

## Epidemiological Assessment of Nurses' Knowledge and Utilization of Evidence Based Practice and its Associated Factors in Specialist Hospital Bauchi State, Nigeria

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### Abstract

**Background:** Evidence based practice is conscientious, clear and judicious use of current best evidence in making decisions about the care of the individual patient. It integrates individual clinical experts with the best available external clinical evidence from systematic research. Evidence based practice in nursing is come up to make value decisions and given that nursing care based on personal clinical expertise in combination with the most current, relevant research available on the topic. Therefore, the Purpose of this study was to assess the knowledge and utilization of evidence-based practice and its associated factors among nurses in Specialist hospital Bauchi State, Nigeria.

**Methods:** Facility-based cross-sectional study design was conducted among nurses working in Specialist hospital Bauchi State from January, 2020 to February, 2020. Data was collected using a pretested structured questionnaire. Descriptive analysis was performed to obtain the frequency distribution of the variables.

**Results:** The result shows that 140 participants responded to the questionnaire. Nearly half (46.4%) of study participants had low knowledge regarding evidence based practice. 57.9% of respondents utilize EBP occasionally in their clinical practice.

**Conclusion:** The result of findings in this study revealed that nurses in Specialist hospital Bauchi State have low level of knowledge about evidence-based nursing practice. Also their utilization of evidence-based nursing was low. Hospitals need to manage to provide training about evidence practice which raises level of knowledge and utilization.

**Keywords:** EBP, Nurses, knowledge, utilization, Bauchi

### 1. INTRODUCTION

Evidence based practice (EBP) is conscientious, clear and judicious use of current best evidence in making decisions about the care of the individual patient. It integrates individual clinical experts with the best available external clinical evidence from systematic research (Stevens, 2013, Barnes and Lisa, 2012). The translation of evidence into practice has a role in ensuring quality care, patient safety, and improved patient outcomes. Various researchers claim the reality that EBP fosters value health care, better health outcomes, and reduced health care costs (Melnyk et al, 2014, Smith and Donze, 2010).

Evidence based practice in nursing is come up to make value decisions and given that nursing care based on personal clinical expertise in combination with the most current, relevant research available on the topic. Evidence based nursing implements the most up to date methods of providing care, which have been proven through appraisal of high quality studies and statistically significant research findings. Evidence based nursing is a process founded on the collection, interpretation, appraisal, and integration of valid, clinically significant, and applicable research. To properly implement Evidence based nursing, the knowledge of the nurse, the patient's preferences, and multiple studies of evidence must all be collaborated and

utilized in order to produce an appropriate solution to the task at hand. These skills are taught in modern nursing education and also as a part of professional training (*Hastings and Fisher, 2014*).

Evidence-based practice is acknowledged internationally. The accessibility of information and the development of science have led to considerable improvements in health outcomes all over the world. However differences in outcomes, health inequalities and weakly performing health services continue to present a real challenge to all nurses (*Jump and Melnyk, 2011*).

Through the time, new and more effective medicines, medical devices and procedures are invented to help doctors, nurses and medical technicians provide the best possible care and treatments to patients. In addition to using traditional and well established procedures and practice, health care practitioners are adopting innovative interventions that are based on practice as well as solid research- based evidence (*ICN, 2012*).

The progress of evidence-based health care has evolved over time. Principal themes for the decades of 1970-1980 were "doing things cheaper" (efficiency) and "doing things better" (quality improvement). These two themes together were considered "doing things right." During 1980- 1990, "doing the right things" (increasing effectiveness) was the major theme and this, in combination with "doing things right" was considered "doing right things right" in the 21st century. Thus, it can be said that this is an "evidence based era" (*Kania et al, 2006*).

Implementing EBP is not easy, because it depends on the readiness of the individual RN and senior leadership to embrace and help practice in a changing health care environment that is based on research. RNs are not ready for EBP due to the gaps in their information literacy and computer skills, their limited access to high quality information resources, and their attitudes towards research. Since nurses graduate from different academic programs, there is typically a gap between training and practice, and this creates variations in their knowledge. As a result how they practice, is based on what they learned in school and on their shared experiences in the clinical settings (*Mija, 2000*).

Researchers have argued that daily practice in nursing care is influenced more by tradition,

intuition and experience and less by scientific research. Study conducted in various countries like Norway, Canada, Germany (*Mija, 2000, Wallin et al, 2012*) revealed that implementing EBP in hospitals is a complex activity. Different issues have made integrating EBP in to clinical practice difficult. Although from its original appearance in the early 1990's, the philosophies and methods of EBP has been changed over the time to overcome some of the issue to optimize patient care the tie between scientific evidence, clinician expertise and clinical environment need to be improved. However, even though EBP as a theoretical framework has the potential to enhance nursing practice, a majority of nurses do not avail themselves of opportunities to find practice information because they have little or no training in using database searches to find evidence for their practice (*McSherry et al, 2006*).

Despite numerous calls for shift towards the use of research and scientific evidence to guide practice, most nurses continue to base practice decisions largely on anecdotal evidence, intuition trial and error and utilize treatment techniques with little scientific support. Nurses appear to rely more heavily on initial education and training when selecting treatment techniques or modalities instead of using scientific evidence to guide practice. Thus, clinical decision making had been guided by personal experience and expert opinion (*CEBP, 2013*). The number of systematic reviews and resources for evidence-based practice has also risen. Despite these factors, application of evidence to practice remains challenging for nurses as well as for other clinicians (*McInerney, 2004*). There are several obstacles to implement EBP practice in nursing, lack of education about evidence based practice in academic settings, lack of knowledge among nurse leaders, attitude about EBP, use and future use of EBP are multiple barriers (*Mija, 2000*).

Evidence based practice in Africa is remaining in challenge. One reason for this challenge is Africa lag behind in research. Another obstacle is lack of funds. But some African countries like, South Africa, Botswana, Nigeria, Kenya Malawi and Egypt are in advocating EBP (*Tweed et al, 2007*). The concept of implementing evidence-based practice in nursing in most parts in Nigeria is based on experience, tradition, intuition, common sense and untested theories. There is lack of research

evidence in many areas of nursing practice (AHCRQ, 2008).

Individual factors such as educational level, years of experience and beliefs and confidence in practicing EBP, as well as organizational factors such as supportive leadership, organizational climate and access to resources, have been demonstrated to be associated with practice of EBP. A range of individual and organizational factors associated with nurses' practice of EBP have been explored. Nurses with a higher educational level, such as a Master's degree or qualifications at an advanced level, have reported a higher extent or more frequent practice of EBP compared with nurses with lower qualifications (Wezzie, 2012). Therefore, the Purpose of this study was to assess the knowledge and utilization of evidence-based practice and its associated factors among nurses in Specialist hospital Bauchi State, Nigeria.

## 2. METHODOLOGY

### 2.1. Study Area and Study Design

The study was conducted in Bauchi State Specialist Hospital. The hospital has a Medical ward, surgical ward, pediatrics, gynecology, eye clinic and MDRTB. The hospital also has outpatient departments. . A facility based cross-sectional study was conducted using interviewer-administered questionnaire from January, 2020 to February, 2020.

### 2.2. Sample Size Determination

In this study, manual calculation of the sample size using Morgan and Krejcie (1970) formula was used for sample size determination as stated below:

$$S = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)}$$

**Where:**

S = Required sample size

X<sup>2</sup> = The table value of the chi-square at desired confidence (3.841)

N = Study Population size (220)

P = Population proportion assumed to be 0.50 since this would provide maximum sample size

d<sup>2</sup> = Degree of accuracy of the result expressed as proportion 0.050

$$\frac{3.841 \times 220 \times 0.5 \times 0.5}{0.0025 \times 219 + 3.841 \times 0.5 \times 0.5}$$

$$211.255 = 140$$

1.50775

Hence 140 respondents

### 2.3. Inclusion and Exclusion Criteria

Nurses who were on practice at least for 6 month in the study area were included and Nurses who were on practice, critically sick during data collection were excluded from the study.

### 2.4. Data Collection

Data was collected from eligible and willing participants using a pre-tested, structured questionnaire, adapted from the sample questionnaire in the guide to developing knowledge of nurses towards EBP. Socio-demographic information including age, gender, occupation, education and socio economic status were collected.

### 2.5. Data Analysis

Data were analyzed using Statistical Package for Social Science (SPSS) software version 16.0 at that time with the help of the Statistician. The descriptive statistical method was used to analyze frequencies and percentages.

Ethical Considerations: This study was conducted only After getting Approval from Ministry of Health Bauchi State, data collectors was informed about the study, then after Verbal and written Informed consent obtained from study subjects, Confidentiality was assured for all the information provided, no personal identifiers (anonymity) was used on the questionnaires.

## 3. RESULTS

### 3.1. Socio-Demographic Characteristics

A total of 140 respondents were interviewed, giving 100% response rate. Majority of respondents 105, (75%) were males. Among all, 52(37.1%) of respondents were 36-40 years of age. Of the study subjects, 85 (60.7%), were married. The vast majority 125 (89.3%) of respondents were Diploma holders, 10(7.1%) were B.SC holders and 5 (3.6%) were M.SC holders. 89(63.6%) of respondents had >6 years of nursing experience. Majority of study participants 59(42.1%) were from medical-surgical ward (Table 1).

**Table1.** Socio demographic characteristics of respondents in Specialist Hospital (n=140)

Characteristics	Frequencies	Percentages %
Gender		

**Epidemiological Assessment of Nurses' Knowledge and Utilization of Evidence Based Practice and its Associated Factors in Specialist Hospital Bauchi State, Nigeria**

Males	105	75
Females	35	25
<b>Ages</b>		
20-25	30	21.5
26-30	15	10.7
31-35	35	25
36-40	52	37.1
41+	8	5.7
<b>Marital status</b>		
Married	85	60.7
Single	35	25
Divorced	5	3.6
Widowed	15	10.7
<b>Education</b>		
Diploma	125	89.3
Degree	10	7.1
Masters	5	3.6
<b>Your work area at hospital</b>		
Medical surgical	59	42.1
Intensive care unit	27	19.3
Emergency unit	40	28.6
Operating unit	8	5.7

Others	6	4.3
<b>Years of experience at work</b>		
1-3	10	7.1
4-6	41	29.3
>6	89	63.6

**3.2. Knowledge and Utilization about EBP**

From 140 study participants 65(46.4%) had poor knowledge about evidence based practice. one hundred and twenty two (87.1%) of respondents knew that EBP is a problem solving approach. Also one hundred and twenty five (89.3%) knew that it enhances delivery of highest quality of nursing care. 118 (84.3%) knew that it combines research with knowledge and theory, Most of the respondents 98(70%) agreed that it fills the gap between research, theory and practice. Regarding level of use of evidence based practice, only 59 (42.1%) were used evidence based practice more often while 81 (57.9%) were utilized occasionally (**Table 2**).

**Table2.** Nurses' Knowledge and level of Utilization towards Evidence-Based Practice (EBP) (n=140)

Characteristics	Frequencies (n=140)	Percentages (%)
<b>Are you aware of concept of EBP</b>		
Yes	114	81.4
No	26	18.6
<b>EBP is problem solving approach</b>		
Yes	122	87.1
No	18	12.9
<b>EBP deliver highest quality care</b>		
Yes	125	89.3
No	15	10.7
<b>EBP combines knowledge and theory</b>		
Yes	118	84.3
No	22	15.7
<b>EBP fills gap between theory and practice when utilize</b>		
Yes	98	70
No	42	30
<b>There is no need of EBP in nursing</b>		
Yes	126	90
No	14	10
<b>EBP should be for nurse educator not for nurse at clinical area</b>		
Yes	65	46.4
No	75	53.6
<b>Level of knowledge</b>		
Good knowledge	75	53.6
Poor knowledge	65	46.4
<b>Have you ever use EBP (library books, journals, research documents) in your practice</b>		
Yes	91	65
No	49	35
<b>How often do you use</b>		
Often	59	42.1

Occasionally	81	57.9
<b>Have you ever written protocol or guideline for Implementing Evidence-based nursing practice</b>		
Yes	65	46.4
No	75	53.6
<b>Do you use the protocol or guideline for Implementing Evidence-based nursing practice</b>		
Yes	72	51.4
No	68	48.6

### 3.3. Barrier for utilization of EBP

According to the result of the study, 60.7% of the nurses agreed that lack of knowledge of evidence-based nursing practice is a barrier, 39.3% of them disagreed. Also, 49.3% observed that inadequate understanding of terms in research article is a barrier, 50.7% of them disagreed. 37.9% of the nurses indicated insufficient time work, and 62.1% had contrary

opinion. Also, 46.4% of the nurses were of the opinion that inadequate resources for utilization of evidence- based practice is a barrier, 53.6% disagreed. Furthermore, 65% of the nurses agree that Inability to understand statistical terms used in research article, as a barrier 35% of the nurses disagreed. Also, 56.4% of the nurses agreed that one of the barriers is the fact that relevant research is not available, 43.6% disagreed (**Table 3**).

**Table 3.** Barrier for utilization of evidence based practice in specialist hospital (n=140)

Barrier	Frequencies (n=140)	Percentages (%)
<b>Lack of knowledge of evidence-based nursing practice is a barrier</b>		
Agree	85	60.7
Disagree	55	39.3
<b>Inadequate understanding of research terms used in research articles</b>		
Agree	69	49.3
Disagree	71	50.7
<b>There are sufficient resources(e.g. equipment, internet ) to implement EBP</b>		
Agree	65	46.4
Disagree	75	53.6
<b>Inability to understand statistical terms used in research article</b>		
Agree	91	65
Disagree	49	35
<b>I have knowledge to implement EBP Principles</b>		
Agree		
Disagree		
<b>Difficulty in judging the quality of research papers and reports</b>		
Agree	93	66.4
Disagree	47	33.6
<b>Difficulty in finding time at work place to search and read research articles and reports</b>		
Agree	90	64.3
Disagree	50	35.7
<b>Inability to properly interpret the results of research studies</b>		
Agree	88	62.9
Disagree	52	37.1
<b>The relevant literature is not available</b>		
Agree	79	56.4
Disagree	61	43.6
<b>Insufficient time at workplace to implement changes in their current practice</b>		

Agree	53	37.9
Disagree	87	62.1
<b>There is not a documented need to change practice</b>		
Agree	89	63.6
Disagree	51	36.4

#### 4. DISCUSSION

##### 4.1. Socio Demographic Characteristics of Respondents

The purpose of this study was to assess nurses' knowledge and utilization of evidence based practice in Bauchi state specialist hospitals. A cross sectional descriptive study design was used in carrying out the study. The response rate in this study was 100% which is analogous with study of TASH 96.8% (Azza *et al*, 2013) and Iran 93% (Barnes, 2012). As the study result revealed that, Female study participants 35 (25%). were less likely knowledgeable than males about evidence based practice. This might be related with female were less involved in training and managerial position. Regarding to year of nursing experience in current study 63.6% of study participants were greater six years nursing experience which is consistent with TASH in which 63% were below five years job experience (Azza *et al*, 2013). With respect to academic level, Diploma and BSC and above which accounts 89.3% and 7.1%, respectively. Unlike study conducted in Singapore which includes diploma in nursing (41.0%), advanced diploma (14.8%, bachelor's nursing (41.4%) and master's (2.3 %,) But the proportion of B.SC to M.SC was comparable (Farokhzadian *et al*, 2015).

In present study there is no significant association between educational qualification and evidence based practice. This agrees with study result of (Ominyi *et al*, 2015) however, contradicts with the findings of (Wezzie, 2012) in which there is significant association between educational qualification and evidence based practice. Nurses with a higher educational level, such as a Master's degree or qualifications at an advanced level, have reported a higher extent or more frequent practice of EBP compared with nurses with lower qualifications. This might arise from lack of time for involvement of M. SC and above holders in evidence based practice and they were passed most of their time in administrative role.

##### 4.2. Knowledge towards EBP

The data analysis of this study shows that 46.4% of the study participants had poor knowledge

level regarding evidence based practice. According to this result the level of knowledge is low when compared with Offa specialist hospital result 77.3% (Ominyi *et al*, 2015). The reason for this might be socio-demographic background of study participants. The reason also may be countries educational policies. The study revealed 81.4% of the respondents were aware of the concept of EBP which is lower than study conducted by White Williams in Spain 96%. The difference may arise from place where study conducted. Present study was done in developing country while Williams study was in developed country. The result of current study revealed that 89.3 % study participants knew evidence based nursing practice delivers highest quality of care which is analogous with Offa specialist study 85.5 %.(Ominyi *et al*, 2015) But higher than that of (Majid *et al*, 2011).

##### 4.3. Level of utilization of EBP

The levels of uses in this study were 57.9 % and 42.1%, occasionally and often respectively. This result is comparable with the study conducted in South Africa which found 35.6% and 31.5% use EBP frequently and rarely, respectively (Jordan *et al*, 2016). In this study, 57.9% (n=140).of the respondent used EBP were occasionally. This result was the same with the result of study conducted in Offa specialist hospital, Nigeria in which 55.5% (Ominyi *et al*, 2015) were utilize evidence based practice occasionally. This might be related with lack of training and lack of time to utilize evidence based practice. Educational qualification and knowledge were not seen as determinant factors for evidence based practice utilization. The reason for this might be those who have higher educational qualification might be needed for managerial position rather than staffing and they might be busy on their administrative roles. In current study Knowledge was not determinant factor for evidence based utilization. This might be related with lack of time and work overload. This contrary with study of Tikur Anbesa Specialized hospital of Addis Ababa in which there was significant association between knowledge and utilization of evidence based practice. According to the result of TASH study, those who have knowledge were implementing EBP 3

times more than who have no knowledge about EBP (Azza *et al*, 2013).

## 5. CONCLUSIONS

The result of findings in this study revealed that nurses in Bauchi State Specialist Hospitals have low knowledge level about evidence-based nursing practice. Also their utilization level of evidence-based nursing practice was low. There is no significant relationship between professional qualification of nurses and Knowledge with utilization of evidence based nursing practice. Year of work experience and position had significantly associated with utilization of EBP.

## RECOMMENDATIONS

Based on the findings in this study, the following recommendations are made:

- Nursing Managers should design an appropriate strategic plan by considering supporting factors and barriers for integrating EBP into clinical setting.
- Hospitals management in the hospitals could develop strategy for building EBP competencies through proper training.
- Further research will be needed about knowledge, utilization and associated factors of evidence based practice.

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## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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