

UTILIZATION OF EVIDENCE-BASED PRACTICE AND ASSOCIATED
FACTORS AMONG NURSES WORKING IN PUBLIC HOSPITALS OF JIMMA
ZONE, SOUTHWEST ETHIOPIA

BY

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A RESEARCH THESIS TO BE SUBMITTED TO JIMMA UNIVERSITY,
INSTITUTE OF HEALTH, FACULTY OF HEALTH SCIENCES, SCHOOL OF
NURSING AND MIDWIFERY, IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR MASTERS DEGREE IN ADULT HEALTH NURSING.

JUNE, 2018

JIMMA, ETHIOPIA

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JUNE, 2018
JIMMA, ETHIOPIA

ABSTRACT

Background: Evidence-Based Practice is the application of the best scientific evidence for clinical decision-making in professional patient care. It gives equal emphasis to the patient's values and preferences, best available evidence, and the clinical expertise. Most of the time, Nursing care practice in Ethiopia is based on experience, tradition, intuition, common sense and untested theories. Moreover there is lack of information on the level of utilization of evidence based practice by nurses in Ethiopia.

Objective: To assess Utilization of Evidence Based Practice and associated factors among Nurses working in Public Hospitals of Jimma Zone, Southwest Ethiopia, from March 10 to April 1, 2018 G.C

Methods: An institutional based cross sectional study design using quantitative supplemented by qualitative data collection method was employed. Stratified random sampling was deployed to select 270 respondents, and then randomly selected. Twelve key informants were involved using purposive sampling. Pretest was done on 5% of total sample size at Bedele hospital. Data was collected using structured self-administered questionnaire and in-depth interview guide. Descriptive statistics was computed to summarize the data. Bivariate and multivariable logistic regression analyses were done to see the association between the outcome variable and predictors. Adjusted odds ratio with 95% C.I was used to measure the strength of association between dependent and independent variables. P value < 0.05 was used to determine level of statistical significance.

Results: This study showed that, more than half 131(51.8%) of respondents used evidence-based practice. Further the study indicated that, being head nurse was 5.2 times (AOR=5.227) [95%CI= [1.252, 21.819] more likely used EBP than staff nurses. And also the study revealed that being knowledgeable about EBP was 2.1 times (AOR=2.084) [95%CI= [1.118, 3.886] more likely used EBP than those not knowledgeable about EBP.

Conclusion & Recommendation: The prevalence of utilization of EBP among nurses working in public hospitals of Jimma zone was 51.8%. Nevertheless, only 16.5% of respondents often utilized EBP in their clinical practice. Therefore, hospital management should encourage and involve nurses to utilize evidence-based practice research findings.

Key words: Evidence Based Practice, Nurse and Ethiopia.

ACKNOWLEDGEMENT

First and for most I would like to thank my Almighty God for His help in all walk of my life and for giving me healthy and great help during day and night time to do this thesis.

I thanks to Jimma University, Institute of Health, Faculty of Health Science, School of Nursing and Midwifery for giving me this precious chance and supported fund to do this study.

I would like to express my sincere gratitude for my advisors and instructors Mr. Endalew Hailu and Mr. Mesfin Beharu for their invaluable comments, suggestions and constructive guidance throughout this study.

My special thanks go to Jimma Zone health bureau, Jimma Zone Public hospitals' human resources and nursing service director bureau for their willingness to give all important information needed for this study. And also my great thanks go to all participants of the study for their willingness, genuine information and the time sacrifices.

I am forever grateful to other people and my colleagues for their willingness and priceless comments, suggestions and constructive guidance in the whole of this study.

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LIST OF ABBREVIATION AND ACRONYM

AH-	AGARO HOSPITAL
AOR-	ADJUSTED ODDS RATIO
BSC-	BACHELORS OF SCIENCE
COR-	CRUDE ODDS RATIO
EBP-	EVIDENCE BASED PRACTICE
IRB-	INSTITUTION REVIEW BOARD
JUMC-	JIMMA UNIVERSITY MEDICAL CENTER
LGH-	LIMU GENET HOSPITAL
MSC-	MASTERS OF SCIENCE
NH-	NADA HOSPITAL
PI-	PRINCIPAL INVESTIGATOR
SCH-	SAKA CHOKORSA HOSPITAL
SGH-	SHENEN GIBE HOSPITAL
SH-	SETEMA HOSPITAL
TASH-	TIKUR ANBESSA SPECIALIZED HOSPITAL
U.S. -	UNITED STATE

CHAPTER ONE: INTRODUCTION

1.1 Background

EBP is the application of the best scientific evidence in clinical decision-making by integrating clinical experience and incorporating patient values and preferences, in the practice of professional patient care (1,2). It is about making decisions through the conscientious, explicit and judicious use of the best available evidence from multiple sources by asking: translating a practical issue or problem into an answerable question, acquiring: systematically searching for and retrieving the evidence, appraising: critically judging the trustworthiness and relevance of the evidence, aggregating: weighing and pulling together the evidence, applying: incorporating the evidence into the decision-making process & assessing: evaluating the outcome of the decision taken to increase the likelihood of a favorable outcome (2–4).

Evidence based practice (EBP) is used across numerous professions as an approach to professional practice and it is rapidly growing in the fields of Nursing(5). In clinical decision making using EBP is a vital and an effective way for nurses to improve quality of patient care (6).

EBP is not clinical problem solving rather it is a systematic process of reviewing the best available research evidence and then incorporating clinical experience and patient preferences into the mix, and a mechanism for solving clinical problems and making decisions about interventions, which is distinct from traditional problem-solving approaches in health care (1,7).

Evidence exists for best practices in: assessment of patient conditions, diagnosis of patient problems, planning patient care, interventions to improve the patient's function, condition, or to prevent complications & evaluation of patient responses to interventions (1,8). Evidence alone is never sufficient to make a specific clinical decision about a specific patient. The clinician should have evidence with good judgment, clinical skill, and knowledge of the patient's unique needs to apply evidence to a specific patient care situation (1). EBP gives equal emphasis to the patient's values and preferences, best available evidence, and the clinical expertise (9).

The rate and extent whereby EBP adopted are influenced by the nature of the evidence-based topic and the manner in which the evidence-based knowledge is communicated to members of a social system/context of practice(10).

1.2 Statement of the problem

Nurses can no longer rely exclusively on their clinical experience to provide quality care(11). Even though research supports that, EBP promotes high value healthcare, including the “Triple Aim” enhancing the patient experience, including quality and reliability of healthcare, improving health outcomes & reducing costs, nurses do not consistently implement EBP. It was not the standard of care throughout the United States(US) and globe (2,12–15). This implies barriers to Implementing EBP remained high for US Nurses, as a result, nurses in the US weren’t consistently using EBP(7).

Nurses were positive towards EBP, but only practiced it to a small extent(16), & certain barriers were hindering their smooth adoption (17). The EBP paradigm has been embraced by healthcare professionals as an important means to improve quality of patient care, but its implementation is still deficient(18).Much of the evidence used to guide nursing practice worldwide does not arise from findings arrived at through rigorous research studies (19).

Moving from tradition-based to evidence-based care delivery is no small challenge (10). Both doctors & nurses were welcoming towards EBP, but considered time constraints, knowledge gaps and poor availability of evidence as major barriers to implement EBP. Nurses frequently mentioned unawareness of EBP (75%), or difficulty in reading and interpreting research papers (70%). Regarding EBP knowledge, EBP terms could be explained by 54% of doctors but by only 15% of nurses, as a result EBP implementation is still deficient among nurses(20).

Even though EBP provides the foundation for policies and procedures that are tested and found effective, as opposed to the way we’ve always done it, healthcare professionals from different educational programs, backgrounds, and experience may have different ways of delivering patient care and few can argue with the need for best practices (1).

Numerous barriers exist that create a gap between new evidence and implementation of that evidence to improve patient care (9). Most common barriers that prevent nurses from implementing research findings include not having enough time; lack of institutional or financial support; insufficient support from colleagues; shortage of personnel and resources; not able to understand research reports; lack of knowledge; and the dependence of nurses on doctors and managers in making changes in clinical practice(21).

There were five major organizational barriers which emerged from the selected studies: workload, other staff/management not supportive of EBP, lack of resources, lack of authority to change practice, and a workplace culture resistant to change. Even for an individual who is motivated and competent in the use of EBP, all of these barriers will impact their ability to increase and maintain their use of EBP in the workplace (22). From study done in Israel, 41% and 42% of nurses had no opportunity to work with a computer at their workplace and Internet access for the purpose of obtaining EBP information, respectively(23).

Unlike western country, EBP is not widely embraced in low- and middle-income countries, and the methods of EBP is something relatively new and often overwhelming challenge for many healthcare organizations. In Africa for example, EBP is being emphasized and being advocated for nurses in countries like South Africa, Ethiopia, Kenya, Nigeria, Egypt, Botswana, Burundi and Malawi (24–27). Yet, the development of EBP in nursing practice is in its infancy. For example, a recent study from Nigeria reported that EBP is not widely developed in context of country's health care system(24).EBP in Africa is remaining in challenge. One reason for this challenge is Africa lag behind in research and lack of funds (27). Developing countries have limited resources, as a result poor access to information makes endeavor near impossible for health professionals working with vulnerable communities in low-income (28).

As study reported, there were positive relationships between low utilization of EBP by nurses and poor quality of patient care. In developing country, majority of nurses were strongly challenged to integrate and use EBP in their clinical decision making process(17). Lack of ability to integrate and use the up to dated information/ current knowledge in clinical practice is a risk for quality of patient care outcome(6,17,24).

Most of the time, Nursing care practice in Ethiopia is based on experience, tradition, intuition, common sense and untested theories. There is lack of information on the level of EBP utilization by nurses in Ethiopia (29). There is also minimal of study done on the level of EBP utilization in Jimma zone. Therefore, the Purpose of this study is to assess EBP Utilization and associated factors among nurses working in Jimma zone public hospitals, Southwest Ethiopia.

1.3 Significance of the study

Today, utilization of EBP for decision making in nursing care is being recommended the most up to date methods of providing care (6). EBP is an indicator of the quality of health and treatment care and plays an important role in improving the quality of nursing care(30).

This study was conducted at a time when the need for EBP in clinical setting is high and the country is embracing health for all policy, so utilization of EBP is of paramount importance in Ethiopia as well as the Africa, where the burden of diseases is on increase. Utilization of EBP is particularly relevant due to inherent characteristics of the inpatient & outpatient wards, such as, large number of patients, long stay in the wards, multiple disease conditions, multiple drug resistance on increase and diseases re-emerging. Given these critical role with respect to patients care, study on utilization of EBP and associated factors among nurses working in Public Hospitals of Jimma Zone is of supreme significance to the policy makers and more specifically to the nursing profession in the health sector.

Therefore, the result of this study will:

- Help us to get the gap between utilization of EBP in hospital setting for the patients care.
- Provide feasible recommendation about implementing of EBP for concerning bodies.
- Help nurses to put in more effort toward the utilization of EBP in the care of patients.
- Serve as baseline data for those who are interested further in the study area.

Generally, the result of this study will be significant for nursing and health care professionals to provide quality of care in meeting the needs of patients and families as a whole Specifically it improves patient outcomes, decrease health care costs, which is a priority of governmental and funding agencies.

CHAPTER TWO: LITERATURE REVIEW

Utilization of Evidence-Based Practice

As indicated in different studies the level of utilization of EBP is not similar throughout the world. For example, in South Korea 46.0% of the nurses often utilized EBP (31), in Offa Specialist Hospital, Nigeria 30.9% of nurses often used EBP, 55.5% sometimes used EBP, & 57.3% of the nurses indicated that they have written protocol or guidelines for implementing EBP (32), and in Kenya only 20.6% of the nurses use research evidence in their work & 53.6% of nurses were implementing research findings to improve nursing care (26).

The study done in Ethiopia at Tikur Anbessa Specialized Hospital (TASH) on level of use of EBP, Even though 57.6% of nurses had integrated EBP in their clinical practice, only 15.7% of nurses always used EBP for patient care (25).

Barriers to Utilization of Evidence-Based Practice

As stated by different studies the level of nurse's knowledge on EBP is not uniform across the world. For example, 45.7% of Nurses in Iran (33), 45% of nurses in Australia (34), 96% of nurses in Nevada (35), 95.5% of nurses in Egypt (32), and 66% of nurses in South Africa (5) were knowledgeable about EBP.

Individual factors such as nurse's educational level, years of work experience, as well as organizational factors such as supportive leadership, and access to resources, have been demonstrated to be associated with practice of EBP (36–38). A study done in Israel showed, the nurse's role and level of education were significantly associated with utilization of EBP (23).

According to recent research findings, inability to properly interpret & implement new ideas of research findings, relevant research findings not being accessible in the workplace, & lack of autonomy & authority to change practice were identified as barriers for utilization of EBP (21). In Sheffield, only 5%, 8.6% and 13.2% of respondents agreed that lack of confidence; the culture of the team and lack of authority were barriers respectively (39).

Barriers to utilization of EBP were varying across the world. For example in U.S the most barriers to EBP were a lack of time & an organizational culture that didn't support utilization of EBP & the constraining power of the phrase, "that's the way we've always done it here"(7), in Australia the

barriers reported for the organizational barriers: 70.7%, 70.2%, 68.7% & 65.2% were heavy workload, nurse lack of authority, physicians are not cooperate & nurses have insufficient time for utilization of EBP respectively (34), in Norway and Southeast Asia insufficient time, heavy workload, lack of confidence, and difficulty in understanding English-language publications/jargon were the most barriers to EBP utilization (17,40).

According to study done in Iran, the most important organizational barriers 78.3%, 72.2%, & 70.0% were insufficient resources, lack of internet access at work, & heavy workload respectively. The most important individual barriers: 83.7%, 68.8% & 62.0% were lack of time to read literature, lack of ability to work with computer, & insufficient proficiency in English language respectively(41).

According to several study showed, barriers for utilization of EBP are varying across the Africa countries, for example: in South Africa: lack of knowledge of EBP (18%), lack of access to information, inadequate source to access evidence and lack of organizational support and Physicians were taken as not supportive of utilization of EBP (5), in Offa Specialist Hospital, Nigeria: 81.8%, 65.5%, 51.8% & 79.1% of nurses had lack of knowledge, inadequate organizational support, insufficient time work, & inadequate resources respectively (32), in Egypt 65.8 % of nurses said that "My workload is too high" & 85.8 % of them had insufficient time at work place (42), & in Kenya: 68.7%, 66.5% & 66.4% of relevant literatures were not available, unclear implications for practice and inadequate facilities were identified barriers for EBP utilization respectively (26).

In Egypt, nurses reported barriers which include: no relevant literature, no authority for implementation of research findings and lack of time at work place. Also nurses reported uncertainty to believe the results of the research working, and unjustified research conclusions as the common barriers for utilization of EBP (42).

The study which was done in Ethiopia at TASH stated that, not knowledgeable about EBP was seen as a barrier for EBP utilization and knowledge about EBP has significant association with utilization of EBP (25).

Facilitators for Utilization of Evidence-Based Practice

Facilitators for utilization of EBP among nurses are varying across the globe, for example, in Netherlands the major facilitating factors were constant involvement by colleagues, structural promotion & facilitation of EBP activities by nursing managers, and clear and easily accessible protocols and guidelines (20), in Singapore training on EBP, presence of free time, and mentoring by nurses who have EBP experience would encourage them to implement EBP (17), in Assiut City Hospitals, Egypt nurse managers, colleagues & training on how to improve the understandability of research reports were the identified facilitators (42).

Sources for utilization of Evidence-Based Practice

Study done in Norway showed that, the five most frequently used sources in supporting clinical practice were: information learned about each patient as an individual in classroom, knowledge based on personal experience, information obtained from hospital policy and protocols, information obtained from experienced nurses, and information obtained from discussion with physicians. Information from articles published in medical, nursing or other research journals were among the least frequently used sources (40).

The sources for utilization of EBP are varying across the world. For example in Australia 56.6% of nurses used internet, 26.6% asked their colleagues, & 8.7% read nursing journals (34), in China 78.7% of nurses asked their colleagues, 77.6% of nurses asked their supervisors & 55.7% of nurses get from nursing management staffs (38).

In Africa countries sources for utilization of EBP were vary, for example in Assiut City Hospitals, Egypt 45% of nurses asked their colleagues, & 60.4% of nurses get from their work (42), in Nigeria 22.2% & 28.9% of nurses used their personal experience to a little extent & always respectively, 18.9% & 38.9% used information shared by their colleague to a little extent & always respectively, 16.7% & 33.3% of nurses used knowledge gained during training to a little extent & always respectively , 16.6% & 5.6% of nurses used internet to a little extent & always respectively (43), and in Kenya 70.5% of the nurses were used knowledge gained during their nursing school/class room for utilization of EBP (26).

CONCEPTUAL FRAMEWORK

The conceptual framework was developed by Evert Rogers in 1995 (44), and then modified after review of different literatures as shown in figure below.

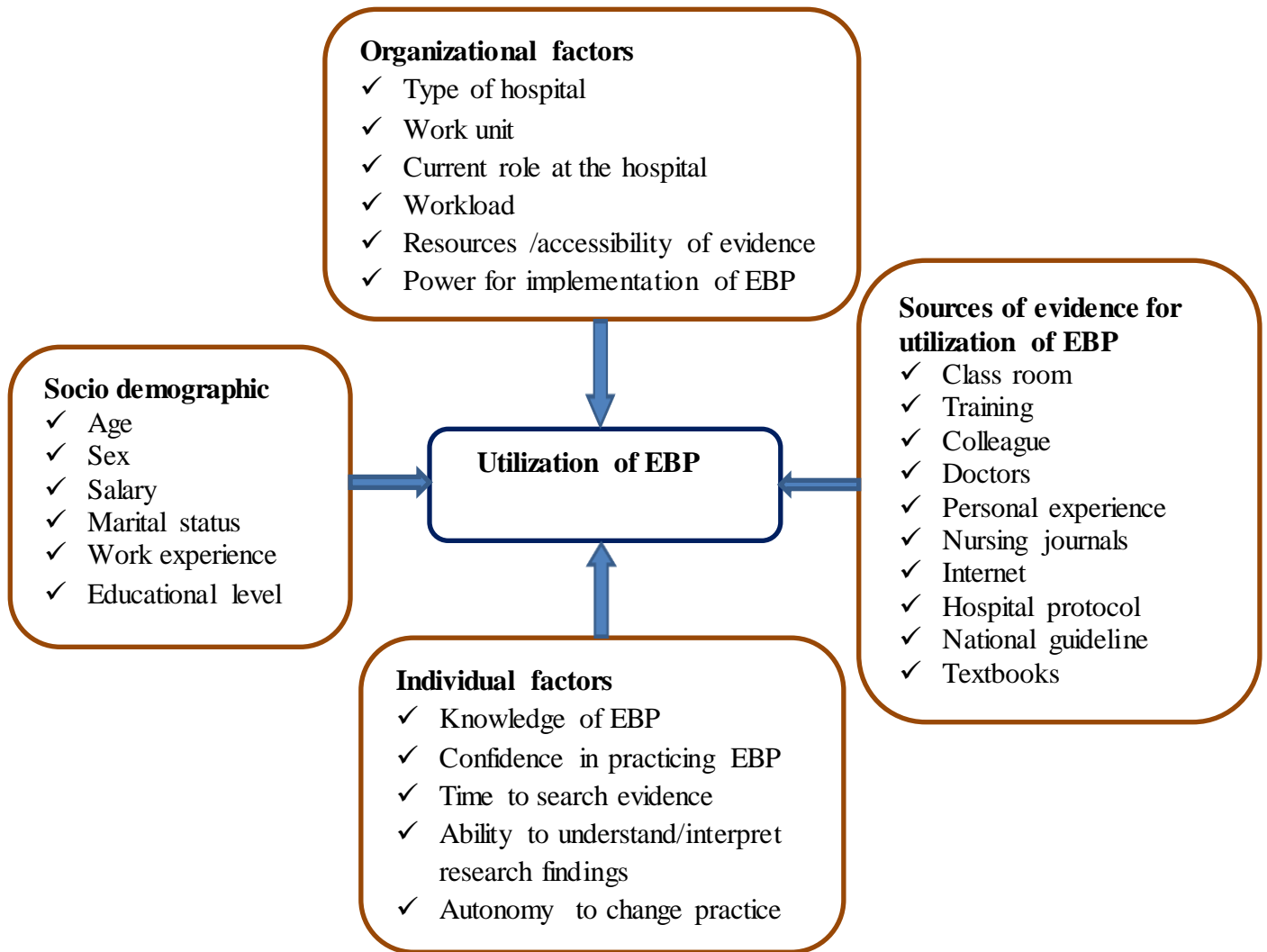


Figure 1: Conceptual frame work for the study of Utilization of Evidence Based Practice and associated factors among nurses working in Public Hospitals of Jimma Zone, Southwest Ethiopia, 2018.

CHAPTER THREE: OBJECTIVES

3.1 General objective

To assess Utilization of Evidence-Based Practice and associated factors among nurses working in Public Hospitals of Jimma Zone, Southwest Ethiopia from March 10 to April 1, 2018 G.C.

3.2 Specific Objectives

- ✚ To determine prevalence of utilization of Evidence-Based Practice among Nurses working in Public Hospitals of Jimma Zone, Southwest Ethiopia, 2018 G.C.
- ✚ To identify factors influencing utilization of Evidence-Based Practice among Nurses working in Public Hospitals of Jimma Zone, Southwest Ethiopia, 2018.G.C.

CHAPTER FOUR: METHODS AND MATERIALS

4.1 Study Area & Period

The study was conducted in Public Hospitals of Jimma Zone. Jimma Zone is one of the largest Zones found in Oromia region in the southwest of Ethiopia. Jimma town which is found at 352k.m from Addis Ababa is capital of the Zone. Jimma zone has five public hospitals. These are Jimma university medical center (JUMC), Shenen gibe hospital (SGH), Agaro hospital (AH), Seka chokorsa hospital (SCH), & Limu genet hospital (LGH).

JUMC is the largest & only teaching referral hospital in Jimma Zone & Southwestern part of the country providing services for approximately 15 million people. JUMC has a total of 550 nurses, SGH has 46 nurses, AH has 32 nurses, LGH has 40 nurses, and SCH has 32 nurses. Generally, there are about a total of 700 nurses working in these Public Hospitals. The study was conducted from March 10 to April 1, 2018 G.C.

4.2 Study Design

An institutional based cross sectional study design using quantitative supplemented by qualitative data collection method was employed.

4.3 Population

4.3.1 Source Population

- ❖ Source Population were all nurses working in Public Hospitals of Jimma Zone.

4.3.2 Study Population

- ❖ Study Population was all sampled nurses working in Public Hospitals of Jimma Zone.

4.4 Inclusion and Exclusion Criteria

4.4.1 Inclusion Criteria

- ❖ Nurses with ≥ 6 months work experiences and willing to participate in the study were included.

4.4.2 Exclusion criteria

- ❖ Nurses who were on leave (sick, annual and maternal leave) during data collection period.

4.5 Sample Size and sampling technique

4.5.1 Sample Size determination

The sample size for this specific study was calculated using formula for a population proportion for known target population as follows:

$$n = \frac{N*(Z a/2)^2 P (1-P)}{e^2 *(N-1) + (Z a/2)^2 P (1-P)} = \frac{700*(1.96)^2 * 0.576*(1- 0.576)}{(0.05)^2 *(700-1) + (1.96)^2 * 0.576*(1- 0.576)} = 245$$

Where, n = sample size

N =known target population which was 700 nurses working in public hospitals of Jimma zone

P = 0.576 prevalence of utilization of EBP in Tikur Anbessa Specialized Hospital (TASH) (25)

e = the margin of sampling error tolerated (0.05)

Z = standard score corresponding to 95% CI= 1.96

By adding 10% non-response rate the final sample size was **270**. For qualitative study, 12 key informants were involved.

4.5.2 Sampling technique

Stratified random sampling technique was deployed to select 270 respondents from all public hospitals of Jimma Zone (Fig. 2). The Human Resource list of nurses in each hospital was used as a sampling frame to identify respondents. We assumed that all nurses working in the same hospital were homogenous regarding utilization of EBP. Respondents were proportionally allocated to work unit of each hospital to insure representativeness. Respondents were then selected randomly from work unit of each hospital using record identification numbers retrieved from the sampling frame, since all of nurses working in the same hospital have an equal chance of being selected.

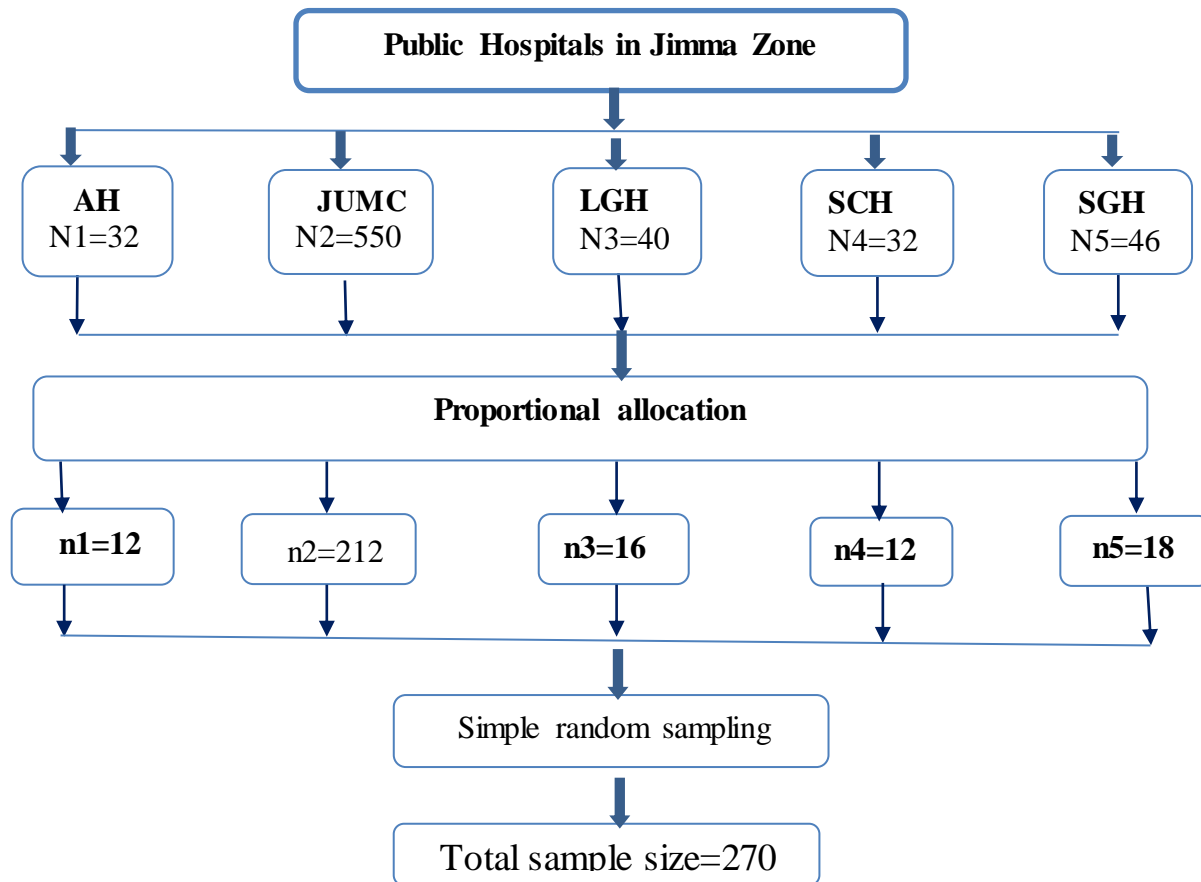


Figure 2: Schematic presentation of the sampling technique of study participants for Utilization of Evidence Based Practice and associated factors among nurses working in Public Hospitals of Jimma Zone, Southwest Ethiopia, 2018.

For qualitative study purposive sampling was applied to select key informants for the in-depth interview who are not involved in quantitative study. Then key informants were selected based on certain criteria. The inclusion criteria were being nurse managers (Nursing service directors, Supervisors, and head nurses) to get depth information. Based on that, nurse managers who were on current role at the hospital and those who have interest to participate in the study were included. Accordingly the total of 12 key informants, 8 had taken from JUMC, and one each from AH, LGH, SCH and SGH.

4.6 Study Variables

4.6.1 Dependent variable

- Utilization of Evidence-Based Practice

4.6.2 Independent variables

- Socio-demographic variables: Age, sex, religion, ethnicity, marital status, work experience, educational level and salary.
- Individual factors: knowledge of EBP, confidence in practicing EBP, time to search evidence, ability to understand/interpret research findings and autonomy to change practice.
- Sources for utilization of EBP: Class room, hospital protocols, national guidelines, training, colleagues, personal experience, Doctors, Nursing journals, internet & textbooks.
- Organizational factors: Work unit, current role at the hospital, workload, and access to resources, hospital type and power for implementation of EBP.

4.7 Operational Definitions

Evidence-based practice (EBP): EBP is an approach in which critically examined literature and research findings are used to provide nursing care that is safe and modern (25).

Utilization of EBP: EBP used when nurses use evidence (library books, journals, protocol, policy, guideline, and internet) in clinical practice and EBP not used if nurses not use by nurses self-report.

Knowledgeable: Nurses who answer correctly to knowledge related question and those who scored equal and above the overall mean value.

Not knowledgeable: Nurses who answered knowledge related question below the overall mean value (32)

4.8 Data Collection Tools

For quantitative, data were collected using a pre-tested, structured self-administered questionnaire, which was adapted from different studies done in Singapore (17), Norway (40), Sheffield (39), China (45), twice used in Iran (46), Nigeria (43) and Ethiopia (25). The quantitative study tools contain six parts with 60 items. The first part contains socio-demographic information 11 items. The second part includes nurses' knowledge regarding EBP 8 items.

The third part focuses on sources of information for supporting EBP 10 items. The fourth part is about utilization of EBP 7 items. The fifth part is about barriers to utilization of EBP 20 items. And the last part is about Facilitators to utilization of EBP 4 items.

Part two is Yes or No questions. Part three and six level of extent that ranges from never (1) to Always (5). Part four is multiple choice questions. Part five is constructed on a 5-point Likert scale, that ranges from strongly disagree (1) to strongly agree (5). For the purpose of analysis these 5-point Likert scale were merged according to the previous study so it was easy to compare the findings of this study with the other study findings. Accordingly, strongly disagree and disagree merged to disagree, and agree and strongly agree merged to agree

Qualitative data involved interviews with key informants selected to explore their perspectives. Interview guides were used to get information concerning utilization of EBP and associated factors from the nurse's point of view. Detail information was explored with complete picture of utilization of EBP and associated factors. Two open ended questions were prepared with their probes. The trustworthiness of the in depth interview guide was checked by experts in the area of study.

4.9 Data Collection Procedures

Quantitative data were collected from nurses by eight BSc nurses facilitators through distributing structured self-administered questioner for the nurses after explaining the purpose and technique of filling the questionnaire. Continuous follow-up and supervision was made by facilitators and Principal Investigator (PI) throughout the data collection period.

Qualitative data was collected by PI from key informants. Key informants took approximately for in-depth interview based on purposive sampling. Each in depth interview was taken 30-35 minutes. Notes and audio recorder were used for recording the information obtained from key informants.

4.10 Data quality control Assurance

Quantitative data was checked daily for completeness and consistency throughout the data collection period by facilitators and PI, then each completed questionnaire was given a unique code. Prior to data collection pre-test was conducted on 5 % (14) of the total sample size at Bedele hospital in order to check the reliability of the instrument, to estimate the time needed to collect data and to modify the questionnaire accordingly. The tool was checked for reliability (internal consistency) using the Cronbach's alpha coefficient which was 0.78 and time taken for each questionnaire were

30 minutes. One day training was provided for facilitators by the PI. For qualitative data the individual interviewee was interviewed separately to prevent the contamination of information.

4.11 Data processing and analysis

The filled data was entered in to Epidata version 3.1. Then it was exported to statistical Package for Social Sciences (SPSS) version 20 for analysis. Descriptive statistic (frequency, percent and mean) was computed to summarize the data. Binary logistic regression was used to determine the association between outcome variable and predictors. Statistical tests at 95% CI were made. Initially bivariate logistic regression analysis was carried out to see the association between the outcome and each predictor, and then variables with P-value less than 0.25 were selected to be a candidate for multivariable logistic regression analysis. In multivariable logistic regression analysis, variables having P-values <0.05 were used to declare statistical significance. Adjusted odds ratios (AOR) together with their corresponding 95% confidence intervals were determined to measure the strength and level of significance of the association. The Hosmer-Lemeshow goodness of fit was considered to check model fitness. The result of this study was displayed in tables, figures and graphs.

For qualitative study based on notes, memos were written. Each interview was transcribed and translated to English by cross checking both audio record and the note. Transcripts of each interview was read and re-read in order to gain an understanding of the whole situation and then re-read slowly to determine its significant features. The data was classified into analytic units and themes were developed in to utilization of EBP, barriers and facilitators. The accuracy of transcripts was checked by repetitive audiotape and by reading transcripts. The final result was presented in narratives and triangulated to supports the quantitative result.

4.12 Ethical Consideration

Ethical approval was obtained from Institutional Review Board (IRB) Institute of Health of Jimma University. Following the approval by IRB, Official letter of co-operation and support was written to public hospitals in Jimma Zone and Bedele hospital from Institute of health science. After getting permission from these hospitals, ethical issues within the study were taken into consideration during the study.

Facilitators were informed about the study, and then written informed consent was obtained from the study participants. Confidentiality was assured for all the information provided, no personal

identifiers (anonymity) used on the questionnaires. The collected data was kept in secured place until publication of the result.

4.13 Dissemination of Plan

The final report of this study will be presented and submitted to Jimma University, Institute of health, school of Nursing and Midwifery. The finding of this study will also be disseminated to public hospitals of Jimma Zone and other organizations working on related area. Presentations at professional, local, national and international meeting will be attempted. Finally, maximum efforts will be made to publish on peer reviewed reputable journals.

CHAPTER FIVE: RESULTS

Socio-demographic characteristics

Among the total 270 distributed questionnaires, 253 completed questionnaires were returned, which makes response rate of 93.7%. Regarding socio-demographic, 139 (54.9%), 95 (37.5%) and 94 (37.2%) of respondents were males, fall between age group of 25-29 years, and between 1-5 years' work experience respectively. Almost half of respondents 129 (51.0%) were married, less than half of respondents 101(39.9%) were Oromo by ethnicity and 87 (34.4%) orthodox by religion. For in-depth interview 12 key informants were involved in the study (Table 1).

Table 1: Distribution of respondents by their socio demographic characteristics, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

Socio-demographic characteristics		For quantitative		For qualitative	
		Frequency (n=253)	Percent	Frequency (n=12)	Percent
Age	20-24yr	68	26.9	---	---
	25-29yr	95	37.5	6	50
	30-34yr	50	19.8	5	41.7
	35-39yr	33	13.0	1	
	40-44yr	7	2.8	---	---
Sex	Female	114	45.1	5	41.7
	Male	139	54.9	7	58.3
Marital status	Single	124	49.0	5	41.7
	Married	129	51.0	5	58.3
Ethnicity	Oromo	101	39.9	6	50
	Amhara	92	36.4	3	25
	Tigre	17	6.7	---	---
	Gurage	21	8.3	---	---
	Other	22	8.7	3	25
Religion	Orthodox	87	34.4	4	33.3
	Muslim	79	31.2	5	41.7
	Protestant	72	28.5	3	25
	Catholic	8	3.2	---	---
	Other	7	2.8	---	---
Work experience	1-5yr	94	37.2	5	41.7
	6-10yr	64	25.3	5	41.7
	11-15yr	62	24.5	2	16.6
	16-20yr	23	9.1	---	---
	>20yr	10	4.0	---	---
Educational level	Diploma	85	33.6	---	---
	BSc	168	66.4	9	75
	MSc	---	---	3	25

Hospitals	Teaching hospital	202	79.8	8	66.7
	General hospitals	51	20.2	4	33.3
Unit ward	Medical-surgical	130	51.4	6	50
	Intensive care unit	16	6.3	1	
	Emergency unit	41	16.2	1	
	Pediatrics	44	17.4	1	
	Gynecology	22	8.7	---	---
	Others	---	---	3	25
Role at the hospital	Head nurse	19	7.5	9	75
	Staff nurse	234	92.5	---	---
	Others	---	---	3	25
Salary	<3653 ETB	33	13.0	---	---
	3653-6488 ETB	51	20.2	8	66.7
	>6488 ETB	5	2.0	4	33.3

Other =Wakefata, none

Utilization of Evidence-Based Practice

More than half of respondents, 131 (51.8%) used EBP (Fig.4). Regarding level of utilization of EBP, among those used EBP, 58 (23.1%), 31 (12.2%) and 42 (16.5%) of them sometimes, usually and often used EBP respectively.

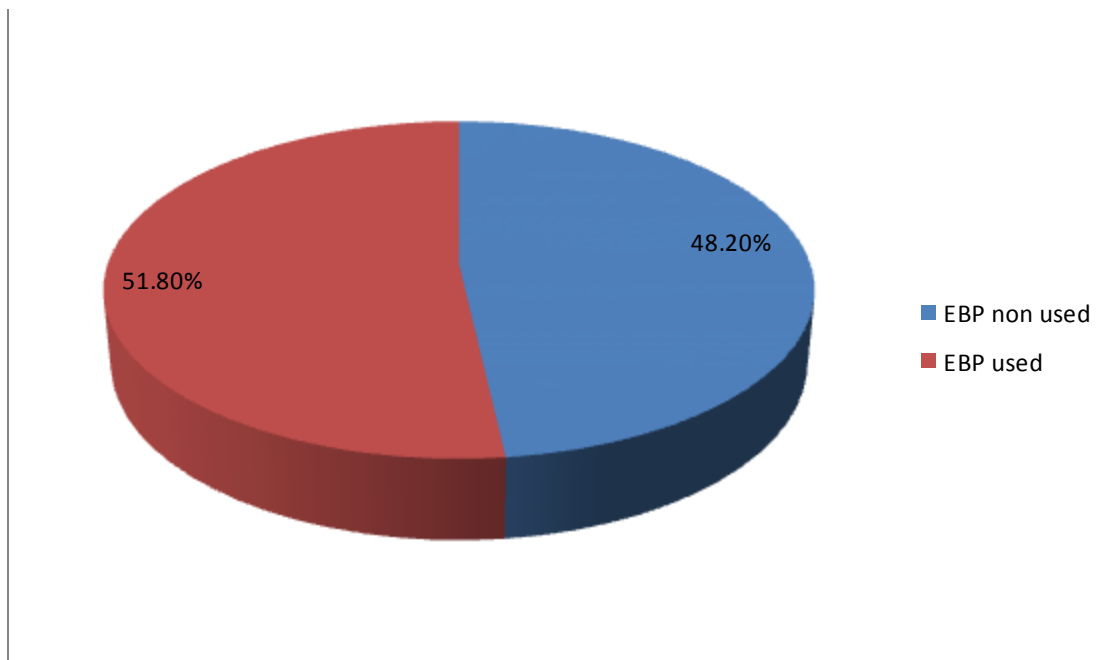


Figure 3: Respondents' Utilization of Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

From qualitative study, when asked; what do you say about utilization EBP in clinical practice?

Among interviewed key informants, few of them said that “We have no information/exposure about utilization of EBP in clinical practice”, while others said that “Utilization of EBP in clinical practice is good for patient’s care improvement, it saves time and increase nurses satisfaction.”

When asked; what do you say about utilization of EBP in your hospital by nurses? Few key informants said that “we don’t know whether nurses used EBP” but rest of them said that “nurses directly or indirectly utilized EBP in clinical practice unless no patient improvement. Most of nurses used evidence from hospital protocols, guidelines and others asked information from senior staff nurses /colleagues and other health professionals like doctors.”

How frequently nurses use EBP in your hospital? Most of key informants said that “most of nurses sometimes used EBP and some nurses often ask for up to dated information to use in their clinical practice and many of nurses sometimes used hospital protocols and guidelines.”

Factors associated with utilization of EBP

Knowledge about EBP

Among total respondents, 156 (61.66%) were categorized as knowledgeable about EBP as they score \geq to the overall mean (0.62).

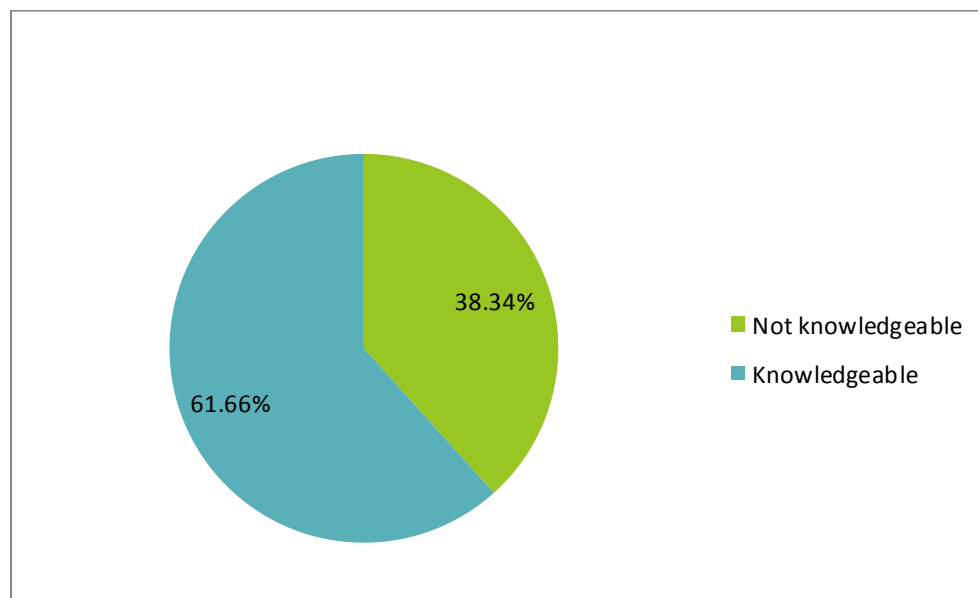


Figure 4: Respondents’ knowledge about Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

Individual barriers to utilization of Evidence-Based Practice

Less than half, 80 (31.6%) and 80 (31.6%) respondents agreed that lack of autonomy to change practice and inability to properly interpret the results of research were barriers to utilization of EBP respectively.

Table 2: Individual barriers to Utilization of Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

Variables	Disagree		Neutral		Agree	
	N ^o	%	N ^o	%	N ^o	%
Lack of autonomy to change practice	128	50.6	45	17.8	80	31.6
Inadequate understanding of research terms	129	51.0	54	21.3	70	27.7
Inability to understand statistical terms used in research	127	50.2	53	20.9	73	28.9
Difficulty in judging the quality of research	123	48.6	55	21.7	75	29.6
Inability to properly interpret the results of research	127	50.2	46	18.2	80	31.6
No confident in judging the quality of research	114	45.1	63	24.9	76	30.0
Insufficient proficiency in English language	131	51.8	67	26.5	55	21.7
EBP has little benefits for nurses	121	47.8	92	36.4	40	15.8
The culture of my team is not receptive to EBP implementation	92	36.4	117	46.2	44	17.4
Uncertainty to believe the results of the research working to nurses' practice	77	30.4	127	50.2	49	19.4

Organizational barriers to utilization of EBP

Nearly half, 123 (48.6%) and more than half, 141 (55.7%), 158 (62.5%), and 134 (53.0%) of respondents agreed that insufficient time, heavy workload, insufficient resources at workplace and relevant literature is not available were identified as barriers for utilization of EBP respectively.

Table 3: Organizational barriers to Utilization of Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

Variables	Disagree		Neutral		Agree	
	N ^o	%	N ^o	%	N ^o	%
Insufficient time at a workplace to implement EBP	80	31.6	50	19.8	123	48.6
Heavy workload at a workplace to implement EBP	73	28.9	39	15.4	141	55.7
Insufficient resources (e.g., equipment, internet, computer, protocols, guidelines) to implement EBP	59	23.3	36	14.2	158	62.5
The relevant literature is not available	70	27.7	49	19.4	134	53.0
Lack of authority in the work place to implement EBP	92	36.4	66	26.1	95	37.5
The nurse is isolated from experienced colleagues with whom to discuss the research	96	37.9	100	39.5	57	22.5
Physicians are not cooperative with the implementation	83	32.8	62	24.5	108	42.7
Unjustified research conclusions to nursing	94	37.2	101	39.9	58	22.9
Other staffs are not supportive of implementation	82	32.4	71	28.1	100	39.5
Unclear implications of EBP for practice in nursing	102	40.3	101	39.9	50	19.8

What are factors which hindering utilization of EBP? Majority of key informants reported barriers to utilization of EBP such as: insufficient resources (e.g. current literature; internet access; updated guidelines; computers); lack of financial support (incentives); closed minds (we have always done it this way); and lack of support (e.g. management, physicians).

The 29 years old key informant said that “nurses have no interest, they don’t want to read and update themselves even they have no confidence.” Most of them said that “no hospital library, updated guidelines, internet services, motivation, enough training and no enough computers for nurses to updating themselves.” Almost half of them said that “there is no good communication between hospital managements and nurses, physicians and nurses and other health professionals and nurses.” Others said that “there is no nurses’ satisfaction, and some nurses have no interest and they not need to update themselves.” The 30 years old man said that “there are times when I do not know things and I do not have even time to sit down.”

Facilitators for Utilization of Evidence-Based Practice

More than half 147 (58.1%) of respondents were cited to “To M to G extent” as they perceived support from doctors. To M to G extent—to a moderate to great extent.

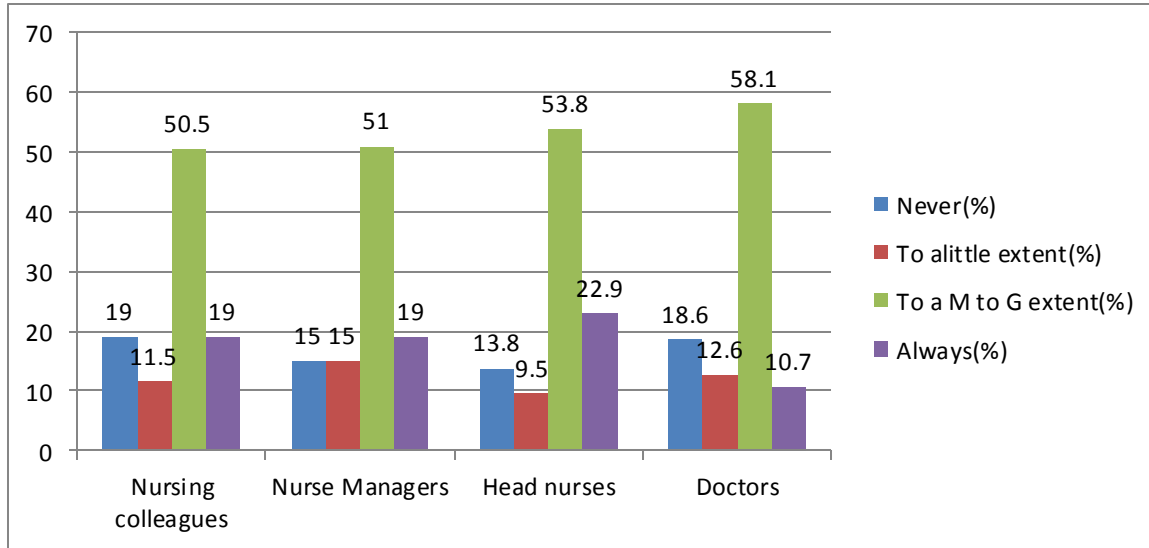


Figure 5: Facilitators for Utilization of Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

From qualitative results: What are factors which facilitating utilization of EBP? The 28 years old key informant said that “we have educated human power to use EBP and nurses are ready to help clients/patients.” Majority of them said that “even if it is not enough sometimes there is training for some nurses, hospital protocols and guidelines.” Some of them said that “there are experienced nurses/colleague, doctors and other health professionals to support nurses in their clinical practice. Nurses managers are supporting nurses to give safe and modern care for patients.” Most of key informants said that “most of nurses were ask doctors and colleagues during ward rounds while some nurses were ask for up to dated information to use in their clinical practice.”

Sources of evidence for utilization of EBP

More than half of respondents 132 (52.2%) never used Nursing journals, 133 (52.6%) used their personal experience, 135 (53.4%) used information from training and 139 (54.9%) used internet to M to G extent. To M to G extent=to a moderate to great extent.

Table 4: Sources for Utilization of Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

Variables	Never		To a little extent		To M to G extent		Always	
	N ^o	%	N ^o	%	N ^o	%	N ^o	%
Class room	46	18.2	42	16.6	120	47.4	45	17.8
Hospital protocols	88	34.8	41	16.2	110	43.5	14	5.5
National guidelines	73	28.9	33	13.0	126	49.8	21	8.3
Training	36	14.2	39	15.4	135	53.4	43	17.0
Colleague	32	12.6	30	11.9	152	60.1	39	15.4
Personal experience	30	11.9	35	13.8	133	52.6	55	21.7
Doctors	44	17.4	33	13.0	150	59.3	26	10.3
Nursing journals	132	52.2	30	11.9	81	32.0	10	4.0
Library textbooks	107	42.3	26	10.3	104	41.1	16	6.3
Internet	55	21.7	22	8.7	139	54.9	37	14.6

To M to G extent=to a moderate to great extent.

Bivariate and Multivariable analyses of factors associated with utilization of EBP

Utilization of EBP was assessed for its association with socio demographic characteristic, individual and organizational variables. Both bivariate and multivariable logistic regression analyses were done to see the association between outcome variable and predictors. All predictors were entered in to bivariate logistic regression and variables such as sex, marital status, hospital type, work unit, work experiences, educational level, current role at the hospital, knowledge about EBP, lack of autonomy to change practice, inadequate understanding of research terms, inability to understand statistical terms used in research, difficulty in judging the quality of research, inability to properly interpret the results of research, no confident in judging the quality of research, insufficient proficiency in English language , unjustified research conclusions to nursing and EBP has little benefits for nurses were selected to be candidate for multivariable logistic regression analysis (Table 5 & 6).

In multivariable logistic regression analysis model; sex ($p=0.005$), hospital type ($p=0.001$), educational level ($p=0.001$), current role at the hospital ($p=0.023$), knowledge about EBP ($p=0.021$), lack of autonomy to change practice ($p=0.049$) and inability to properly interpret the results of research ($P=0.025$) were statistically associated with utilization of EBP (Table 5 & 6).

Males were 2.4 times (AOR=2.401) [95%CI= [1.296, 4.448] more likely used EBP than female nurses. Working in teaching hospital increases the chance of using EBP by 4.8 times (AOR=4.798 [95%CI= [1.913, 12.034]) when compared with working in teaching hospital. Having BSc educational level was 3.2 times (AOR=3.186) [95%CI= [1.634, 6.210] more likely used EBP than having educational level of clinical nurse. Being head nurse was 5.2 times (AOR=5.227) [95%CI= [1.252, 21.819] more likely used EBP than staff nurses. Being knowledgeable about EBP increase the chance of using EBP by 2.1 times (AOR=2.084) [95%CI= [1.118, 3.886] when compared with not knowledgeable about EBP (Table 5).

Nurses who disagreed to lack of autonomy to change practice and inability to properly interpret the results of research 2.5 times (AOR=2.590) [95%CI= [1.004, 6.679] and 4.2 times (AOR=4.282) [95%CI= [1.203, 15.244] more likely utilized EBP than nurses those agreed, respectively (Table 6).

Table 5: Multivariable logistic regression analyses of socio-demographic characteristics with Utilization of Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

Variables	Category	EBP use N ^o (%)	EBP no use N ^o (%)	COR (95%CI)	AOR (95%)
Sex	Male	86(34.0)	53 (20.9)	2.488 (1.497,4.136)*	2.401 (1.296, 4.448)*
	Female	45(17.8)	69 (27.3)	1	1
Marital status	Married	75 (29.6)	54 (21.4)	1.687 (1.026, 2.773)*	1.461 (.794, 2.687)
	Single	56 (22.1)	68 (26.9)	1	1
Hospital type	Teaching hospital	122(48.2)	80 (31.6)	7.117 (3.285, 15.419)*	4.798 (1.913, 12.034)*
	Non-teaching hospitals	09 (3.6)	42 (16.6)	1	1
Work unit	Intensive care unit	13 (5.1)	03(1.2)	4.333 (1.179, 15.926)*	3.806 (.840, 17.239)
	Emergency unit	21 (8.3)	20(7.9)	1.050 (.520, 2.119)	1.279 (.548, 2.983)
	Pediatrics	22 (8.7)	22 (8.7)	1.000 (.505, 1.981)	1.092 (.490, 2.433)
	Gynecology	10(4.0)	12 (4.7)	.833 (.336, 2.064)	.806 (.261, 2.487)
	Medical- surgical	65(25.7)	65 (25.7)	1	1
Work experience	>20yr	06 (2.4)	04 (1.6)	1.857 (.492, 7.014)	.637 (.148, 2.741)
	16-20yr	15 (5.9)	08 (3.2)	2.321 (.898, 6.000)	1.792 (.584, 5.503)
	11-15yr	41 (16.2)	21 (8.2)	2.417 (1.243, 4.699)*	1.533 (.692, 3.400)
	6-10yr	27 (10.7)	37 (14.6)	.903 (.476, 1.716)	.625 (.279, 1.399)
	1-5yr	42 (16.6)	52 (20.6)	1	1
Educational level	BSc	107(42.3)	61 (24.1)	4.458 (2.526,7.863)*	3.186 (1.634, 6.210)*
	Diploma	24 (9.5)	61 (24.1)	1	1
Current role	Head nurses	15 (5.9)	04 (1.6)	3.815 (1.229, 11.386)*	5.227 (1.252, 21.819)*
	Staff nurses	116(45.8)	118(46.7)	1	1
Knowledge	Knowledgeable	95(37.6)	61(24.1)	2.639 (1.565, 4.450)*	2.084 (1.118,3.886)*
	Not knowledge	36(14.2)	61(24.1)	1	1

Table 6: Multivariable logistic regression analyses of barriers with Utilization of Evidence Based Practice, in public hospitals of Jimma zone, southwest Ethiopia, 2018 (n=253)

Variables	Category	EBP use N ^o (%)	EBP not use N ^o (%)	COR (95%CI)	AOR (95%CI)
Lack of autonomy to change practice	Disagree	83(32.8)	45(17.8)	3.621 (2.010, 6.522)*	2.590 (1.004,6.679)*
	Neutral	21(8.3)	24(9.5)	1.718 (.814, 3.625)	1.203 (.436, 3.319)
	Agree	27(10.7)	53(20.9)	1	1
Inadequate understanding of research terms	Disagree	80(31.6)	49(19.4)	3.810 (2.044, 7.101)*	.813 (.230, 2.870)
	Neutral	30(11.9)	24(9.4)	2.917 (1.390, 6.121)	1.764 (.620, 5.017)
	Agree	`	49(19.4)	1	1
Inability to understand statistical terms used in research	Disagree	80(31.6)	47(18.6)	3.475(1.894,6.375)*	.879 (.251, 3.079)
	Neutral	27(10.7)	26(10.2)	2.120 (1.025, 4.386)	.900 (.297, 2.729)
	Agree	24(9.5)	49(19.4)	1	1
Difficulty in judging the quality of research	Disagree	84(33.2)	39(15.4)	7.348(3.796,14.227)*	2.723 (.710, 10.447)
	Neutral	30(11.9)	25(9.9)	4.094 (1.919, 8.733)	1.649 (.474, 5.738)
	Agree	17(6.7)	58(22.9)	1	1
Inability to properly interpret the results of research	Disagree	86(34.0)	41(16.2)	7.225(3.797,13.746)*	4.282(1.203,15.244)*
	Neutral	27(10.7)	19(7.5)	4.895 (2.227, 10.756)	3.698(1.052,12.997)
	Agree	18(7.1)	62(24.5)	1	1
No confident in judging the quality of research	Disagree	68(26.9)	46(18.2)	2.146 (1.188, 3.875)*	.690 (.285, 1.67)
	Neutral	32(12.6)	31(12.3)	1.498 (.764, 2.938)	1.167 (.494, 2.756)
	Agree	31(12.3)	45(17.7)	1	1
Difficult to understand research published in English	Disagree	81(32.0)	50(19.8)	3.069 (1.589, 5.928)*	1.194 (.465, 3.06)
	Neutral	31(12.3)	36(14.2)	1.632 (.783, 3.401)	.537 (.209, 1.379)
	Agree	19(7.5)	26(14.2)	1	1
Unjustified research conclusions to nursing	Disagree	48(19.0)	46(18.2)	1.478 (.763, 2.862)	.445 (.182, 1.085)
	Neutral	59(23.3)	42(16.6)	1.990 (1.033,3.833)*	1.100 (.486,2.490)
	Agree	24(9.5)	34(13.4)	1	1
EBP has little benefits for nurses	Disagree	68(26.9)	53(20.9)	2.138 (1.026,4.455)*	.777 (.295, 2.046)
	Neutral	48(19.0)	44(17.4)	1.818 (.851, 3.886)	.736 (.284, 1.907)
	Agree	15(5.9)	25(9.9)	1	1

CHAPTER SIX: DISCUSSION

In this study even though half of respondents used EBP in their clinical practice, only 23.1% and 16.5% of them sometimes and often used EBP respectively. This is inconsistent with the finding of South Korea 46% of nurses often utilized EBP (31) and Nigeria (32) where 55.5% and 30.9% of them sometimes and often used EBP respectively. This indicates that nurses working in current study area used EBP less likely than other countries. This might be related with poor reading culture and different health policy.

But this finding is almost similar with the finding of TASH where 15.7% often used EBP (25). This indicates that, still it is alarming that level of utilization of EBP is low. This might be related to nurses have been working in similar system. Most key informants said that *“Nurses directly or indirectly utilized EBP in clinical practice unless no patient improvement.”*

This study revealed that, sex was (AOR=2.401) [95%CI= [1.296, 4.448] associated with utilization of EBP. This indicates that male nurses were 2.4 times more likely used EBP than female nurses. This might be related with male nurses have been more time than female nurses.

This study showed that, hospital type had (AOR=4.798 [95%CI= [1.913, 12.034]) significant relationship with utilization of EBP. This is similar with study done in Egypt (42). This indicates that nurses working in teaching hospitals were more likely used EBP than those working in non-teaching hospitals. This might be related with nurses working in teaching hospital have the opportunity to attend academic meeting, rounds, seminars, and regularly look for information, research or evidence to support their nursing practice.

This study revealed that, educational level was (AOR=3.186) [95%CI= [1.634, 6.210] significantly associated with utilization of EBP. This is contrast with the study of Nigeria (32) in which professional qualification has no relationship with use of EBP but analogous with finding of study done in Israel (23). This designates that nurses who had higher qualification were more likely used EBP than lower qualification. This might be due to the fact that the BSc level are more technologically inclined, thus enhancing searching strategies, or that they are more exposed to the incorporation of EBP in their curricula and teaching programmes.

This study demonstrated that, current role at the hospital was (AOR=5.227) [95%CI= [1.252, 21.819] significantly associated with utilization of EBP. This is inconsistent with study done in Israel in which role at the hospital was not significantly associated with utilization of EBP (23). This suggests that head nurses were more likely used EBP than staff nurses. This might be related with head nurses have been opportunities to take workshop and train about EBP.

This study revealed that, knowledge about EBP was (AOR=2.084) [95%CI= [1.118, 3.886] associated with utilization of EBP. This finding is inconsistent with the study of Nigeria where knowledge about EBP was not associated with utilization of EBP (32), but similar with finding of TASH (25). This implies that those nurses who have knowledge about EBP were more likely used EBP than those have no knowledge. This might be related with having up to dated information about EBP through media, training or searching internet.

This study showed that, lack of autonomy to change practice and inability to properly interpret the results of research were associated (AOR=2.590) [95%CI= [1.004, 6.679], and (AOR=4.282) [95%CI= [1.203, 15.244] with utilization of EBP respectively. This is similar with study finding of Nepal (21). This indicates that those who have autonomy to change practice and ability to properly interpret the results of research used EBP. This might be related with independently working and having adequate information about utilization of EBP.

This study indicated that, 48.6%, 55.7% and 62.5% of respondents agreed that insufficient time, heavy workload and insufficient resources at workplace were most reported barriers respectively. This findings are slightly lower than study findings of different countries for e.g. in Australia (34) heavy workload & insufficient time, in Iran (41) insufficient resources & heavy workload, in Nigeria (32) insufficient time at work place & inadequate resources, and in Egypt (42) nurses said that "My workload is too high" & insufficient time at work place were reported as barriers by majority of respondents. This indicates that nurses working in other countries reported barriers to utilization of EBP than nurses working in this study area. This might be related with having knowledge about barriers to utilization of EBP and year of work experience. *Most of key informants said that "no hospital library, updated guidelines, internet services, enough training and no enough computers for nurses to updating themselves."*

This study finding showed that, 53.0%, 37.5%, 42.7% and 39.5% respondents agreed that relevant literature is not available; lack of authority in the work place; Physicians and other staffs are not cooperative with the utilization of EBP were reported as barriers respectively. These findings are slightly lower than other study findings for e.g. in Australia (34) where lack of authority & physicians will not cooperate and in Kenya (26) where relevant literatures were not available were reported as barriers by majority of the respondents, but similar with study of south Africa(5) where Physicians were not supportive of utilization EBP. This indicates that nurses working in current study area reported barriers to utilization of EBP less likely than nurses working in other countries. This might be related with unfamiliarity of nurses with barriers to utilization of EBP and different year of work experiences. *Almost half of them said that “there is no good communication between hospital managements and nurses, physicians and nurses and other health professionals and nurses.” Others said that “there is no nurses’ satisfaction, and some nurses have no interest and they not need to update themselves.”*

This study revealed that, 60.1% of respondents asking their colleague to M to G extent, and 4% of them always use Nursing journals as sources for utilization of EBP. This similar with study findings in Australia (34) where 26.6% of nurse asked their colleagues, & 8.7% of them read journals . This showed that majority of nurses do not search for scientific research rather they seek information from their ward colleague who have better knowledge and skill in performing different EBP activities. This might be related with heavy workload or insufficient time to read different journals.

STRENGTH AND LIMITATION OF THE STUDY

Strength of the study

- ✓ In this study both quantitative and qualitative data collection methods were used which helped to dig out some factors influencing the utilization of EBP.
- ✓ This study was conducted in different hospitals which helps the generalizability of the results.

Limitation of the study

- ✓ Cross sectional study design was used in this study. Because it cannot tell us about causal relationship (only an association).
- ✓ Self-administered questionnaire was used to obtain the data which may introduce information biases and under or overestimate the result.
- ✓ Social desirability bias may affect the result of this study.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1 Conclusion

The prevalence of utilization of EBP among nurses working in public hospitals of Jimma zone was 51.8%. Nevertheless, only 16.5% of respondents often utilized EBP in their clinical practice.

Lack of autonomy to change practice, inability to properly interpret the results of research, insufficient time, heavy workload, insufficient resources, relevant literature is not available, lack of authority, and Physicians and other staffs are not cooperative with the utilization of EBP at work place were barriers reported by majority of the respondents.

Generally, variables such as sex, hospital type, educational level, current role at hospital and knowledge about EBP have significant association with utilization of EBP.

7.2 Recommendation

Based on the findings of this study the following recommendations are forwarded for the responsible bodies.

For hospital management, hospital administrative should;

- Encourage and involve nurses (in nursing conferences, scientific meetings, seminars, training) to utilize evidence-based practice research findings.
- Plan appropriate strategies to smooth the progress of utilization of EBP by nurses in their practice.
- Improve educational level development by giving chance of education for nurses.
- Encourage and bring nurses to position in the hospital.
- Make maximum effort to abolish barriers hindering utilization of evidence-based practice among nurses.

For nurses;

- Nurses should work hard to put their knowledge of evidence-based practice to use in their clinical practice.

For researchers;

- Researchers should do further study by observational and longitudinal study designs on utilization of EBP.

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ANNEXES

Questionnaires

Annex I: Informed consent form

Title of the project: Assessment of Utilization of EBP and associated factors among nurses working in Public Hospitals of Jimma Zone, southwest Ethiopia, 2018

Dear respondent Hello, my name is ----- and I have been well aware of that this research undertaking is for a partial fulfillment of MSc degree in Adult Health Nursing which is fully supported and coordinated by Jimma University. I am here to enroll and distribute self-administered for eligible study participants like you and fill in the questionnaire forms prepared by research team. I am happy to inform you that you are one of the selected study participants to participate in this study. This study has no direct benefit to you, however, the result of the study will be helpful for nurses in the future by identifying EBP Utilization, barriers and facilitators for utilization of EBP in nursing, which is useful in delivering improved quality of patient care. This study will not have any risk or harm associated with data collection, you have full right to participate or to refuse and you can ask question if it is not clear for you. The information in this questionnaire will be kept strictly confidential, will not be divulged to any one and only the research team will have access to the information you gave. This questionnaire will be filled only if you agree to take part in the study, however your genuine and true responses you give value for success of the study and also will help for better understanding of the issue that would eventually help in designing appropriate solution, so I sincerely ask you to give your genuine and true responses to the questions provided. The question has six parts usually takes about 30 minutes.

I understood that the research has no any risk and no composition. I also knew that I have the right to withhold information, skip questions to answer or to withdraw from the study any time I have acquainted nobody will impose me to explain the reason of withdrawal. It is also enlighten there would have no effect at all in my health benefit or other administrative effect that I get from the refuge. I have assured that the right to ask information that is not clear about the research before and or during the research work and to contact Jimma University, Institute of health, IRB Office

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I understand this form; therefore, I am willing and confirm my participation by signing the consent.

Agreed to participate in the study: Yes /No (mark one of them)

Signature _____

Name of witness signature _____ (Data collector, supervisor, any third person)

I would like to thank you for your participation in this study!


Annex II: Quantitative questionnaire

Part I: Socio-demographic Data						
1.	Age	_____ in year				
2.	Sex	1. Male 2. Female				
3.	Hospital in which you work	_____				
4.	Work unit in which you working	1. Medical-Surgical 3. Emergency Unit 2. Intensive care unit 4. Pediatrics 5. Gynecology				
5.	Marital status	1. Single 3. Widowed 2. Married 4. Divorced				
6.	Ethnicity	1. Oromo 3. Tigre 2. Amhara 4. Gurage 5. Others specify _____				
7.	Religion	1. Orthodox 3. Protestant 2. Muslim 4. Catholic 5. Other specify _____				
8.	Salary	_____ ETB				
9.	Work experience	_____ in year				
10.	Educational level	1. Diploma 2. BSc 3. MSc				
11.	Current role at the hospital	1. Staff nurse 2. Head nurse 3. Others				
Part II: Nurses' knowledge regarding Evidence Based Practice (EBP)						
S.No	Please respond to the next items by indicating Yes or No to knowledge you have regarding EBP.	Yes	No			
12.	Are you aware of the concept of EBP in nursing?					
13.	I have knowledge to implement EBP principles.					
14.	Evidence-based practice is a problem solving approach.					
15.	It enhances delivering of highest quality of care.					
16.	EBP combines knowledge and theory.					
17.	EBP fills the gap between research theory and practice when utilized.					
18.	There is no need of evidence-based practice in nursing.					
19.	EBP is for nurse educators and not for those in the clinical area.					
Part III: Sources of evidence for utilization of EBP						
S.No	Please respond to the next items by indicating the number 1, 2, 3, 4, or 5 that comes closer to what	1	2	3	4	5

	extent you trust with sources that you use for...					
20.	Class room					
21.	Hospital protocols					
22.	National guidelines					
23.	Training					
24.	Colleague					
25.	Personal experience					
26.	Doctors					
27.	Nursing journals					
28.	Internet					
29.	Textbooks					

Note: 1=Never, 2=To a little extent, 3=To a moderate extent, 4=To a great extent and 5=Always

Part IV: Utilization of EBP

S.No	Please respond to the next items by circling the number 1, 2, or 3 to how much you sure with Utilization of EBP	Response	Skip to/ remark
30.	Do you use evidence (library books, journals, protocol, policy, guideline, and internet) in your clinical practice?	1. Yes 2. No 	No Q37
31.	How frequently do you use evidence from library books in clinical practice?	1. Sometimes 2. Usually 3. Often	
32.	How frequently do you use evidence from Nursing journals in clinical practice?	1. Sometimes 2. Usually 3. Often	
33.	How frequently do you use evidence from protocol in clinical practice?	1. Sometimes 2. Usually 3. Often	
34.	How frequently do you use evidence from policy in clinical practice?	1. Sometimes 2. Usually 3. Often	
35.	How frequently do you use evidence from guideline in clinical practice?	1. Sometimes 2. Usually 3. Often	
36.	How frequently do you use evidence from Internet in clinical practice?	1. Sometimes 2. Usually 3. Often	

Part V: Barriers to utilization of EBP

S.No	Please respond to the next items by indicating the number 1, 2, 3, 4, or 5 that comes closer to how much you agree with barriers to utilization of EBP.	1	2	3	4	5
37.	Lack of autonomy to change practice					
38.	Inadequate understanding of research terms					

39.	Inability to understand statistical terms used in research					
40.	Difficulty in judging the quality of research					
41.	Inability to properly interpret the results of research					
42.	Insufficient time at workplace to implement EBP					
43.	Heavy workload at workplace to implement EBP					
44.	Insufficient resources (e.g. equipment, internet, computer, protocols, guidelines) to implement EBP					
45.	The relevant literature is not available					
46.	No confident in judging the quality of research					
47.	Lack of authority in the work place to implement EBP					
48.	Insufficient proficiency in English language					
49.	The nurse is isolated from experienced colleagues with whom to discuss the research					
50.	Physicians are not cooperative with the implementation					
51.	Unjustified research conclusions to nursing					
52.	Other staffs are not supportive of implementation					
53.	Unclear implications of EBP for practice in nursing					
54.	EBP has little benefits for nurses					
55.	The culture of my team is not receptive to EBP implementation					
56.	Uncertainty to believe the results of the research working to nurses' practice					

Notes: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5= strongly agree

Part VI: Facilitators for utilization of EBP

S.No	Please respond to the next items by indicating the number 1, 2, 3, 4, or 5 that comes closer to what extent do you agree with the following items that support EBP utilization.	1	2	3	4	5
57.	Nursing colleagues					
58.	Nurse managers					
59.	Head nurses					
60.	Doctors					

Note: 1=Never, 2=To a little extent, 3=To a moderate extent, 4=To a great extent and 5=Always

Annex III: Qualitative questionnaire

Interview guide for qualitative study

1. What do you say about Utilization EBP in clinical practice? What do you say about utilization of EBP in your hospital by nurses? How frequently nurses use EBP in your hospital?
2. What are factors which hindering or facilitating nurses' utilization of EBP in your hospital? What are factors which hindering utilization of EBP? What are factors which facilitating utilization of EBP?

ASSURANCE OF THE PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the institute of Health in effect at the time of grant is forwarded as the result of this application.

Name of the investigator: _____

Signature: _____

Name of the institution: _____

Date of submission: _____

Approval of the advisors

Name and Signature of the first advisor

Name _____

Signature _____

Name and Signature of the second advisor

Name _____

Signature _____

Name and Signature of the internal examiner

Name _____

Signature _____

Approval of the examiner

Name _____

Signature _____