percentage of nursing educators (17.4%), followed by Nursing Administration which is equally to Community Health Nursing (13.9%). One-third of the nursing educators had 10 to less than 20 years of experience since graduation from the baccalaureate level and was working in research paper whilst they were supervising theses and dissertations. Moreover, the highest percentage of nursing educators were responsible for teaching—undergraduate and postgraduate students— both clinical and theory (43.1%) followed by those who were responsible for the clinical teaching of the undergraduate students only (31.3%).

**Tool: Nursing Educators' Attitudes towards Evidence-Based Practice and Perceptions of its Related Barriers Questionnaire:**

It was developed by the researchers based on the current related literatures (Al Hadid et al., 2011; Melnyk et al., 2008; Upton and Upton, 2006; Fink et al., 2005, Johnston et al., 2003, Funk et al., 1991) to measure nursing educators' attitudes toward EBP and their perceptions of its related barriers. It consists of 35 items; 13 items assessed nursing educators' attitudes towards EBP such as: the application of EBP improves patient's healthcare outcomes, EBP is a waste of time, and EBP is too tedious and impractical; 12 items related to individual barriers such as: lack of computer and searching skills, difficulty in understanding research reports, and difficulty in understanding the statistical analysis; and 10 items related to organizational barriers such as: limited organizational budget for training on EBP, no authority is given to change practice to EBP, and relevant literatures are not compiled in one place. The responses of these items — related to attitudes toward EBP and perceptions of its related barriers — were measured by using 5-point rating scale ranging from strongly agree (5) to strongly disagree (1). Negative items in the attitudes towards EBP were reversely scored. In addition, nursing educators' demographic and professional characteristics were included: age,

sex, educational level, academic ranking, years of experience since graduation from the baccalaureate level, academic specialty, teaching role and types of research activities.

**Data collection**

An official permission was obtained from the Dean Faculty of Nursing, Alexandria University to conduct the study. The tool was tested for its content validity by a group of five experts in the related field. The needed modifications were done. The tool was tested for its reliability using Cronbach's alpha coefficient test, the values were 0.893 for the overall tool, 0.724 for attitudes towards EBP, and 0.914 for perceptions of the related barriers.

The researchers explained the purposes of the research to all subjects. Before embarking to data collection an informed consent was obtained from each study subject. Also, anonymity, privacy of subjects and confidentiality of data were assured. A pilot study was carried out on 10 % (N=19) of the nursing educators who were not included in the study subjects to assess the clarity and applicability of the study tool. The needed modifications were developed. The tool of the study was hand delivered to the nursing educators. Time needed to fill the questionnaire was about 20 minutes. Data collection consumed about three months, started from end of May to mid of August, 2012.

**Statistical Analysis**

Data were collected, revised, coded and fed to statistical software SPSS version 16. All statistical analyses were done using two tailed tests and alpha error of 0.05. P value less than 0.05 was considered to be significant. Mean score, mean score percentage with standard deviation, median and mode were used to describe the scale data, while frequency and percent was used to describe the categorical data. **One way ANOVA was used** to compare means for at least three independent groups of cases. **Kruskal-Wallis test:** a non-parametric test was used to compare the mean ranks of more than two groups for quantitative variables.

**3. Results**

**Table 1** shows that the overall mean score percentage of the nursing educators' attitudes toward EBP was 71.1±9.6. The mean scores of the items reflecting nursing educators' attitudes toward EBP ranged between 1.9 to 4.6 on a scale ranging from 1 to 5, with higher scores indicating strong positive attitude. Nursing educators' attitudes toward "the application of EBP improves patient's healthcare outcomes," "current research findings are useful in the provision of day to day nursing practice," and "EBP encourages patient-centered care" recorded the highest mean scores (4.6±0.6, 4.2±0.8, and 4.0±1.0)

respectively. In addition, the least mean scores of nursing educators were  $1.9 \pm 0.9$  regarding "EBP is a waste of time,"  $2.5 \pm 1.0$  in "the adoption of EBP places too many demands on my workload," and  $2.5 \pm 1.0$  in "the clinical environments do not stimulate the application of EBP." On the other hand, the

highest mean scores of the negative items were found in relation to "I stick to the traditional methods rather than changing to new methods of research in patient care" ( $3.9 \pm 1.1$ ), "EBP is too tedious and impractical" ( $3.9 \pm 0.9$ ), and "I dislike having my clinical/academic practice questioned" ( $3.5 \pm 1.0$ ).

**Table 1. Nursing educators' attitudes toward evidence based-practice**

Nursing educators' attitudes	Mean	SD	Mode
Current research findings are useful in the provision of day to day nursing practice.	4.2	0.8	5
The adoption of EBP places too many demands on my workload.	2.5	1.0	2
The application of EBP improves patient's healthcare outcomes.	4.6	0.6	5
EBP encourages patient-centered care.	4.0	1.0	4
I dislike having my clinical/academic practice questioned.	3.5	1.0	4
EBP is a waste of time.	1.9	0.9	4
I stick to the traditional methods rather than changing to new methods of research in patient care.	3.9	1.1	4
It is not easy to relate research findings to academic practice.	3.4	1.1	4
The importance of EBP is exaggerated.	3.3	1.2	4
EBP is too tedious and impractical.	3.9	0.9	4
EBP is not feasible in this organization.	3.0	1.1	4
Human views and experiences are more valued than evidences from research.	3.3	1.0	4
The clinical environments do not stimulate the application of EBP.	2.5	1.0	2
<b>Overall mean score (Mean score percentage)</b>	<b>46.1± 6.2 (71.1±9.6)</b>		

**Table 2** shows that the overall mean score percentage of the nursing educators' perceptions of the individual barriers to EBP was  $65.0 \pm 24.1$ . Also the highest mean scores of individual barriers were found in relation to "unawareness of method of using the electronic data base" ( $3.9 \pm 1.0$ ), "difficulty in evaluating the quality of research reports" ( $3.5 \pm 1.2$ ), and "difficulty in understanding the statistical analysis" ( $3.5 \pm 1.2$ ). The lowest mean scores were  $2.5 \pm 1.3$  and  $2.9 \pm 1.2$  for "see little benefits for self from EBP" and "have no interest in reading research reports" respectively.

Also, this table indicates that the overall mean score percentage of nursing educators' perceptions of the organizational barriers to EBP was  $73.8 \pm 16.8$ . The highest mean scores of the nursing educators' perceptions of the organizational barriers were found in relation to "limited organizational budget for training on EBP" and "limited organizational budget for acquisition of updated data base" ( $4.1 \pm 0.9$  and  $4.0 \pm 0.9$ ) respectively. On the other hand, the least mean score of nursing educators' perceptions was  $3.0 \pm 1.2$  in relation to "EBP is not achievable in the real world such as health care agencies."

**Table 3** indicates that the highest mean score percentages of nursing educators' attitudes toward

EBP were identified among those who had doctorate degree in nursing sciences ( $73.1 \pm 9.3$ ), working as full professors ( $76.2 \pm 7.2$ ), and had 30 years of experience and more ( $76.0 \pm 7.2$ ). Also the groups, who were responsible for teaching lectures ( $74.4 \pm 8.8$ ), and supervising theses/ dissertations ( $76.2 \pm 7.4$ ) had the highest mean score percentages. On the other hand, the lowest mean score percentages were found among those who had bachelor degree in nursing sciences ( $64.8 \pm 9.2$ ), working as clinical demonstrators ( $64.5 \pm 8.9$ ), and those who had less than 10 years of experience ( $67.0 \pm 9.3$ ). In addition, those who were assuming clinical teaching role and preparing their theses/dissertations had the lowest mean score percentages ( $67.9 \pm 8.8$  and  $64.4 \pm 8.7$ ) respectively.

Furthermore, statistical significant differences were found among nursing educators in relation to their attitudes towards EBP according to their educational levels ( $F=8.8$ ,  $P .000$ ), academic ranking ( $F = 6.8$ ,  $P .000$ ). Also, statistically significant differences were found in attitudes of the nursing educators towards EBP regarding years of experience ( $F = 6.6$ ,  $P .000$ ), teaching role ( $F = 5.0$ ,  $P .008$ ), and research activities ( $F = 6.5$ ,  $P .000$ ).

**Table 2. Nursing educators' perceptions of barriers to evidence based-practice**

<b>Barriers to EBP</b>	<b>Mean</b>	<b>SD</b>	<b>Mode</b>
<b>Individual barriers</b>			
Unawareness of the methods of using the electronic data base.	3.9	1.0	4.0
Lack of computer and searching skills.	3.3	1.3	4.0
Lack of confidence to perform the EBP activities.	3.4	1.2	4.0
Unwillingness to change or try new ideas.	3.3	1.2	4.0
Lack of knowledge about process of research development.	3.3	1.2	4.0
Difficulty in understanding research reports.	3.1	1.2	2.0
Difficulty in evaluating the quality of research reports.	3.5	1.2	4.0
Difficulty in identifying the implications of research findings for one own practice.	3.4	1.3	4.0
Have no sufficient time to find research reports.	3.2	1.2	2.0
Have no interest in reading research reports.	2.9	1.2	2.0
Difficulty in understanding the statistical analysis.	3.5	1.2	4.0
See little benefits for self from EBP.	2.5	1.3	2.0
<b>Overall mean score (Mean score percentage)</b>	<b>39.2±10.2 (65.0± 24.1)</b>		
<b>Organizational barriers</b>			
Other organizational goals with a higher priority are considered rather than EBP.	3.7	1.0	4.0
Insufficient numbers of available nursing educators to teach EBP.	3.8	1.0	4.0
Limited organizational budget for acquisition of updated data base.	4.0	0.9	4.0
Limited organizational budget for training on EBP.	4.1	0.9	4.0
Insufficient resources for implementation of EBP e.g. computers, and recent library references.	3.8	1.0	4.0
EBP is not achievable in the real world such as health care agencies.	3.0	1.2	2.0
Insufficient time on work to implement new research ideas.	3.6	1.0	4.0
No authority is given to change practice to EBP.	3.7	1.1	4.0
Managers are not supportive to implementation of EBP.	3.6	1.0	4.0
Relevant literatures are not compiled in one place.	3.6	1.0	4.0
<b>Overall mean score (Mean score percentage)</b>	<b>36.9±6.8 (73.8±16.8)</b>		
<b>Overall mean score of all barriers (Mean score percentage of all barriers)</b>	<b>76.2±14.9 (69.3±13.5)</b>		

**Table 4** indicates that there were significant differences in nursing educators' perceptions of the overall barriers to EBP according to their demographic and professional characteristics except of their academic specialty. Also the highest mean score percentages of the nursing educators' perceptions of the barriers related to EBP were identified among those who had master degree in nursing sciences, working as assistant lecturers, had between 10 to less than 20 years of experience since graduation, assigned to clinical teaching, and they

were during working on their theses and dissertations (81.7±16.3, 81.1±15.9, 73.9±14.5, 71.3±12.6, and 74.8±11.1) respectively. On the other hand, the lowest mean score percentages were found among those who had doctorate degree in nursing sciences, working as full professors, had 30 and more years of experience, responsible for teaching of the theoretical content, and supervising of the work of theses and dissertation of the students (74.0±14.7, 68.9±11.6, 62.9±10.8, 63.9±11.4, and 64.1±11.7) respectively.

**Table 3 Overall mean score percentages of nursing educators' attitudes towards evidence-based practice according to their demographic and professional characteristics**

Items	Overall Attitudes					F	P
	Minimum	Maximum	Mean%	SD	Median		
<b>Educational level</b>							
▪ Bachelor degree in nursing sciences	50.8	84.6	64.8	9.2	62.3	8.8	0.000*
▪ Master degree in nursing sciences	50.8	89.2	69.7	8.2	69.2		
▪ Doctorate degree in nursing sciences	43.1	92.3	73.1	9.3	73.8		
<b>Academic ranking</b>							
▪ Clinical demonstrator	50.8	84.6	64.5	8.9	61.5	6.8	0.000*
▪ Assistant lecturer	50.8	89.2	70.4	7.8	70.0		
▪ Lecturer	43.1	92.3	71.2	11.0	72.3		
▪ Assistant professor	58.5	84.6	71.4	7.6	72.3		
▪ Full professor	55.4	92.3	76.2	7.2	75.4		
<b>Years of experience since graduation</b>							
▪ <10	50.8	89.2	67.0	9.3	69.2	6.6	0.000*
▪ 10-	43.1	92.3	70.5	9.9	70.8		
▪ 20-	50.8	86.2	71.3	9.6	72.3		
▪ 30+	55.4	92.3	76.0	7.2	75.4		
<b>Academic specialty</b>							
▪ Medical and Surgical Nursing	53.8	86.2	70.7	9.3	72.3	0.95	0.483
▪ Nursing Education	60.0	92.3	72.4	10.7	73.8		
▪ Critical Care Nursing	55.4	86.2	76.0	8.5	76.9		
▪ Paediatric Nursing	61.5	84.6	71.5	7.1	70.8		
▪ Obstetric and Gynaecology Nursing	43.1	84.6	66.2	11.8	69.2		
▪ Psychiatric and Mental Health Nursing	56.9	87.7	71.9	8.4	72.3		
▪ Nursing Administration	50.8	83.1	68.3	9.9	69.2		
▪ Community Health Nursing	50.8	89.2	71.8	8.7	72.3		
▪ Geriatric Nursing	52.3	89.2	72.3	11.8	75.4		
<b>Teaching role</b>							
▪ Clinical teaching	50.8	86.2	67.9	8.8	69.2	5.0	0.008*
▪ Teaching of theoretical content (lectures)	55.4	92.3	74.4	8.8	73.8		
▪ Teaching of theoretical and clinical contents	43.1	89.2	71.2	9.9	72.3		
<b>Research activities</b>							
▪ Preparing for thesis / dissertation	49.2	76.9	64.4	8.7	63.1	6.5	0.000*
▪ During working on thesis / dissertation	50.8	84.6	67.8	8.0	69.2		
▪ Finishing thesis / dissertation	55.4	89.2	73.3	10.8	73.1		
▪ Preparing/working in research paper	43.1	92.3	69.3	11.7	69.2		
▪ Supervision on thesis/dissertation	55.4	89.2	76.2	7.4	75.4		
▪ Preparing research paper and supervising thesis	50.8	92.3	74.4	7.5	74.6		

F: One way ANOVA test \* P < 0.05 (significant)

**Table 4 Overall mean score percentages of nursing educators' perceptions of barriers related to evidence-based practice according to their demographic and professional characteristics**

Items	Overall Barriers					X <sup>2</sup>	P
	Minimum	Maximum	Mean%	SD	Median		
<b>Educational level</b>						6.1	0.048*
▪ Bachelor degree in nursing sciences	54.0	105.0	78.9	12.8	77.0		
▪ Master degree in nursing sciences	46.0	110.0	81.7	16.3	79.0		
▪ Doctorate degree in nursing sciences	27.0	110.0	74.0	14.7	72.5		
<b>Academic ranking</b>						14.5	0.006*
▪ Clinical demonstrator	54.0	105.0	79.4	13.4	77.0		
▪ Assistant lecturer	46.0	110.0	81.1	15.9	79.0		
▪ Lecturer	27.0	110.0	78.0	17.1	77.0		
▪ Assistant professor	60.0	89.0	74.7	10.8	70.0		
▪ Full professor	45.0	95.0	68.9	11.6	68.0		
<b>Years of experience since graduation</b>						6.6	0.000*
▪ <10	49.1	100.0	71.8	11.7	70.00		
▪ 10-	41.8	100.0	73.9	14.5	71.82		
▪ 20-	24.5	85.5	64.4	14.2	65.45		
▪ 30+	40.9	86.4	62.9	10.8	61.82		
<b>Academic Specialty</b>						12.8	0.119
▪ Medical and Surgical Nursing	54.0	98.0	71.6	11.9	71.0		
▪ Nursing Education	46.0	110.0	82.2	17.6	83.5		
▪ Critical Care Nursing	27.0	110.0	68.7	20.7	71.0		
▪ Paediatric Nursing	50.0	98.0	74.9	12.8	75.0		
▪ Obstetric and Gynaecology Nursing	60.0	110.0	83.2	16.2	88.0		
▪ Psychiatric and Mental Health Nursing	55.0	106.0	72.7	13.1	69.0		
▪ Nursing Administration	50.0	97.0	76.8	11.0	77.5		
▪ Community Health Nursing	45.0	110.0	77.9	19.0	73.0		
▪ Geriatric Nursing	65.0	95.0	80.8	8.4	81.0		
<b>Teaching role</b>						4.3	0.016*
▪ Clinical teaching	41.8	100.0	71.3	12.6	69.09		
▪ Teaching of theoretical content (lectures)	42.7	88.2	63.9	11.4	61.82		
▪ Teaching of theoretical and clinical contents	24.5	100.0	71.2	14.7	69.09		
<b>Research activities</b>						2.3	0.018*
▪ Preparing for thesis / dissertation	49.1	100.0	73.3	13.0	75.45		
▪ During working on thesis / dissertation	62.7	100.0	74.8	11.1	69.55		
▪ Finishing thesis / dissertation	41.8	100.0	67.5	18.5	62.73		
▪ Preparing/working in research paper	45.5	100.0	72.3	13.9	73.64		
▪ Supervision on thesis/dissertation	40.9	81.8	64.1	11.7	65.00		
▪ Preparing research papers and supervising theses	24.5	100.0	65.6	13.2	64.55		

X<sup>2</sup>: Kruskal-Wallis test

\* P &lt; 0.05 (significant)

#### 4. Discussion

The present study indicates that nursing educators had positive attitudes towards EBP, while they perceived that the application of EBP improves patient's healthcare outcomes, current research findings are useful in the provision of day to day nursing practice and EBP encourages patient centered-care. These results could be extrapolated in the light of the professional characteristics of the nursing educators including advancing educational and academic ranking –doctorate holders, the full and assistant professors– the extended years of experience, the responsibility of teaching theoretical content and supervision of theses and dissertations. These characteristics could help them to value EBP positively more than the other groups, due to their progressive research skills acquired in their work.

According to Stichler et al. (2011), faculty attitude towards EBP received the highest mean scores, followed by knowledge and skills in EBP. These results indicated that the faculty attitude towards EBP tends to be more positive than their knowledge and skills. Furthermore, EBP skills were not generally taught in academic programs prior to 2000, when most of the faculty received their highest academic degree. As faculty increase their knowledge and skills with EBP, they likely will see more opportunities to incorporate these practices in teaching their courses and student activities. The situation of the studied nursing educators is similar in relation to the recency of EBP and the attitudes towards it. Moreover, Brown et al. (2010) reported that attitudes toward EBP generally increased with academic advancing rank. On the contrary, Olade (2004) found that nurses had favorable attitude towards the research and this was significantly found among baccalaureate and master graduates.

However, the negative attitudes of the studied nursing educators related to their feeling that EBP is too tedious and impractical, stick to the traditional methods rather than changing to new methods of research in patient care and dislike having their clinical/academic practice questioned could be the result of some of the individual and organizational barriers. Among these barriers are unawareness of method of using the electronic data base, difficulty in evaluating the quality of research reports, and difficulty in understanding the statistical analysis skills as individual barriers. Also, limited organizational budget for training in use of EBP and limited organizational budget for acquisition of updated data base are other contributing factors. This could be the case among those who had baccalaureate and master degree in nursing sciences, working as clinical demonstrators and assistant lecturers, had 10 to less than 20 years of experience since graduation,

responsible for clinical teaching, and preparing for thesis and dissertations as they significantly perceived various barriers to apply EBP in their academic and clinical field. This means, that the culture of the Faculty of Nursing and the health care agencies does not stimulate the application of EBP.

The previously mentioned speculation is supported by Melnyk et al. (2008) who indicated that the tedious nature of the teaching methods of research has led to negative attitudes toward research in practicing nurses and misperceptions that EBP is not feasible in lieu of today's health care environment. According to Kajermo et al. (2008), Hutchinson and Johnston (2004), and Estabrooks et al. (2003) indicated that an academic degree, education, availability of relevant research, time, and mentorship combined with positive attitudes have shown a positive relationship to intentions to use research in practice. Stichler et al. (2011) and Brown et al. (2010) found that the faculty perceived individual characteristics as relatively recognized barriers to practicing EBP, whereas the characteristics of innovation, organization, and communication were the most perceived barriers to EBP. Also, they added that misconceptions about teaching EBP; lack of philosophical framework for the curriculum, administrative support, mentorship, time, information literacy skills, or resources (financial, limited access to electronic data sources) consistently reported as barriers to EBP. In addition, poor understanding of statistics, and inconsistent basic knowledge and experience with research has been identified.

Furthermore, Pravikoff et al. (2005) found that barriers to use research in practice exist at both the institutional level and the individual level. The barrier chosen by the greatest number of respondents was a lack of value for research in practice, followed by a lack of understanding of organization or structure of electronic databases and difficulty accessing research materials. Other barriers such as lack of skills to critique and synthesize and search the literature and difficulty in understanding research articles were also ranked highly. Also, Hansson et al. (2013) found that lack of resources to support the search for best practice in nursing education, old textbooks in libraries, lack of access to current research journals, and limited access to the internet or computers were among the most hindering factors for nursing educators to implement EBP. Additional barriers listed were large numbers of students and time constraints.

#### Conclusion and Recommendations

It was concluded that positive attitudes towards EBP was generally found to increase with advancing academic ranking and other professional



responsibilities. In addition, the nursing educators' perceptions of the organizational barriers to EBP were higher than individual barriers. The perceived overall barriers were significantly increased among those who were in the beginning of their professional life and academic ladder.

These findings suggest that continuing education for nursing educators on the EBP process is necessary to enhance their knowledge and skills in acquiring appropriate research and statistical analysis relevant to their specialties they are teaching. To be successful in moving evidence into nursing practice, teaching strategies should include an EBP approach across the curriculum. Specific EBP content should include developing a clinical question, information literacy skills to gather evidence that answers the questions, and statistical content such as odds ratios, and relative risk. Schools of nursing should address known barriers and facilitators to the adoption of EBP by nursing educators and nursing students. Management of schools of nursing and health care agencies should develop a comprehensive strategy for building EBP competencies through proper training and encourage an EBP environment by supporting nursing educators' recommendations for change within a clear defined philosophical framework for EBP. Moreover, hospital libraries should also play an active role in developing adequate information literacy skills among the nurses and nursing educators.

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