

## Nurses' Practice, Knowledge and Attitude towards Evidence-Based Practice at Yanbu general hospital –kingdom of Saudi Arabia

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**Abstract:** More than 25 years have already passed since research utilization has been discussed in the nursing literature with enhanced enthusiasm and demands for using research findings into practice. Moreover, the movement of evidence-based practice which started in 1990s has underlined the significance of integrating research utilization in practice. The aim of this work was to assess the knowledge, attitude and practice of nurses towards evidence based practice and factors influencing them. Methodology: A descriptive cross sectional study, carried out at Yanbu General Hospital in kingdom of Saudi Arabia. collection of data was carried out over a period of 3 months. Results: Study was carried out on 156 nurses, the response rate was 52%, participants below 30 years old were 134 (85.9%), those 30 – 40 years old were 16 (10.3%)and those above 40 years old were 6 (3.8%). They were 145 (92.9%) female nurses and 11(7.1%)male, the majority 120 ( 77%)were registered nurses and the majority 103 (66%) were earned diploma of nursing as their highest education, Most of them 113 (72.4%)work for more than 40 hours per week, the majority 124 (79.1%)have less than 5 years of experience. Studying factors influencing KAP of EBP among nurses revealed non significant difference between nurses either due to educational level or nationality neither in knowledge of terms related E.B.P., Attitude toward E.B.P. and practice of E.B.P. between bachelor earned and diploma, no difference between Saudian and non Saudian nurses as regards knowledge related E.B.P. Whereas Attitude of Saudian nurses toward E.B.P. shows significantly lower percentage than non Saudian, also practice of E.B.P. shows significantly higher percent of non Saudian (60.5%)their sum of self reported practice was always, versus 39.5% of Saudian. Age group difference for knowledge about E.B.P. related terms shows significantly increase percent of knowledge. Attitude towards E.B.P. significantly increase with age. Although self reported practice increase with age yet no significant difference observed.

Conclusion: The observed lack of the required knowledge and practice of evidence based practice among nurses in the current study raise the issue of applying evidence based practice in hospitals and other health care facilities and assessing that during reviewing the health institution for renewal of license or accreditation.

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**Key words:** nursing evidence-based practice, attitude, and knowledge

### 1. Introduction

Evidence-based practice is defined as the integration of best research evidence with clinical expertise and patient values and the conscientious, explicit, and judicious use of such evidence in making decisions about the care of individual patients. (1)

Evidence-based practice in nursing (EBP) has been presented as a decision-making model or a model for solving clinical problems(2).The basic steps involved in evidence-based nursing practice are defining a problem and 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 and patient's attitude and finally evaluating the whole process and the results (3).

In the United States of America, the Institute of Medicine, American Nurses Credentialing Center (ANCC), and the Joint Commission on Accreditation of Healthcare Organizations recognize evidence-based practice as a critical step in improving healthcare quality. The Institute of Medicine recognizes evidence-based practice as an essential competency for healthcare providers in the 21<sup>st</sup> century (4)The reasons why nurses should integrate research findings in their routine practice are several.

Utilization of research findings increases the quality of health care, provides increased efficiency in patient care and professional attitudes of the nurses are developed and Nursing research produces knowledge that nurses can use in their routine work (5,6)The Joint Commission has consistently supported the implementation of evidence-based practice in nursing as a means of improving healthcare systems,

Evidence-based practice has repeatedly been shown to improve patient outcomes. The Joint Commission has consistently supported the implementation of evidence-based practice in medicine and nursing as a means of improving healthcare systems. Evidence-based practice has repeatedly been shown to improve patient outcome. 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 (7).

#### **Significance of study:-**

Nursing is full of completing demands, and the benefits of using evidence based practice are not always apparent. Adoption of an evidence based practice is sometimes misinterpreted as rejection of intuition and experience (8). In a previous study carried out in Saudi Arabia to assess knowledge, attitude and practice of doctors and nurses in primary health care centers revealed poor doctors, nurses knowledge and satisfactory attitude and practice regarding hypertension of pregnancy. (9)

## **2. Subject and Methods**

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

To assess knowledge, attitude and practice of nurses toward evidence based practice. And to find out possible factors influencing their knowledge, attitude and self reported practice.

### **Sample:**

The overall potential number of nurses caring for patients at the time of data collection in all hospital was 300. The returned completely filled questionnaire was 156. Therefore response rate was 52%.

### **Type of the study:**

A descriptive cross sectional study.

### **Setting:**

This study was carried out at Yanbu General hospital located in Yanbu governorate, Madinah Monawarah, kingdom of Saudi Arabia.

### **Study tool:**

Structured self administered questionnaire: Modified evidence-based practice questionnaire for nurses developed according to Upton, D (12), which used to assess knowledge, attitude and practice of nurses regarding evidence based practice. It consists of four main sections:

#### **First:**

Socio-demographic characteristics, educational level, experiences and work related factors.

#### **Second:**

Nurses knowledge: it include enquiring about availability of resources for information, first time of learning nursing research, definition of evidence based practice, some evidence based practice related term as

relative risk, systemic review, odds ratio, publication bias ect., and Barriers to apply evidence based practice in the hospital was assessed (13 items).

#### **\*Scoring system for reply:**

Measuring the score of nurse's knowledge toward evidence based practice.

Sum knowledge was calculated and percentiles was estimated. 25<sup>th</sup> percentile was found to be 13, 50<sup>th</sup> percentile was 15, 75<sup>th</sup> percentile was 21. Three categories was formulated: <25<sup>th</sup> percentile considered poor knowledge, 25 - 75<sup>th</sup> percentile considered around average, >75<sup>th</sup> percentile considered good knowledge.

#### **Third:**

Nurses Attitude towards evidence based practice: it include statements about attitude towards use and benefits of evidence based practice. (8 items).

#### **\*Scoring system:**

Sum attitude was calculated and percentiles was estimated with resultant three categories: 25<sup>th</sup> percentile was 16, 50<sup>th</sup> percentile was 24.75<sup>th</sup> percentile was 30, <25<sup>th</sup> percentile considered negative attitude, 25<sup>th</sup> - 75<sup>th</sup> percentile considered Natural, >75<sup>th</sup> percentile considered positive attitude.

#### **Fourth:**

Nurse's self reported practice of evidence based practice: including formulate a key clinical question, perform literature search efficiently, critically appraise an article dealing with new diagnostic intervention, synthesizing research article, sharing information with peer nurses, integrating evidence into clinical decisions ect. (10 items). and statements about clinical practice guidelines e.g. availability of it in the facility, actively seek for it, use it in practice and able to access it online. (5 items).

\*Scoring system: sum score of nurse's self reported of practice of evidence based practice: Sum self reported practice was calculated and percentiles was estimated. 25<sup>th</sup> percentile was 13, 50<sup>th</sup> percentile was 15, 75<sup>th</sup> percentile was 21. <25<sup>th</sup> percentile considered poor self reported practice, 25<sup>th</sup> - 75<sup>th</sup> considered around average >75<sup>th</sup> considered good self reported practice.

### **Methods:**

1. Approval to carry out the study was obtained by submission of official letters issued from Dean of faculty of Applied Medical Sciences, Taibah University to the director of Yanbu general hospital.
2. Ethical issues was raised by taking verbal consent for participation from every nurse after explaining the aim of the study and confirming confidentially of their data. The researchers emphasized that the participation is voluntary and they have the right to withdraw at any time.

3. A pilot study was conducted for 3day /week for 2weeks and comprised 30Nurses. It aimed at testing applicability of the questionnaire and clarity of its contents and to estimate the time needed to complete it . Time needed to complete the questionnaire was 20 minutes in the average. Modifications were done accordingly and the final form was developed. Data of the pilot study were not included in final results.
4. Over three work shifts, (in Morning shift from 10 Am. - 12 pm. ,in afternoon shift from 4pm. - 6 pm., In night shift from 9-11pm distribution of the questionnaire was carried out three days per week .
5. The data were collected in twelve weeks starting from beginning of March 2012 to the end of May 2012.
6. **Statistical analysis:** Data collected were coded & reviewed prior to computerized entry. Statistical package for social science (SPSS version 18) was used for statistical analysis. Quantitative data were expressed as mean; standard deviation (SD) Qualitative data were expressed as frequency number and percentages .Chi square test was used to analyze cross tables and testing relationships. Significant level was considered at  $p < 0.05$ , and a highly significant level value was considered when  $p < 0.001$ .

#### 7. Operational definitions:-

- 1-**Evidence-based practice:** - is defined as the integration of best research evidence with clinical expertise and patient values and the conscientious, explicit, and judicious use of such evidence in making decisions about the care of individual patients (10).
- 2-**Relative risk:** is the ratio of chance of a disease developing among members of a population exposed to a factor compared with a similar population not exposed to the factor (11).
- 3-**Absolute risk:** The observed or calculated probability of occurrence of an event X, in a population related to exposure to a specific hazard (12) .
- 4- **Odds ratio:** a method of expressing probability (12) .
- 5-**Confidence interval:** a statistical range with a specified probability that a given parameter lies within the range (12).

#### 3. Results:

From Table (1) Study was carried out on 156 nurses their response rate was 52%, participants whose age was below 30 years old were 134 (85.9%), those 30 – 40 years old were 16 (10.3%) and those above 40 years old were 6 (3.8%), They were 145 (92.9%) female nurses and 11(7.1%) males, the majority 120

( 77%) were registered nurses and the majority 103 (66%) were earned diploma of nursing as their highest education as shown in table (1), Most of them 113 (72.4%) work for more than 40 hours per week , the majority 124 (79.1%) have less than 5 years of experience (Table 1). About half of participants (53.8%) reported that they first learn E.B.P in the university only 23.7 % first learn E.B.P during their practice in hospital , near one thirds of participants reported the process of research evidence ,clinical expertise and integration of patient needs and perspective in making clinical decision as 35.3 , 30.1 , 34.6 in consequence , The resources available to access information were professional journals , Internet in facility and internet outside the facility as reported by 37.8% , 43,6% and 70.5% in consequence , Knowledge of some related terms to E.B.P. revealed highest percentage of clearly known and understandable was for relative risk by 32.1% of participants and the lowest percentage of clearly understand is for heterogeneity as reported by only 10.3% (Table 2). Near fifty percent (48.1%) agree with interested in learning or improving the skills necessary to incorporate E.B.P. Into my practice , also (47.4%) agree with application of E.B.P. is necessary in nursing practice, whereas (72.4%) disagree of feeling disinterested in nursing research , followed by (53.3%) disagree for doesn't take into account patient preferences as shown in table (3). Regarding reported practice of E.B.P. shown in table (4) as highest percentage (13.5%) always done for find best clinical evidence to answer the question , also (13.5%) always evaluating outcome of practice , while highest percentage (61.1%) of sometimes done for critically-appraise an article dealing with new therapeutic mean while highest percent (51.3%) of rarely done for evaluating outcome of practice (Table 4) . Significantly higher number of non Saudian nurses agree regarding the application of E.B.P. is necessary in nursing practice, also significantly higher number of non Saudian agree regarding the literature and research findings are usually in their day to day , whereas non significant difference was observed between non Saudian and Saudian ( $x^2=1.1$ ) as regards feeling disinterested in nursing research (Table 5) .

Table (6) revealed that formulation of key clinical question was always used by (55.4%) of non Saudian nurses versus (44.6%) of Saudian nurses with no statistical significance and rarely used by 42.9% non Saudian versus 57.1% of Saudian , The finding best clinical evidence to answer the question was always by increase higher percent (62.1%) of non Saudian compared to ( 37.9%) literature search was reported as always by 56.6% of non Saudian compared to 43.4% of Saudian and rarely done by 53.3% of non Saudian compared to 46.7% of Saudian with no statistical significant difference , no statistical

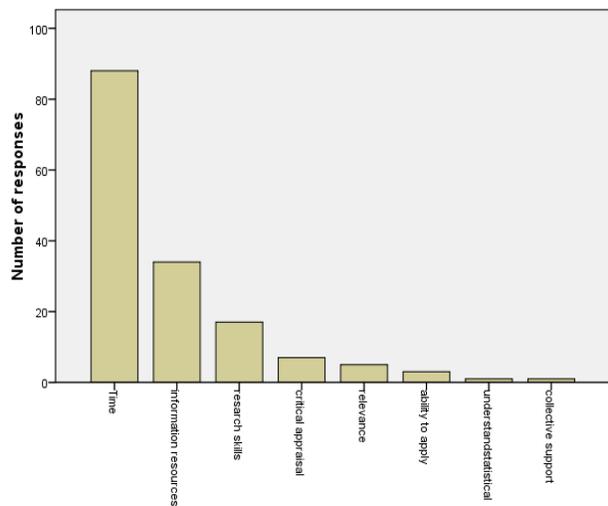
significant difference was observed for increase critically appraising an article dealing with new therapeutics was always carried out as reported by half of non Saudian 50.9% compared to 41.9% of Saudian and rarely done by 53.3% of non Saudian compared to 46.7% of Saudian , Also critically appraising an article dealing with new diagnostic intervention which was always done by 59.3% of non Saudian compared to 40.7% and rarely done by 41.2% of non Saudian as compared to 58.8% of non Saudian as they reported , Non significant difference was also observed for research article where it was reported as always done by 49% of non Saudian versus 51% of Saudian and rarely done by 31.6% of non Saudian versus 68.4% of Saudian , Higher percent of non Saudian report applying E.B.P. to patient care as reported by 60.8% always carried by non Saudian compared to 39.2% non Saudian and rarely done as reported by only 30% of non Saudian versus 70% of Saudian with statistical significance different ( $p<0.05$ ). Also higher percent of non Saudian report integrated evidence into clinical decisions ,sharing information with peer

nurses and evaluating outcome of practice with statistical significance ( $p<0.01$ ). Non significant difference was observed between nurses according to their high educational level neither in knowledge of terms related E.B.P., Attitude toward E.B.P. and practice of E.B.P.

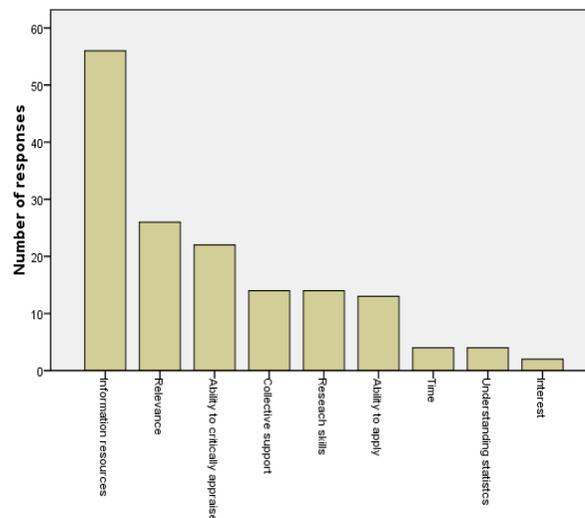
Also non significant difference was shown between Saudian and non Saudian nurses as regard knowledge related E.B.P. Whereas Attitude of Saudian nurses toward E.B.P. shown significantly lower percent than non Saudian whereas ( agree was 37.8% of Saudian and disagree was 68.1% for Saudian , Also practice of E.B.P. shows significantly higher percent of non Saudian always in sum self reported practice 60.5% versus 39.5% of non Saudian , Age group difference for knowledge about E.B.P. related terms shows significantly increase percent of knowledge with age with increase trend with age. Attitude towards E.B.P. significantly increase with age although self reported practice increase with age yet no significant difference observed (Table 7.)

Table (1) General characteristics of participant nurses

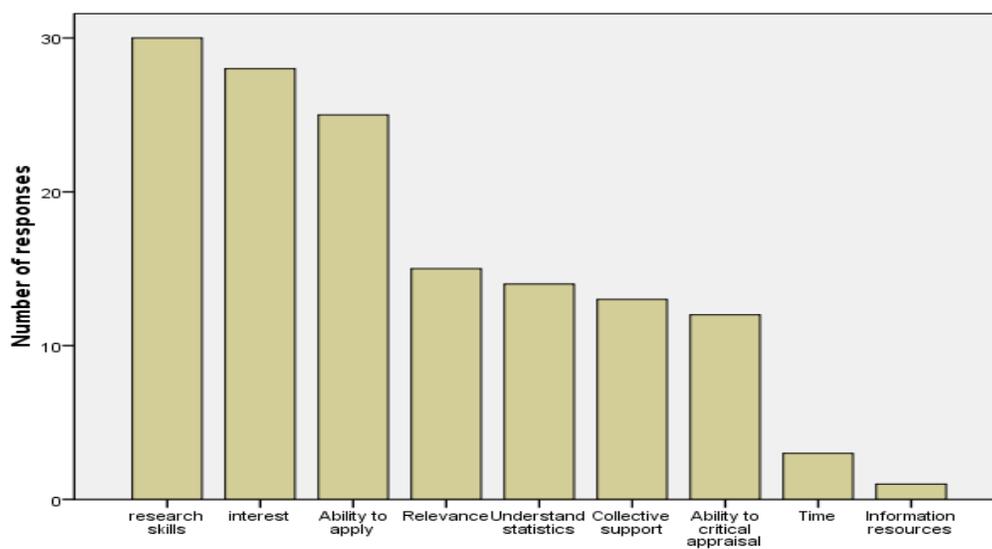
Parameters	Number	%
Age :		
< 30 year	134	85.9
30 - 40 year	16	10.3
> 40 year	6	3.8
Gender :		
Male	11	7.1
Female	145	92.9
Nationality :		
Saudian	78	50
Others	78	50
Position :		
Director of nursing	2	1.2
Nurse manage	6	3.8
Charge nurse	14	9
Head nurse	14	9
Register nurse	120	78
Highest educational degree earned :		
Diploma	103	66
B. S. N.	52	33.3
Master	1	0.6
Years of experience in current practice area:		
< 5 years	124	79.1
5 - 10 years	28	17.9
> 10 years	4	3
Had Saudian commission for health specialist license		
No	34	21.8
Yes	122	78.2
Work hours per week :		
20 - 30 hour	1	0.6
31 - 40 hour	42	26.9
> 40 hour	113	72.4



**Figure (1) First ranked main barrier against evidence based practice**



**Figure (2) Secondly ranked main barrier against evidence based practice**



**Figure (3) Thirdly ranked main barrier against evidence based practice**

**Table (2): Assessment of nurses' knowledge related to evidence based practice:-**

Assessment of nurses' knowledge about evidences based practice:-	No	%				
1-First learn nursing research :						
No where	32	20.2				
In the university	84	53.8				
During practice	37	23.7				
Others	3	1.9				
2-The process of E.B.P. in making clinical decisions includes :						
research evidence	55	35.3				
clinical expertise	47	30.1				
integrate patient needs & perspectives	54	34.6				
3-Availability of resources to access information through :						
professional journals	59	37.8				
internet in facility	68	43.6				
internet outside the facility	110	70.5				
4-knowledge of some terms related to E.B.P						
	Level of Understanding					
	Clearly understood		somewhat		not understood	
	No	%	No	%	No	%
Relative risk	50	32.1	56	35.9	50	32.1
Absolute risk	40	25.6	61	39.1	55	35.1
Odds	23	14.7	55	35.3	78	50
Meta analysis	24	15.4	48	30.8	84	53.8
Confidence interval	28	17.9	47	30.1	81	51.9
Heterogeneity	16	10.3	54	34.6	86	55.1
Publication bias	26	16.7	53	34	77	49.4

**Table (3):- Attitude of nurses towards use & benefits of Evidence Based Practice**

Attitude of nurses towards use & benefits of Evidence Based Practice :-	Disagree	Neutral	Agree
1-Application of EBP is necessary in nursing practice	35.3%	17.3%	47.4%
2-Literature and research findings are usually in my day to day practice	39.7%	25%	35.3%
3-I need to increase the use of evidence in my daily practice	38.4%	19.3%	42.3%
4- Interested in learning or improving the skills necessary to incorporate EBP into my practice.	33.4%	18.5%	48.1%
5-E.B.P. Improves the quality of patient care.	35.9%	19.2%	44.9%
6-Helps me make decisions about patient care.	40.3%	16.7%	43%
7-Doesn't take into account patient preferences.	53.3%	28.8%	17.9%
8- I feel disinterested in nursing research.	72.4%	17.3%	10.3%

**Table(4): Self reported practice of Evidence Based Practice among studied nurses**

Self reported practice items	Always		Sometimes		Rarely	
	No	%	No	%	No	%
1-Formulate a key clinical question	14	9	77	49.4	65	41.7
2-Find best clinical evidence to answer the question	21	13.5	69	44.2	66	42.4
3-Perform literature search efficiently	15	9.6	88	56.4	53	34
4-Critically appraise an article dealing with new therapeutic	15	9.6	86	61.1	55	35.3
5-Critically appraise an article dealing with new diagnostic intervention	17	10.9	85	54.5	54	34.6
6-Synthesizing research article	19	12.2	88	56.5	49	31.4
7-Apply EBP to patient care	10	6.4	72	46.2	74	47.4
8-Integrating evidence into clinical decisions	13	8.3	68	43.6	75	48
9-Share information with my peer nurses	17	10.9	68	43.6	71	45.5
10-Evaluating outcome of practice	21	13.5	55	35.2	80	51.3

Table (5): Attitude towards Evidence Based Practice among nurses according to their nationality

Attitude towards use and benefits of EBP	Saudian		Non saudian		Significance
	No	%	No	%	
1-Application of EBP is necessary in nursing practice: Disagree Neutral agree	38 13 27	69.1 48.1 36.5	17 14 47	30.9 51.9 63.5	X2=13.4 p<0.001 H.S.
2-Literature and research findings are usually in day to day practice Disagree Neutral Agree	42 15 21	67.7 38.5 38.2	20 24 34	32.3 61.5 61.8	X2=12.9 p<0.05 significant
3-I need to increase the use of evidence in daily practice Disagree Neutral Agree	44 14 20	73.3 46.7 30.3	16 16 46	26.7 53.3 69.7	X2=23.4 p<0.001 H.S.
4- Interested in learning or improving the skills necessary to incorporate EBP into my practice. Disagree Neutral Agree	37 14 27	71.2 48.3 36	15 15 48	28.8 51.7 64	X2=15 p<0.001 H.S.
5-E.B.P. Improves the quality of patient care. Disagree Neutral agree	37 14 27	66.1 46.7 38.6	19 16 43	33.9 53.3 61.4	X2=9.57 p<0.05 significant
6-EBP helps in making decisions about patient care. Disagree Neutral agree	43 14 21	68.3 53.8 31.3	20 12 46	31.7 46.2 68.7	X2=17.8 p<0.001 H.S.
7-EBP doesn't take into account patient preferences. Disagree Neutral agree	38 25 15	45.8 55.6 53.6	45 20 13	54.2 44.4 46.4	X2=1.2 p>0.05 Insignificance
8- I feel disinterested in nursing research. Disagree Neutral Agree	55 13 10	48.7 48.1 62.5	58 14 6	51.3 51.9 37.5	X2=1.1 P>0.05 Insignificance

Table (6): practice of Evidence Based Practice among saudian and non saudian nurses :

Variables	Saudian		Non saudian		X2
	No	%	No	%	
1-Formulate a key clinical question Always Sometimes Rarely	8 41 29	57.1 53.2 44.6	6 36 36	42.9 46.8 55.4	X2=1.36 P>0.05 N. S.
2-Find best clinical evidence to answer the question Always Sometimes Rarely	13 40 25	61.9 58 37.9	8 29 41	38.1 42 62.1	X2=6.8 P<0.05 Significant
3-Perform literature search efficiently Always Sometimes Rarely	7 48 23	46.7 54.5 43.4	8 40 30	53.3 45.5 56.6	X2=1.7 p>0.05 N. S.
4-Critically appraise an article dealing with new therapeutic Always Sometimes Rarely	7 44 27	46.7 51.2 49.1	8 42 28	53.3 48.8 50.9	X2=0.13 p>0.05 N. S.
5-Critically appraise an article dealing with new diagnostic intervention Always Sometimes Rarely	10 46 22	58.8 54.1 40.7	7 39 32	41.2 45.9 59.3	X2=2.9 p>0.05 N. S.
6-Synthesizing research article Always Sometimes Rarely	13 40 25	68.4 45.5 51	6 48 24	31.6 54.5 49	X2=3.3 p>0.05 N. S.
7-Apply EBP to patient care Always Sometimes Rarely	7 42 29	70 58.3 39.2	3 30 45	30 41 60.8	X2=7 P<0.05 Significant
8-Integrating evidence into clinical decisions Always Sometimes Rarely	10 41 27	76.9 60.3 36	3 27 48	23.1 39.7 64	X2=12.5 P<0.01 Significant
9-Share information with my peer nurses Always Sometimes Rarely	12 45 21	70.6 66.2 29.6	5 23 50	29.4 33.8 70.4	X2=21.8 p<0.001 H.S
10-Evaluating outcome of practice Always Sometimes Rarely	12 38 28	57.1 69.1 35	9 17 52	42.9 30.9 65	X2=15.6 p<0.001 H.S

Table (7) :- Factors affecting knowledge, attitude and practice of evidence based practice among nurses

Variables	Knowledge about EBP						Significance
	Poor		Around average		Good		
Level of education:- Diploma B.C. Master	25 15 00	62.5 37.5 00	45 23 1	65.2 33.3 1.4	33 14 00	70.2 29.8 00	X <sup>2</sup> = 0.58 p >0.05 N. S.
Nationality : Saudian Non saudian	19 21 52.5	47.5	34 35	49.3 50.7	25 22	53.2 46.8	X <sup>2</sup> =0.3 p >0.05 N. S.
Age : < 30 year 30 - 40 year > 40 year	40 00 00	100 00 00	54 13 2	78.3 18.8 2.9	40 3 4	85.1 6.4 8.5	X <sup>2</sup> =15.5 p<0.05 Significance
Level of education:- Diploma B.C. Master	Attitude towards E. B. P						Significance
	Negative		Neutral		Positive		
Nationality : Saudian Non saudian	33 14 00	70 29.8 00	42 22 00	65.6 34.4 00	28 16 1	62.2 35.6 2.2	X <sup>2</sup> =0.47 p >0.05 N. S.
Age : < 30 year 30 - 40 year > 40 year	44 3 00	93.6 6.4 00	52 6 6	81.2 9.4 9.4	38 7 00	84.4 15.6 00	X <sup>2</sup> =9.4 p<0.05 Significance
Level of education:- Diploma B.C. Master	Self reported practice of evidence based practice						Significance
	Good		Around average		Poor		
Nationality : Saudian Non saudian	30 9 00	76.9 23.1 00	48 26 00	64.9 35.1 00	25 17 1	58.1 39.5 2.3	X <sup>2</sup> =2.9 p >0.05 N. S.
Age : < 30 year 30 - 40 year > 40 year	28 11	71.8 28.2	33 41	44.6 55.4	17 26	39.5 60.5	X <sup>2</sup> =9.4 p<0.05 Significance
Age : < 30 year 30 - 40 year > 40 year	36 3 00	92.3 7.7 00	65 5 4	87.8 6.8 5.4	33 8 2	76.7 18.6 4.7	X <sup>2</sup> =6.7 p >0.05 N. S.

#### 4. Discussion

In most developed countries, use of EBP is the goal of public services (6). In the past two decades, there has been a more conscientious attempt to use EBP in various health settings. (14). The degree to which EBP is used varies among practitioners and across practice settings. Thyer(15) noted that many federal agencies have emphasized the use of evidence-based interventions and are now linking their grants to translational research.

Although the utilization of research in nursing practice has increased, there are differences in the nurses' education level regarding research utilization. Moreover research was highly dependent on the culture of the hospital, and meaning the provision of resources (16).

Evidenced based nursing practice is an approach that enables nurses to provide the highest quality care based on the best evidence that is available, which in

turn, positively affects the outcome of nursing interventions. To improve patient outcomes currently and in the future, it is important that an evidence-based approach to nursing care be incorporated into clinical practice settings. Findings of the present study may contribute to the existing body of knowledge about evidence – based practice and add essential information about knowledge, practice, and attitude of nurses related to evidence-based practice.

This study included (156) respondents who returned complete, correct and valid questionnaires.

On assessing EBP two dimensions should be discussed, one related to the facility system and availability of information resources, and the second is concerned with individual knowledge, skills and practice.

Current study showed lower than expected percent of those first learn EBP during their nursing

academic study program, it was only 53.8%, while 23.7% first learn EBP during their work practice in the hospital and 20% didn't learn about EBP anywhere.

In this respect, previous studies (17-19) who evaluated nurses' knowledge and skills to critically appraise related research, found low scores of participants. They highlighted defective areas such as the need for additional learning as increased knowledge about available evidence, the skills to search for and critique research, the ability to read, interpret, and translate research into practice, and the skills to evaluate the strength of the evidence. Previous studies (20,21) who reported that many nurses are struggling or lack the knowledge and skills to implement evidence-based care. Numerous reasons for the failure to implement evidence-based practice (EBP) have been cited, including: (a) lack of knowledge regarding evidence-based strategies, (b) misperceptions of or negative attitudes about research and evidence-based care, (c) lack of knowledge regarding how to search for and appraise evidence, (d) demanding patient workloads, (e) organizational constraints (e.g., lack of administrative support or incentives), (f) patient expectations (e.g., parents who demand antibiotics for their child's upper respiratory infection when they are not indicated), (g) fears about practicing differently than peers, and (h) overwhelming amounts of information in medical and nursing journals as well as textbooks.

Main reported barriers against implementing EBP in the current study were lack of time, lack of information resources and poor research skills. All of which can be improved through the health facility. Without the support of hospital and administrators, which supply and encourage nurses to access current best evidence, it will take a concerted effort to fully use evidence-based nursing within clinical practice settings.

Current study shows that nurses' knowledge, attitude, and practice increase with age regarding evidence-based practice, statistically significant increase percentage of knowledge, and attitude among older nurses. The finding in this study is congruent with Koehn study (22) who surveyed general practice nurses in Australia to assess their knowledge and relationship to EBP and found that younger nurses rated their information technology skills higher than did older nurses. McEwen (23) surveyed nurses of various ages, experience, and level of education at a large hospital and found moderate scores on practice and attitude towards EBP, with lower scores on skills. In the current study, no significant difference was observed between nurses according to their levels of education, neither in knowledge of terms related to evidence-based practice, attitude or self-reported practice of EBP.

Although the utilization of research in nursing practice has increased, there are differences in the nurses' education level regarding research utilization. Moreover, research was highly dependent on the culture of the hospital, meaning the provision of resources and the support that nurses had (16).

In this respect, Koehn pointed out that many nursing scholars believe evidence-based nursing practice will fill the gaps that are present between research, theory, and practice. Unfortunately, many nurses in clinical practice do not understand the concept of evidence-based nursing or how to incorporate this approach into general clinical practice settings.

The results of this study revealed a positive attitude of participant nurses towards improving the skills necessary to incorporate EBP. This explanation is in line with the findings reported by Melnyk (20), which indicated that a positive attitude towards research utilization could enhance participation in EBP-related activities. Nationality shows a difference in this study, where a significant higher number of non-Saudian agree with application of EBP compared with Saudi, where they represent different schools of graduation.

No significant difference was observed between non-Saudi and Saudi towards their feeling disinterested in nursing research. Emphasis should be placed on the positive findings of this study that nurses are ready for change and willing and interested to implement EBP. In particular, insights gained from this study might help health care institutions support nurses to apply EBP in their practice.

## Conclusion

The observed lack of the required knowledge and practice of evidence-based practice among nurses in the current study raise the issue of applying evidence-based practice in hospitals and other health care facilities and assessing that during reviewing the health institution for renewal of license or accreditation.

## Recommendation:

In the light of the present study findings, the following suggestions are recommended:

The area of this research is needed with larger sample size and different methodologies to confirm the present results.

Descriptive research can provide a baseline assessment for strategic planning efforts to move organizations toward evidence-based practice and identify the best strategies for implementing EBP.

Furthermore, education about research, either as part of typical nursing education or through continuous education and workshop for nursing staff is of great importance.

Administrators can support the development of EBP by allowing nurses time to learn skills related to EBP, such as searching bibliographic databases or learning how to critically evaluate research studies

- 1- To add and inforce teaching E.B.P. in university courses for health science .
- 2- To incorporated E.B.P. in hospital policy and plans to improve care provided incorporated

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