



**SMU**  
Sikim Manipal University



**SMU Medical Journal**



ISSN : 2349 – 1604 (Volume – 3, No. 2, July 2016) Research article

Indexed in SIS (USA), ASI (Germany), I2OR & i-Scholar (India) and SJIF (Morocco) databases. Impact Factor: 3.835 (SJIF)

## **Knowledge, attitude, beliefs, perceived barriers and implementation of evidence-based practice among pediatric nurses**

**Wafaa Hassan Hassan Alseraty**

Assist. Prof. of pediatric nursing, faculty of nursing, Tanta university, Egypt.

\* Corresponding author

Phone: 00966543340547.

Manuscript received : 24.12.15

Manuscript accepted: 21.03.16

### **Abstract**

Having a positive attitude toward evidence-based practice and see its value in children care & quality of life have important impact on its implementation among pediatric nurses and help to overcome their perceived barriers. Little researches had been done regarding the attitudes, behaviors, perceived barriers and implementation of EBP among pediatric nurses. This study was aimed to assess knowledge, attitude, beliefs, perceived barriers and implementation of evidence-based practice among nurses at pediatric hospital of king Saud Medical city. All nurses working in pediatric hospital of king Saud Medical city of Saudi Arabia and willing to participate in the study were included in the study their number were 100 nurse. Data were collected during May 2015. Results showed that more than two third of nurses aged 20->30 years, Saudis and had 1->5

experience in their work (table 1). Only one fifth of nurses know correctly the meaning of EBP (table 2), the majority of them had positive attitude and belief toward EBP (tables 3&4), according to table 5; no time for internet search during work, no ability to use research recommendations and had no authority to change, were the most nurses common barriers for adopting evidence into clinical setting as suggested by the studied subjects. Only one third from nurses read from 1-5 nursing topics monthly and do internet search 1-5 times monthly about new nursing topic. More than half of the study subjects not collect information about daily nursing problems, not used EBP in patients care and not discuss with their colleges how to use EBP in patient care (table 6). It was concluded from the present study that the majority of nurses have positive attitude and beliefs toward EBP but not aware about steps of using EBP in their daily care. Well prepared evidence based programs were recommended to increase nurses awareness about EBP and its values on children care. Also health institutions administrators has the main role to facilitate nursing care depend on EBP, maintain suitable environment to implement EBP and finally provide motivation for nurses to apply EBP in their clinical setting.

**Keywords:** Knowledge, attitude, beliefs, perceived barriers implementation and evidence-based practice.

## **Introduction**

Evidence-based practice (EBP) originates from evidence-based medicine[1]. It is a technology that has been gaining popularity to improve clinical care effectiveness. Its application involves using the best available clinical evidence on patient care and implies to improve clinical professional knowledge with the most consistent and reliable scientific findings, resulting from the advancement of clinical research[2]. It is an approach that emphasizes finding and using the best current research evidence to make healthcare decisions[3, 4].

Evidence-Based Clinical Practice improve the quality of health care, making it cost-efficient and improve clinical results[5]. It is essential for promoting the highest quality of patient care and better patient outcomes. Nurses who practice evidence based nursing care are more satisfied with their jobs, have greater engagement in their own professional development, communicate more effectively with their patients and confident in their work. Also evidence

based practice allow significant cost saving of the organization, limit the amount of disability & suffering through the community, it increase confidence in the quality of decision and enhance outcomes for children & their families [6,7]. Patients' out comes have been shown to be 28% better when clinical care is based on evidence rather than tradition [8,9].

Historically, care of the patient was influenced by the experiences, attitude, beliefs and opinions of those involved in providing treatment. EBP marks a shift among health care professionals from a traditional emphasis on authoritative opinions to an emphasis on data extracted from prior research and studies. Nursing practice based on evidence improves patient care, as compared to traditional practices . Moreover, as nurses are increasingly more involved in clinical decision making, it is becoming important for them to utilize the best evidence to make effective and justifiable decisions[10 -13].

Evidence-based practice is not a magic bullet. It is about trying to increase good outcomes by using good research evidence. Children and their families have the right to services based on the best available evidence. We have a good record in some areas of health, education and welfare, but throughout history, and despite the best of intentions, some of the things done by experts have made people sicker and unhappier or poorer. The basic steps of evidence-based nursing practice are : defining a problem , formulating clinical questions that can be answered through research or other sources of evidence, finding the best evidence to answer these clinical questions, assessing the validity of the evidence to provide answers to clinical questions, incorporating the evidence with nurse's expertise & patient's attitude and evaluating the whole process and the results[14].

Despite available research and evidence to support nursing practices in healthcare, there is continues to be a gap between theory and practice which leads to diminished patient care and inefficient nursing practice. Studies have reported that only a moderate number of nurses use research as a basis for their nursing practice and about half of patients with certain chronic diseases receive the recommended care[8,15]. 30% - 40% of patients did not receive health care that is based on the available research finding and that as many as 20% - 25% of all patients receive harmful or unnecessary care[16]. Moving evidence into practice is a persistent challenge

in healthcare for all professionals . It is difficult due to a variety of reasons including the complexity of organizations, individual healthcare practitioners, leadership, and changing healthcare environments[17].

Attitude is a tendency to respond positively or negatively towards an idea, object or person[18]. Although nurses possess a positive attitude toward EBP and consider it fundamental to their practice, several institutional and personal barriers obstruct its smooth implementation[12]. Nurses barriers for implantation of evidence into practice; organizational constraints, lack of time, lack of authority to change practice, lack of knowledge & skills in accessing and reading research reports& methodology, inadequacies& ambiguous study results, lack of randomized control trials , inability to keep up with current knowledge, no documented need to change practice, inadequate facilities for implementation, and lack of leader supports[18,19]. Providers also noted lack of nursing acceptance, weak belief & negative attitude toward evidence, decreased autonomy in physician practice, increased healthcare costs, and patient condition or preference are additional barriers for EBP applications [17,9].

Nurses with positive attitudes were more likely to use evidence based research in practice and that nurses who believe that EBP improves patient outcomes provided higher levels of evidence based care. Higher education levels and job title of nurses can be regarded as a significant predictor of knowledge and ability to perform research activities but is not related to willingness to engage in research activities [20]. Recommendations to over-come barriers of moving evidence into practice; continuing education on values of research , research methodology and making use of available advanced technologies to facilitate timely retrieval of research[8].Also nurses must have the ability to: identify knowledge gaps, formulate relevant questions, conduct an efficient literature search, apply rules of evidence to determine the validity of studies, apply appropriately the literature findings to the patient's problem, and appropriately involve patients in the their clinical decision making[12].

**King Saud Medical City:** It located at Al Imam Turki Ibn Abdullah Ibn Muhammad, Riyadh city, Saudi Arabia. It is a tertiary care center for medicine and surgery especially spinal and neurosurgery. It has pediatric hospital which consists from 3 floors which include;

emergency unit , medical unit , surgical units, insensitive care and Artificial Kidney unit.

### **Research significance:**

Children hospitalization constitute a stressful event for the children and their families so nursing care based on evidence based practice decrease hospital stay, lead to more satisfaction for the children & their families and improve the outcomes. Without investigation of nurses knowledge, attitude, belief, and perceived barriers toward evidence-based practice the process of implementing EBPs cannot be completed.

### **Material and methods**

**Aim:** This study aimed to assess knowledge, attitude, belief, perceived barriers and implementation of evidence-based practice among nurses at pediatric hospital of king Saud Medical City.

### **Research questions:**

1. Is all pediatric nurses had knowledge about EBP?
2. What is the nurses attitude toward EBP?
3. What is the nurses beliefs toward EBP ?
4. What is nurses perceived barriers for adopting EBP in their clinical setting?
5. Are all nurses implement EBP in their clinical setting?

**Type of the study:** It is cross sectional study.

**Design:** A descriptive design was used.

**Sample:** Purposive samples of all nurses working in pediatric hospital of king Saud Medical city and willing to participate in the study were included in the study there number were 100 nurse.

**Setting:** Pediatric hospital of king Saud Medical city, Riyadh, Saudi Arabia.

### **Tools:**

- Tool 1: Questionnaire sheet formulated by the researcher after reviewing the related literature which include 2 parts ; 1<sup>st</sup> part concerned with nurses social data and 2<sup>nd</sup> part concerned with nurses knowledge regarding EBP.

- **Tool 2:** Evidence based practice questionnaire designed by Jette, et. al., in 2003 [21] for measuring nurses attitude toward EBP, it has 10 questions the responses regarding each question were measured with a three-point rating ranged from 0-2 (disagree- agree).
- **Tool 3:**The EBP Beliefs Scale designed by Melnyk, et. al., in 2003[22]. It consists of 11 items that measure an individual's beliefs about the value of EBP and their ability to implement it . The responses ranged from 0-2 (disagree- agree). EBP scale was has been tested for reliability and validity in several studies among nurses[13,11, 3] .
- **Tool 4:**Designed by the researcher after reviewing of related literature it has 2 parts, 1<sup>st</sup> part concerned with the nurses perceived barriers for adopting EBP into their clinical setting the responses ranged from 0-2 (disagree, - agree). 2<sup>nd</sup> part concerned with nurses implementation of EBP in their clinical setting . Tools 1 , 2& 4 were tested for reliability and validity by two assistant professors in pediatric and psychiatric nursing. All questionnaire used in Arabic language for Arabic speaker subjects and English language for none Arabic speaker subjects.

#### **Ethical considerations:**

Confidentiality of information was guaranteed for each study subject. Nurses ' agreement was a prerequisite to include each study subject in the study.

#### **Administrative design:**

Permission was obtained from the head nurses of the departments.

#### **Pilot study:**

A pilot study was carried out on 10 nurses to test the clarity and simplicity of the questions and necessary modifications were done post the pilot study. Nurses whom shared in pilot study were excluded later from the main study.

#### **Methods**

A review of local and international related references was carried out to get acquainted with the various aspects of the research problem and the study tools. Data were collected during May 2015. Nurses were given instruction about the study aim and how to filling the questionnaire. Only completed questionnaire were included in the study.

## Results

**Table (1): Nurses social data.**

Variables	Number	%
Age in years:		
• 20->30	68	68.0*
• 30->40	24	24.0
• 40-	8	8.0
Nationality		
• Saudi .	69	69.0*
• None Saudi .	31	31
Pediatrics departments :		
• Medical ward.	17	17.0
• Intensive care unit.	37	37.0*
• Emergency room.	17	17.0
• Surgery.	13	13.0
• Acute kidney unit.	16	16.0
Years of experience:		
• 1->5.	81	81.0*
• 5->10.	6	6.0
• 10->15.	8	8.0
• 15-	5	5.0

Table 1, represent studied subjects social data this table illustrate that more than two third of nurses aged 20->30 years (68%) and had Saudis nationality (69%) also more than one third of them working in pediatric intensive care unit (37%) and 81% of them had 1->5 experience in their work

**Table (2): Nurses knowledge regarding evidence based practice.**

<b>Variables:</b>	<b>Number</b>	<b>%</b>
Definition :		
Complete correct answers.	20	20.0*
Incomplete correct answers.	46	46.0
Wrong answer.	34	34.0
Basic steps of EBP.		
Complete correct answers.	18	18.0*
Incomplete correct answers.	19	19.0
Wrong answer.	63	63.0
Sources of nurses knowledge :		
Work.	3	3.0
Study.	8	8.0
Workshop.	35	35.0
Internet.	50	50.0*
No sources.	4	4.0

Table 2 clarify nurses knowledge about EBP from this table it was clear that only one fifth of the studied subjects (20%) had complete correct answers regarding definition of EBP, less than one fifth from them also (18%) had complete answer regarding basic steps of EBP and half of them depend on the internet as sources of their knowledge.

**Table (3): Nurses attitude toward implementation of EBP in their clinical setting.**

<b>Variables:</b>	<b>Disagree%</b>	<b>Neutral %</b>	<b>Agree %</b>
1. Application of EBP is necessary in nursing care.	6.0	19.0	75.0*
2. Research finding is necessary in my day to day practice.	5.0	15.0	80.0*
3. I need to increase EBP in clinical setting.	9.0	15.0	76.0*
4. I interested in learning skills for incorporate EBP in practice.	11.0	14.0	75.0*
5. EBP improve the quality of patient care.	11.0	16.0	73.0*
6. EBP help me in decision making.	8.0	18.0	74.0*
7. EBP not pay attention for limitations in clinical setting.	7.0	13.0	80.0*
8. EBP not pay attention for nurses abilities to implement it.	8.0	18.0	74.0*
9. EBP not cover all parts of care.	24.0	16.0	60.0
10. EBP not pay attention for patient preferences.	11.0	15.0	74.0*



Table 3, clarify nurses attitude toward implementation of EBP in clinical setting , it was clear that more than two thirds of nurses had positive attitude toward EBP and agree that; application of EBP is necessary in nursing care (75%) , research finding is necessary in their day to day practice(80%), they need to increase EBP in their clinical setting(76%), they interested in learning skills for incorporate EBP in practice (75%) and EBP improve the quality of patient care(73%). But more than two thirds of nurses agreed that EBP not pay attention for limitations in clinical setting(80%), EBP not pay attention for nurses abilities to implement it (74%) and EBP not pay attention for patient preferences(74%).

**Table (4):Nurses beliefs regarding values of EBP in their clinical setting.**

<b>Variables:</b>	<b>disagree %</b>	<b>Neutral%</b>	<b>agree %</b>
1. I know exactly steps of EBP.	30.0	10.0	60.0*
2. I'm sure that I can implement EBP in patient care.	29.0	1.0	70*
3. I'm sure about how to measure outcomes of clinical care.	30.0	10.0	60.0*
4. I'm sure that I know how to implement EBP in patient care.	30.0	10.0	60.0*
5. I'm confident about my ability to implement EBP.	35.0	10.0	55.0
6. I'm sure that implementing evidence will improve patients care.	25.0	10.0	65.0*
7. I'm belief I can search about nursing problems.	30.0	25.0	45.0
8. I belief the care I deliver depend on EBP.	26.0	14.0	60.0*
9. I'm sure I can implement EBP in time efficient way.	43.0	1.0	56.0
10. I belief that applying EBP takes too much times.	35.0	2.0	63.0*
11. I belief that EBP is difficult to apply.	34.0	4.0	62.0*

As clear from table 4; 60 % of the studied subjects believe that they know exactly steps of evidence , 70% believe that they can implement EBP in patient care , 60 % believe that they able to measure outcomes of clinical care , 60 % also sure that they know how to implement EBP in patient care,65% of them sure that implementing evidence will improve patients care and believe that the care they deliver depend on EBP. From this schedule also 63% & 62% of nurses believed that applying EBP in clinical setting takes too much times to implement it and it is difficult to apply EBP respectively.

**Table (5):Nurses perceived barriers for adopting EBP in their clinical setting.**

<b>Variables:</b>	<b>Disagree %</b>	<b>Neutral%</b>	<b>agree %</b>
1. I have no time for internet search during work.	15.0	5.0	80.0*
2. I can't understand statistics terminology.	27.0	10.0	63.0*
3. I can't understand researches terminology	30.0	4.0	66.0 *
4. There is difficulty about quality of internet researches	12.0	16.0	72.0*
5. Hospital routine not permit to apply new issues we don't assure about its positive results.	17.0	4.0	79.0*
6. I have no sufficient sources about EBP	18.0	10.0	72.0*
7. I have not ability for explanation of research results.	32.0	7.0	61.0*
8. There was a difficulty about the degree of researches applicability in nursing practice.	10.0	15.0	75.0
9. There is no ability to use research recommendations in practice	14.0	6.0	80.0*
10. I have no authority for change hospital routine of care.	5.0	9.0	86.0*
11. There is no need for change routine of care in hospital	12.0	8.0	80.0*
12. Lack of administrative support if change routine.	30.0	7.0	63.0*

Table 5 reflects nurses perceived barriers for adopting EBP in clinical setting; the majority of nurses agreed that the most common barriers were; they have no authority for change hospital routine of care (86%), followed by no time for internet search during work (80%), There is no ability to use research recommendations in nursing practice (80%) and there is no need for change routine of care in hospital (80%). 79 % of nurses agreed that hospital routine not permit to apply new issues and there was difficulty about the degree of researches applicability in nursing practice constitute a barrier as reported by 75 % of them. Also 72% of them agreed that there was difficulty about quality of internet researches and have no sufficient sources about EBP. The less common barriers as reported by nurses were they can't understand researches terminology(66%) & statistics terminology(63%) , have not ability for explanation of research results(61%) and lack of administrative support if they changed routine daily care (63%).

**Table (6): Nurses implementation of EBP in their clinical setting.**

Variables:	Number	%
1. Number of nursing topics you read monthly.		
• 1-5.	38	38.0*
• 6-10.	35	35.0
• 10+.	27	27.0
2. Number of monthly internet search about new nursing research:		
• 1-5.	40	40.0*
• 6-10.	36	36.0
• 10+.	24	24.0
3. Collect information about daily nursing problems:		
• No	51	51.0*
• Rarely .	30	30.0
• Always.	19	19.0
4. I used EBP in my patients daily care:		
• No	52	52.0*
• Rarely .	30	30.0
• Always.	18	18.0
5. I discuss with my colleges how to use EBP in patient care:		
• No	54	54.0*
• Rarely .	26	26.0
• Always.	20	20.0

Table 6 clarify nurses implementation of EBP in their clinical setting about; one third of nurses read from 1-5 topics monthly (38%) and monthly do 1-5 times internet search about nursing topic (40%). Also more than half of nurses (51%)not collect information about daily nursing problems, 52% not used EBP in patients care and (54%)not discuss with their colleges how to use EBP in patient care.

### Discussion

Having a positive attitude towards EBP and being able to see its value in children care is an important requirement for the implementation of evidence-based practice among nurses. The current study aimed to assess Knowledge, attitude, beliefs, perceived barriers and implementation of EBP among nurses at pediatric hospital of king Saud Medical City. From this study results the majority of the studied nurses aged 20->30 years , had Saudis nationality , working in pediatric intensive care unit and had 1->5 experience in their work.

Regarding the nurses knowledge about EBP only one fifth of them had complete correct answers regarding definition of EBP, less than one fifth from them know basic steps of EBP and

half of them depend on the internet as sources of their knowledge; so the first research question was rejected. Stokke et. al., in 2014 [3] , mentioned nurses lack knowledge about EBP, seldom incorporate research findings into practice, and they tend to use knowledge derived from experience and social interactions also Dalheim et. al., in 2012 [23], concur with the current study findings where they mentioned nurse practitioners rarely use research and rely on other sources of information as their own and their colleagues' practical knowledge, knowledge gained from their nursing education, and guidance from experts. Panagiari in 2008 [19];reported there is lack of education, knowledge, skills and interest in use of research findings. More than half of the respondents had finished the nursing school before the establishment of research related courses in their curriculum regarding Majid et. al., in 2011 [12], established that nurses has a limited knowledge about evidence based practice .

The majority of the studied subjects had appositive attitude and beliefs toward applying EBP in their clinical setting and they agreed that; application of EBP is necessary in nursing care, research finding is necessary in daily practice, interested in learning skills for incorporate EBP in practice and believe that EBP improve the quality of patient care so the second and third research questions were answered. But nurses also had limitations in applying EBP in clinical care setting and agreed that EBP not pay attention for limitations in clinical setting, EBP not pay attention for their abilities to implement it and also EBP not pay attention for patient preferences. Regarding nurses beliefs about values of EBP, the majority of them sure that they know exactly steps of evidence , believe that they can implement EBP in patients care , sure that they know how to measure outcomes of clinical care and agreed that they know how to implement EBP in patient care but they also think EBP takes too much times to implement in practical setting and believes that EBP is difficult to apply.

Stokke et.al., in 2014 [3], mentioned nurses generally report positive attitudes and beliefs towards EBP and they recognize the importance of EBP for quality of care. Maaskant et. al., in 2012 [16], also supports the current study results and mentioned; pediatric nurses believed that EBP will improve quality of care. Jette et. al., in 2003[21], go with the current study finding and mentioned respondents stated they held generally positive attitudes and beliefs regarding EBP, with a majority agreed that EBP is necessary, literature is useful to practice, EBP improves

the quality of patient care, and evidence helps in decision making they also added a large proportion of their respondents indicated that they were interested in improving their skills related to incorporating evidence into practice and that they needed to incorporate more evidence. McColl et. al., in 1998 [24] found that most physician, general practitioners and nurses surveyed in the United Kingdom agreed that practicing using evidence improved patient care and most of them were “welcoming” toward EBP. Hussein & Hussein in 2013 [1] and El-Nemer et. al., in 2009 [25] mentioned; most of the studied physicians and nurses had a positive attitude and interested in learning and improving skills necessary to apply EBP.

Regarding nurses perceived barriers to implement evidence in the their clinical setting the most common barriers were; they have no authority for change hospital routine, have no time for internet search during work, there is no ability to apply research recommendations in practice, their opinions that there is no need for change routine of care, hospital routine not permit to apply new issues, there was difficulty about quality of internet researches, have no sufficient EBP sources, they can't understand researches terminology, statistics & results and lack of administrative support if they try to change routine. Wante in 2011 [17] mentioned; nurses barriers to adopt EBP in the their clinical include; insufficient time to implement, inadequate knowledge, insufficient time to read research, limited access to research findings, lack of administrative support, lack of self-confidence, difficulty in understanding research and statistics. Also Stokke et. al ., in 2014[3], agreed that lack of time to read literature and lack of authority to change practice were hinder to use EBP among nurses . Maaskant et.al .,in 2012[16], found lack of managerial support as the main nursing obstacle to using evidence, other frequently mentioned barriers are lack of research skills & awareness , accessibility of research findings, and the poor applicability of the results.

Kim et. al., in 2013 [7] found the most frequently reported barriers are lack of time, lack of authority to change practice, lack of knowledge and skills in accessing and reading research reports. Also Suwanraj in 2010 [4] & Heiwe et.al ., in 2011[26] agreed with the current finding ;lack of time has been shown to be one of the major barriers perceived by nurses regarding applying EBP in the their clinical . The current study finding supported by Jette et. al ., in

2003[21], Granger, 2011[13], and Panagiari in 2008 [19], whom found lack of time, lack of research skills and lack of critical appraisal are the top 3 barriers . Hussein & Hussein in 2013[1] and Kim et al., in 2013 [7] reported lack of time, lack of authority to change, and lack of knowledge and skills in accessing and reading research reports the most common nurses barriers to apply EBP in their clinical setting.

From the current study findings the minority of nurses read from 1-5 nursing topics monthly and do 1-5 times internet search about nursing topic. More than half of them not collect information about daily nursing problems, not used EBP in patients care and not discuss with their colleges how to use EBP in patient care so the fifth research question was rejected. Parkes, & Codone in 2014 [9], Granger, in 2011[27] and Suwanraj in 2010[4] agreed with the current study finding where they mentioned that large proportion of nurses lack the knowledge and skill sets to provide evidence based care . Furthermore, several reports have demonstrated the current state of EBP competence and use is relatively suboptimal. Maaskant et. al., in 2012[16] mentioned less than 50% of the pediatric nurses daily practice is based on evidence as mentioned.

### **Study limitations:**

The most important limitation is no opinion” answers in the study questionnaires which could indicate the lack of research knowledge and skills. However, the study has produced some information, which though it may be limited to a degree, it is possible to use it in developing strategies for promoting evidence-based practice.

### **Conclusion**

The majority of studied nurses have positive attitude and beliefs toward EBP despite this about two thirds of them not aware about the correct definition of EBP and not aware about steps of using EBP in their daily care. Nurses may not have the appropriate research skills that are so important to support their professional role but if they want to be update, they should integrate evidence-based practice to their daily activities and they should have the abilities to understand, critically evaluate and integrate relevant research findings.

**Recommendations:** from the study results it is recommended that:

1. Well prepared evidence based programs has great importance on nurses awareness about research skills and accessibility.
2. Hospital administrators should give nurses sufficient time to learn skills of evidence based practice and encouraged an evidence based practice environment through supporting nurses'

suggestions or recommendations for change in a clear way to improve the patients' care and nurse satisfaction about care quality.

1. Hospitals should provide nurses with fund and expertise to master evidence based skills. On line researches conclusion should be available for all nurses and easily used by them.
2. The inclusion of EBP terminology, research design, and findings in graduate and postgraduate education should be available to increase nurses' knowledge about EBP.
3. Future activities should focus on effects of EBP on and patient-relevant outcomes.
4. Resistance to change is a normal behavior , however the nurses should provide the best quality care .The health care science is always evolving and challenging us to be progressive.

### **Acknowledgment**

I would like to thanks firstly God for completion of this work, secondly thank all nurses whom willing to participate in the study and complete the questionnaires also great thanks for head nurse who facilitate data collection process.

### **References:**

- [1] Hussein, G., &Hussein, R(2013) The Attitudes and Barriers towards Evidence-Based Practice among Nursing Educators, Journal of American Science . 9(12), 609-618.
- [2] Rospendowski ,K. , Alexandre, N. ,&Cornéliom M (2014)Cultural adaptation to Brazil and psychometric performance of the "Evidence Based Practice Questionnaire, Actapaul. enferm., 27 (5), <http://dx.doi.org/10.1590/1982-0194201400068>

- [3] Stokke, K., Olsen, N., Espehaug, B., & Nortvedt, M (2014) Evidence based practice beliefs and implementation among nurses: a cross-sectional study, *BMC Nursing* , 13:8 doi:10.1186/1472-6955-13-8, <http://creativecommons.org/licenses/by/2.0>.
- [4] Suwanraj, M(2010) Current practice, perceived barriers, and perceived facilitators of Thai nurses on using evidence-based practice on pain assessment and pain management in older adults, *University of Iowa Iowa Research*.1-204.
- [5] Torrente, S., Beltrán , J., Veny, M, Barceló, R., José M., Asencio, J., and Gómez (2012) Perception of evidence-based practice and the professional environment of Primary Health Care nurses in the Spanish context: A cross-sectional study, *BMC Health Services*, 12:227 doi:10.1186/1472-6963-12-227, <http://www.biomedcentral.com/1472-6963/12/227>.
- [6] Courtney, M., & McCutcheon ,H (2010) *Using evidence to guide nursing practice*, Sydney Edinburgh New York Philadelphia, Churchill living stone, Elsevier Australia.7-26.
- [7] Kim, S., Brown, C., Ecoff, L., Davidson, J., Gallo, A., Klimpel, K., & Wickline, M (2013) Regional Evidence-Based Practice Fellowship Program: Impact on Evidence-Based Practice Implementation and Barriers, *Clinical Nursing Research*. 22(1), 51–69.
- [8] Jensen. L (2011) Perceptions of barriers to evidence based practice among critical care nurses, A project submitted in partial fulfillment of the requirements for the degree of master of nursing Washinton state university, collage of nursing.1-22.
- [9] Parkes, N., & Codone, S (2014) Web-based evidence based practice educational intervention to improve EBP competence among BSN-prepared pediatric bedside nurses: a mixed methods pilot study, *Journal of Nursing*. 1 ( 2),1-9.
- [10] Agyei, D., Kofi, C., Fiankor, D., Osman.H (2015) The Experience of Information Literacy in Evidence-Based Practice (EBP) Among Professional Nurses in the Ho Municipality of Ghana, *University of Nebraska – Lincoln Digital Commons @University of Nebraska – Lincoln, Library Philosophy and Practice (e-journal)*.1- 21.
- [11] Lynch,H (2012) Nurses’ Beliefs about and Use of evidence-based practice. In *Doctoral Dissertations Paper*. University of Connecticut, ProQuest, UMI Dissertations Publishing; 2012.



- [12] Majid, S., Foo, S., Luyt, B., Zhang, X., & Theng, Y (2011) Adopting evidence-based practice in clinical decision making: Nurses' perceptions, knowledge, and barriers, *J Med Libr Assoc.* 99(3), 229–236.
- [13] Melnyk, M., Overholt, F., & Mays, Z (2008) The evidence based practice beliefs and implementation scales: psychometric properties of two new instruments, *Worldviews Evid Based Nurs.* 5(4), 208-216.
- [14] Canadian Health Services Research Foundation (2002) Self-Assessment tool, original pilot version produced by the Canadian Health Services Research Foundation. 1-45.
- [15] Smirnoff, M., Ramirez, M., Kooplinae, L., Gibney, M., and McEvoy M (2007) Nurses' attitudes toward nursing research at a metropolitan medical center, *Appl Nurs Res.* 20 (1) ,24-31.
- [16] Maaskant, J., Knops, A., Ubbink, D. & Vermeulen, H (2012) Evidence-Based Practice: A Survey Among Pediatric Nurses and Pediatricians, *Journal of Pediatric Nursing* xx, (xxx).1-8.
- [17] Wente, S (2011) Exploration of contextual factors and the use of evidence-based non pharmacological pediatric pain management practices in emergency departments, University of Iowa, Iowa Research online. 1-126.
- [18] McLeod, S., (2014): Attitude and behavior, available at <http://www.simplypsychology.org/attitudes.htm>
- [19] Panagiari, D (2008) Barriers and Facilitators for Implementing Evidence-Based Practice Among German Nurses working in a General Hospital. 1-47.
- [20] Tiwari, R., Masih, L., Rao, S., & Chandra, H (2015) Assessment of change in knowledge and attitude towards Evidence-Based Practice about hospital practices of Nursing Personnel through a training workshop, *International Journal of Multidisciplinary Research and Development.* 2 (9), 91-96.
- [21] Jette, D., Bacon, K., Batty, C., Carlson, M., Ferland, A., Hemingway, R., Hill, J., Ogilvie, L., & Volk, D (2003) Evidence-Based Practice: Beliefs, Attitudes, Knowledge, and Behaviors of Physical Therapists, *journal of American physical therapy association and physical therapy.* 83(9), 786-805.
- [22] Melnyk, M., & Overholt, F (2003) EBP Beliefs Scale. Gilbert, AZ: ARCC llc

Publishing. 2003.

[23] Dalheim, A., Harthug, S., Nilsen, M., & Nortvedt, W (2012) Factors influencing the development of evidence-based practice among nurses: a self-report survey. BMC Health Serv Res. 12, 367 -372.

[24] McColl, A., Smith, H., White, P., & Field, J (1998) General practitioners' perceptions of the route to evidence based medicine: a questionnaire survey. BMJ. 316, 361-365.

[25] El-Nemer, A., Aboulkair, F. & Allam, A (2009) Perceptions of Physicians and Nurses towards, Evidence-Based Practice in Obstetrics and Gynecology Departments at Mansoura University Hospitals. Medical Journal of Cairo University. 77(4), 447-455.

[26] Heiwe, S., Kajermo, K., Lenne, R., Guidetti, S., Samuelsson, M., Andersson, I., & Wengstrom, y (2011) Evidence-based practice: attitudes, knowledge and behavior among allied health care professionals, International Journal for Quality in Health Care Advance, 10.1093/intqhc/mzq083: 1-12.

[27] Granger, B (2011) Practical steps for evidence-based practice: putting one foot in front of the other. AACN Adv Crit Care. 19, 314-24.

### *Authors Column*



**Dr/ Wafaa Hassan Alseraty.**

**Assistant Professor of  
pediatric nursing, faculty of  
nursing, Tanta university,  
Egypt.**