

Evidence-Based Practice and Associated Factors among Health Care Providers Working in Public Hospitals, Northwest Ethiopia, 2017

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Abstract

Evidence-based practice (EBP) is defined as “the conscientious, explicit, and judicious use of current best evidence for decision making”. But, studies proved that medical practice is still not based on the best available evidence due to different challenging factors. Therefore, this study was aimed to assess the level of EBV and identifying associated factors among health care providers working in public hospitals. Methodologically, we conducted a cross sectional study of 415 randomly sampled health care providers using stratified sampling technique. Data were collected using structured self-administered questionnaire which was developed by reviewing literatures and by adapting a standardized Melnyk and Fineout-Overholt EBV scale. The collected data were analyzed using SPSS version 23. We used bivariate and multivariate logistic regression models to identify associated factors for evidence based practice. The study revealed that 45% of health professionals were found to have low level of evidence based practice. The factors found to be significantly associated with low level of EBV include the health care provider’s marital status (Adjusted Odds Ratio) (AOR 2.25, 95% (Confidence Interval) CI: 1.16, 4.36), longer health care providers work experience (AOR 2.72, 95%CI: 1.31, 5.67), and poor health care providers’ skill (AOR 2.91, 95% CI: 1.70-3.00. We found that significant proportion of health professionals have low evidence based practice. The longer the work experiences with increasing age, the poor health professional skill were the major contributing factors for low EBV. Therefore, multi- sectorial approaches are needed to increase the level of EBV implementation and address the major contributing factors.

Keywords:-Evidence based practice; health; care providers; implementation

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Introduction

Evidence Based Practice (EBP) is defined as “the conscientious, explicit, and judicious use of current best evidence for decision making”[1]. It is a systematic approach to clinical problem solving which allows the integration of the best available research evidence with clinical expertise and patient values. Evidence-based practice is not only research utilization, quality improvement, or medical research, rather it is the way which is related to each of these processes [2-4].

Promotion and adoption of evidence based practice is to create better informed practitioners, to enable consistency care across professional boundaries and to adapt client-focused care pathways. Patients outcome had been shown to be 28% better when clinical care is based on evidence rather than tradition or common sense [5, 6].

Evidence-based practice results in a multitude of improved health, safety, and cost outcomes, including a decrease in patient morbidity and mortality. Although there is an explosion of scientific evidence available to guide clinical practice, implementation of evidence-based care by health professionals is typically not the norm across the globe [3-5].

Despite the uptake of evidence in practice remains a challenge to healthcare professionals, there are several reasons for the sudden interest in evidence based practice. It enables clinicians to sharpen the clinical skills and improve clinical judgment. Moreover, changes in patient’s level of knowledge, changes in the types of clinicians and settings need, advances in medicine, advances in information technology (IT), changes in reimbursement, reinforce the need to use an evidence-based approach [3, 7]. Even though evidence based practice is the central point for quality of patient care, there are possible challenges to professionals to adopt EBP. These are unavailability of technology and online information, lack of time, EBP needs skills for accessing and validate the medical literature and literatures may be viewed as static rather than recent useful clinical information for clinical decision making. These challenges enforce health care providers to use out-of-date guidelines which result in decreased quality of care, increased care cost and duration of hospital admission [7-9].

Particularly in developing country two difficult challenges; standardization and limited evidence make medical practice based on professionals experience based knowledge, which demands high cost in terms of time, money and personal resources which leads to a poor patient prognosis[10].

To ensure high quality and timely care, use of the most up-to-date information for clinical decision making is considered as a tool. Studies indicate that governmental agencies and institutions are heavily in favor of Evidence-Based Practice to improve quality of service including health service. In contrary to this, current literature indicates there is still huge gap to utilize best current evidence among health professionals [11-13]. Despite studies conducted abroad on evidence utilization, there are no sufficient studies that explore associated factors among these study participants for low evidence utilization in low income country like Ethiopia, particularly in the study area. Therefore, this study was aimed to assess the level of evidence-based practice and associated factors among health care providers to improve the problem related with evidence utilization.

Methods and Materials

Study Setting

The study was conducted from February 01-30, 2017 across 13 public hospitals (Debre Markos Referral Hospital, Shegaw Motta Primary Hospital, Yejubie Primary Hospital, Lumame Primary Hospital, Bichiena Primary Hospital, Mertulmariam Primary Hospital, Fenotselam Hospital, Burie Hospital, Durbete Primary Hospital, Merawi Primary Hospital, Feresbet Primary Hospital, Adet Primary Hospital and Felege Hiwot Compressive Hospital) which are located in the Amhara regional state. The total health care providers in these hospitals were 1010, of which 716 were nurses, 140 were midwives, and 154 were physicians.

Study Design and Population

The institutional based cross-sectional study design was used to assess EBP among physicians, nurses and midwives. These professionals with work experience six months and above were eligible for recruitment. We excluded health care providers who were ill or at annual leave during data collection, guest physicians, free service provider nurses and free service provider midwives.

Sample Size and Sampling Procedure

The sample size of this study was determined by considering both research objectives using single population proportion formula and double population proportion formula. The sample size for the first objective was calculated with the assumption of 57% of health care providers apply current best evidence at clinical practice which was taken from previous study[12] and for the second objective sample size was calculated by taking the proportion of major factors, that was lack of time and managerial support among the factors affecting evidence based practice from previous study[12]. Finally, we considered the largest of three calculated sample size as optimal and final sample of this study which was 415. Stratified sampling technique was used to select study participants from each hospital and from each professional category. Taking the total number of physicians, nurses and midwives in 13 hospitals into consideration, first proportional to size allocation was implemented to determine the number of participants from each hospital and then to determine the number of participants from each profession within the hospitals. Then, Simple Random sampling technique with lottery method was implemented to get the study unit.

Study Variables and Measurement

The dependent variable of the study was evidence based practice. The independent variables were socio-demographic variables, work characteristics variables, healthcare providers related variables, patient related variables, organizational related variables, and resource availability related variables. To measure the outcome variable, there were 19 questions which have a score from zero up to four. We considered the High level of Evidence Based Practice for those participants who scored median level and above the scale of asked questions. In addition to measure knowledge, attitude, and skill of the professionals concerning EBP there were 11, 6 and 6 questions respectively. For attitude, respondents who scored median and above score considered as having favorable attitude. Adequate Knowledge and good skill were defined based on McDonald's standard of learning outcome measured criteria. Accordingly, respondents were considered as knowledgeable if they correctly answered 70% and more questions correctly among all questions aimed at assessing knowledge towards evidence based practice. And respondents were considered as they had good skill if they correctly answered 70% and more questions among all questions aimed at

assessing skills towards evidence based practice[14]. Health care providers who involved in this study were physicians, nurses and midwives who worked on the study area.

Data Collection and Quality Control Methods

We, using self-reported structured, collected questionnaire that was developed by reviewing literatures. Socio-demographic, work related, organization related, patient related, and health care provider related variables were measured with questioner which were developed by reviewing literatures [13, 15-18] and evidence based practice was measured by 19 unidimensional item questioner which was adapted from Melnyk and Fineout-Overholt evidence based practice implementation scale which was validated previously with Cronbach α of 0.96 [4, 19]. Then, possible modification was made to bring towards Ethiopian context. The content validity of the questionnaire was examined by seven experts who had more than four-year research experience. From these experts three of them were from nursing department, three of them were from public health department, and one of them was from midwifery department of Debre Markos University. The internal consistency of outcome indexes was calculated with the Cronbach's alpha coefficient of 0.89. The internal consistency of knowledge, attitude and skill indexes was calculated with the Cronbach's alpha coefficient of 0.81, 0.72, and 0.71 respectively. The questionnaire was translated into Amharic and then back into English by language experts in order to check for consistency and comparability of the finding. We recruited 13 BSc health professionals from laboratory and pharmacy department to act as data collectors. Training was given to data collectors and supervisors by principal investigator to create common understanding and to maintain quality of the data. Then, pre- testing of the questionnaire was undertaken at Dangila hospital located in Awi Zone with 42 health care providers (10% of the sample size). Possible modification was made in terms of language and contextualization to make it clear for respondents. The pre-tested self-administered structured questionnaire was delivered to respondents in their working environments. Written information sheet with a section of informed consent was attached to the questionnaire to ensure all participants get the same directions and information. The questionnaire was checked for comprehensiveness on daily basis by the principal investigator to maintain the quality of data.

Data Processing and Analysis

The collected data were checked for completeness and consistency and entered using EPI-data version 3.1 software. Then, the data were exported to SPSS version 23 for analysis. Descriptive statistics was used to describe variables of the study. A logistic regression model was fitted to identify factors associated with level of evidence based practice. All predictors that were associated with the dependent variable in bivariate analysis at p-values of 0.25 or lower were included in our multivariable logistic regression model. Crude and adjusted odds ratio with their corresponding 95% confidence intervals were computed. Variables with p-values ≤ 0.05 were considered statistically significant associated factors in this study.

Result

Socio-Demographic and Work Characteristics of Respondents

A total of 415 health professionals were recruited from hospitals located in Amhara region. Of the total, 405 respondents were capable and willing to participate with overall response rate of 97.6%. Out of 405, 254 (62.7%) respondents were males. Majority, 237 (58.3%) respondents belonged to age group of 26-30 years with median age of 27 (IQR=25-29) years. From the respondents, 208 (51.4%) were single and 115 (28.4 %) were married. In addition, 375 (92.6%) were Orthodox Christian followers. The data revealed that 157 (38.8%) health professional were bachelor degree holders in nursing current educational qualification and 307 (75.8%) of them had 1-5 years of work experience. From all participants, 90 (22.2%) participants were working in surgical ward. Majority, 286 (70.6%) were nurses and 336 (83.0%) health professionals were working 8 hours per day (Table 1).

Table 1: Socio Demographic Characteristics of Health Care Providers in Northwest Ethiopia Public Hospitals, 2017.

| | Variable | Number (%) |
|-----------------------|-----------------|-------------------|
| Sex | Male | 254(62.7) |
| | Female | 151(37.3) |
| Age: | 20-25 years | 116(28.6) |
| | 26-30 years | 237(58.5) |
| Age | 31-35 years | 36(8.9) |
| | >=36 years | 16(4.0) |
| Marital status | Single | 208(51.4) |
| | Married | 115(28.4) |

| Variable | Number (%) | |
|--|--------------------------------|-----------|
| Marital status | Separated | 82(20.2) |
| | Orthodox | 375(92.6) |
| | Muslim | 19(4.7) |
| | Protestant | 11(2.7) |
| Current Educational qualification | Diploma nurse | 126(31.1) |
| | BSC nurse | 160(39.5) |
| | Diploma midwifery | 18(4.4) |
| | BSC midwifery | 38(9.4) |
| | General practitioner | 42(10.4) |
| | Specialist physician | 21(5.2) |
| Work experience | ≤ 5 years | 307(75.8) |
| | >5 years | 98(24.2) |
| Profession | Nurse | 286(70.6) |
| | Midwife | 56(13.8) |
| | Physician | 63(15.6) |
| Working unit Department(OPD) | Adult Out Patient | 67(16.6) |
| | Pediatrics OPD | 22(5.4) |
| | Medical ward | 60(14.8) |
| | Surgical ward | 90(22.2) |
| | Gynecology and obstetrics ward | 68(16.8) |
| | Pediatrics ward | 54(13.3) |
| | Anti-retroviral therapy | 10(2.5) |
| | Emergency | 34(8.4) |
| Working hour | 8 hours | 336(83.0) |
| | >8 hours | 69(17.0) |

Health Professional's Knowledge about Evidence Based Practice

130 (32.1%) health professionals had adequate knowledge. 357 (88.1%) health professionals heard about evidence-based practice and 261 (64.4%) could identify a site where clinical related journals, articles and guidelines published. Among the participants, 35 (35.7%) of them correctly identified the steps of evidence based practice. And 236 (58.3%) health professional knew how to implement evidence-based practice. However, 177(43.7%) of them faced difficulty to understand research reports (Table 2).

Table 2: Knowledge towards Evidence Based Practice among Health Care Providers in Northwest Ethiopia Public Hospitals, 2017.

| Variables | | Number (%) |
|---|---|------------|
| Difficult to understand research reports | Yes | 177(43.7) |
| | No | 228(56.3) |
| Reasons for difficulty | Understand stastical data | 29(14.2) |
| | Understand epidemiological terms | 66(32.4) |
| | Language problem | 109(53.4) |
| Know steps for evidence based practice | Yes | 98(24.2) |
| | No | 307(75.8) |
| Steps for evidence based practice | 3 | 33(33.7) |
| | 4 | 30(30.6) |
| | 5 | 35(35.7) |
| Know the implications of research information | Yes | 381(94.1) |
| | No | 24(5.9) |
| Important of research information for clinical practice | It can improve patient outcome | 342(33.3) |
| | It increase quality of care | 345(33.7) |
| | I can get recent best types of patient care | 338(33.0) |
| Know how to implement evidence-based practice | Yes | 236(58.3) |
| | No | 169(41.7) |

The health professionals were asked if they knew the sources of information regarding evidence based practice and 291(50.3%) of them said they had got information on evidence based practice at college and university (Figure 1).

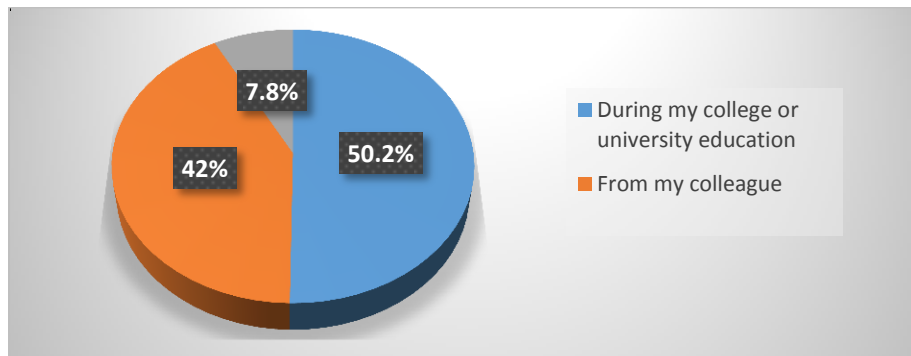


Figure 1: Source of Information for Evidence Based Practice among Health Care Providers in Northwest Ethiopia Public Hospitals, 2017

Apart from the college and university, 256 (23.8%) health professional had familiarized clinical information form PubMed and Medscape (Figure 2)

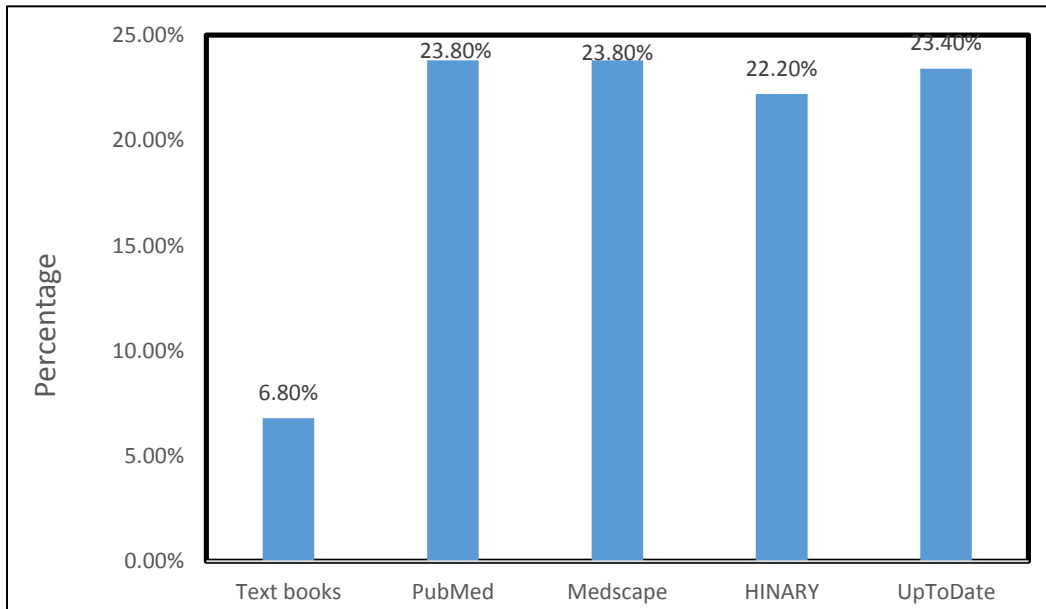


Figure 2: Websites Considered as Source of Health Information by Health Care Providers in Northwest Ethiopia Public Hospitals, 2017

Health Care Provider’s Attitude towards Evidence Based Practice
 261 (64.4%) health professionals had favorable attitude about EBP, and 346 (85.4%) of them strongly agreed that it would improve the care that was delivered to the patients. 289 (71.4%) of them considered it as relevant and 102 (25.2%) of them strongly agreed on difficultness of it (Table 3).

Table 3: Attitude towards Evidence Based Practice among Health Care Providers in Northwest Ethiopia Public Hospitals, 2017

| Variables | Strongly disagree (N (%)) | Disagree (N (%)) | Neutral (N (%)) | Agree (N (%)) | Strongly agree (N (%)) |
|--|---------------------------|------------------|-----------------|---------------|------------------------|
| Evidence based practice implementation improve patient care. | 1(0.2) | 3(0.7) | 3(0.7) | 52(12.8) | 346(85.4) |
| Irrelevant for profession. | 18(4.4) | 22(5.4) | 22(5.4) | 54(13.3) | 289(71.4) |
| Importance of critical appraisal | 2(0.5) | 4(1.0) | 12(3) | 104(25.7) | 283(69.8) |
| Training importance | 2(0.5) | 3(0.7) | 5(1.2) | 82(20.2) | 313(77.4) |
| National guidelines importance to improve clinical care. | 7(1.7) | 9(2.2) | 19(4.7) | 118(29.2) | 252(62.2) |
| Difficulty to implement | 65(16.0) | 131(32.3) | 52(12.8) | 55(13.6) | 102(25.2) |

Health Care Provider's Skills on Evidence Based Practice

According to the score of questions asked on skill, about three-fourth of the health professionals 34 percent of them were found to have good skill and 260 (64.2%) of health professionals were found to have poor skill regarding of Evidence Based Practice. Health professionals were asked whether they could search for the best evidence to answer clinical questions in a time efficient way. From the health professionals, 347 (85.7%) of them responded as they were able to implement it (Table 4).

Table 4: Skill on Evidence Based Practice among Health Care Providers in Northwest Ethiopia Hospitals, 2017

| Variables | Yes N (%) | No N (%) |
|---|----------------------|---------------------|
| Ability to search Evidence | 347(85.7) | 58(14.3) |
| Ability to Formulate search question | 320(79) | 85(21) |
| Access to best resources | 202(49.9) | 203(50.1) |
| Ability to implement research recommendations | 309(76.3) | 96(23.7) |
| Ability to find appropriate research reports | 212(52.3) | 193(47.7) |
| Confident to judging the quality of research reports. | 161(39.8) | 244(60.2) |

Level of Evidence Based Practice

The responses of health professionals, based on the measurement, were categorized into two categories: those who scored median level and above score were considered as they had high level of evidence based practice. Accordingly, 183 (45.2%) health professionals were found to have low level of evidence based practice with (95% CI 39.5-50.4). Majority, 161 (39.7%) health professionals were reported as they had collected data from the patients and formulate clinical question 1-3 times in the past two months and 175 (43.2%) health professionals were searching for relevant evidence from recent national guidelines and literatures to solve clinical question 1-3 times in the past two months. Regarding the questions whether they applied the finding of literature for clinical practice, half of the health professional (52.8%) never applied the finding for their daily clinical practice. Concerning whether or not they used recent national guidelines and new treatment protocols in the past two months, 161 (39.8%) health professionals referred it 1-3 times as evidence to provide care for the patient. Most health professionals had never used recent information for practice change. We

found a significant proportion, 253 (62.5%) health professionals never used recent clinical studies to change clinical practice (Table 5).

Table 5: Health Care Provider’s Evidence Based Practice Implementation Status in Northwest Ethiopia Public Hospitals, 2017

| Variables | None (N (%)) | 1-3 times (N (%)) | 4-5 times (N (%)) | 6-7 times (N (%)) | 8 and more times (N (%)) |
|--|---------------------|--------------------------|--------------------------|--------------------------|---------------------------------|
| Collect data and formulate clinical question | 10(2.5) | 161(39.7) | 117(28.9) | 47(11.6) | 70(17.3) |
| Search relevant evidence from recent national guidelines and literatures | 11(2.7) | 175(43.2) | 113(27.9) | 41(10.1) | 65(16.1) |
| Read and critically appraised a clinical research study | 201(49.6) | 146(36.1) | 28(6.9) | 7(1.7) | 23(5.7) |
| Apply the findings of clinical literatures into clinical practice | 214(52.8) | 148(36.5) | 24(5.9) | 1(0.3) | 18(4.4) |
| Look recent national guidelines, new treatment protocols to give care | 15(3.7) | 161(39.8) | 116(28.6) | 63(15.6) | 50(12.3) |
| Share evidence from a study/ies in the form of report or presentation to hospital staffs | 361(89.2) | 32(7.9) | 6(1.5) | 3(0.7) | 3(0.7) |
| Share new national guideline or treatment protocols with a colleague | 104(25.7) | 231(57.0) | 35(8.6) | 14(3.5) | 21(5.2) |
| Use a recent guideline to change existed clinical practice | 58(14.3) | 213(52.6) | 73(18.0) | 27(6.7) | 34(8.4) |
| Change existed clinical practice based on recent clinical studies | 253(62.5) | 111(27.4) | 28(6.9) | 4(1.0) | 9(2.2) |
| Evaluate practice based on recent studies | 239(59.0) | 117(28.9) | 28(6.9) | 10(2.5) | 11(2.7) |
| Add new types of health care based on literatures | 224(55.3) | 141(34.8) | 24(5.9) | 9(2.2) | 7(1.7) |
| discussing with patient/family member to change new types of care | 101(24.9) | 207(51.1) | 51(12.6) | 17(4.2) | 29(7.2) |
| Evaluate the patient outcome after practice change | 66(16.3) | 217(53.6) | 67(16.5) | 22(5.4) | 33(8.1) |
| Access and read health related national policies and regulations. | 21(5.2) | 117(28.9) | 118(29.1) | 77(19.0) | 72(17.8) |

Concerned with practice change after attending training/conferences, of the total respondents, 203 (50.1%) changed practice 1-3 times in the past two months. However, 96 (23.7%) of them never changed practice based on the information they got from training and conference (Figure 3).

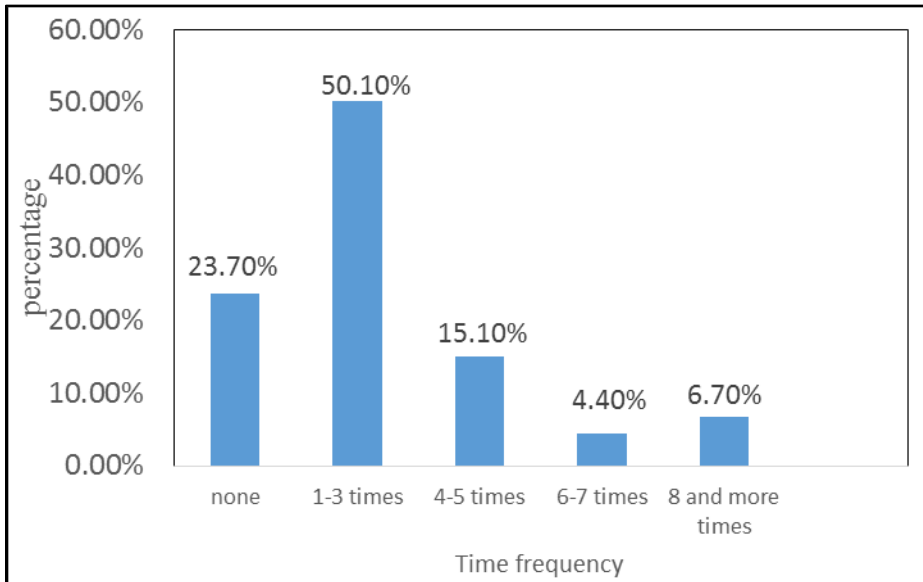


Figure 3: Percent of Health Care Providers Who Have Changed Their Clinical Practice Based On In-Service Training, In East and West Gojjam Zones Public Hospitals, Northwest Ethiopia, 2017

Clinical Websites Visited by Health Care Providers

Clinical websites health care providers frequently accessed Up-to-date and Medscape, but they rarely access PubMed and HINARY. Out of the total respondents, 123 (30.4%) and 75 (18.5%) accessed Up-to-date and Medscape, respectively with frequency of 4-5 times for the last two months. On the contrary, 369 (91.1%) and 399 (98.5%) of the study participants never searched health related information from PubMed and HINARY respectively.

Organizational, Patient, and Health Care Provider Related Characteristics

Health professionals were asked questions about environmental, professional and personal factors for evidence based practice. Accordingly, 321(79.3%) health professionals said that hospital facilities such as computers, Internet,

and new treatment guidelines were not adequate for evidence based practice and 329 (81.2%) professionals reported that lack of training about evidence based practice made them difficult to use current best evidence for clinical decision making. Regarding the availability of recent guidelines, 311(76.8%) health professionals said that organizational information (protocols, guidelines) were difficult to find and 201(49.6%) health professionals said that available national treatment guidelines and protocols were difficult to understand (Table 6).

Table 6: Factors for Evidence Based Practice Implementation among Healthcare Providers in Northwest Ethiopia Hospitals, 2017

| Variables | | Frequency (%) |
|---|-----|----------------------|
| Difficult to understand English language | Yes | 115(28.4) |
| | No | 290(71.6) |
| | Yes | 250(61.7) |
| | No | 155(38.3) |
| Low patient awareness about their disease managements make difficult to implement evidences | Yes | 220(54.3) |
| | No | 185(45.7) |
| Lack of organized patient education department make difficult to incorporate patient preference into practice | Yes | 316(78.0) |
| | No | 89(22.0) |
| Sufficient information to find new guidelines/protocols | Yes | 261(64.4) |
| | No | 144(35.6) |
| Lack of regular orientation about new health priority issues | Yes | 246(60.7) |
| | No | 159(39.3) |
| Sufficient time to find new guidelines/protocols, online research findings | Yes | 215(53.1) |
| | No | 190(46.9) |
| Difficult to understand recent National treatment guide lines and protocols | Yes | 201(49.6) |
| | No | 204(50.4) |
| The culture of team is not receptive to changing practice | Yes | 140(34.6) |
| | No | 265(65.4) |
| Lack of authority in the workplace to change practice | Yes | 213(52.6) |
| | No | 192(47.4) |
| Hospital Managers are support to use evidence based practice | Yes | 95(23.5) |
| | No | 310(76.5) |
| Team managers initiate to use evidence based practice | yes | 93(23.0) |
| | No | 312(77.0) |
| The importance of evidence for practice are not made clear | Yes | 176(43.5) |
| | No | 229(56.5) |

Factors Associated with Evidence Based Practice

In order to identify variables for our multivariate regression models, we ran bivariate logistic regressions containing variables that had been shown to be associated factors for evidence based practice in past studies. We retained all variables that were found to be statistically significant at the 25% level or lower. We, then, ran a multivariate logistic regression model containing all of these variables and retained the variables that were associated with evidence based practice in health professionals at 5% level of significance. The ten variables remained to be significantly and independently associated with evidence based practice. These ten variables were: age, sex, marital status, work experience, profession, working unit, knowledge, attitude and skill of health professionals.

Health professional age was significantly associated with evidence based practice. Health professionals aged between 31-35 years were 77% times less likely to have low evidence based practice as compared with the health professional who aged 20-25 years (AOR=0.23, 95% CI: 0.07, 0.73). Female health professionals were 1.82 times more likely to have low evidence based practice as compared to males (AOR=1.82, 95% CI: 1.06, 3.11). Married health professionals were 2.25 times more likely to have low evidence based practice as compared to single health professionals (AOR=2.25, 95% CI: 1.16, 4.36).

Health professionals with five years and above work experience were 2.72 times more likely to have low evidence based practice as compared with health professional with less than five years work experience (AOR=2.72, 95% CI: 1.31, 5.67). Health professional's profession was significantly associated with evidence based practice. Physicians were 83% less likely to have low evidence based practice as compared with nurses (AOR=0.17, 95% CI: 0.06, 0.45) and Midwives were 80% less likely to have low evidence based practice as compared with nurses (AOR=0.20, 95% CI: 0.05, 0.80).

Working unit of health professional was significantly associated with evidence based practice. Health professional who work at adult OPD were 64% less likely to have low evidence based practice as compared with health professional who work at surgical ward (AOR=0.36, 95% CI: 0.15, 0.90).

Health professional who had inadequate knowledge were 1.83 times more likely to have low evidence based practice as compared with health

professional who had adequate knowledge (AOR=1.83, 95% CI: 1.06, 3.13). Health professionals who had unfavorable attitude were 1.78 times more likely to have low evidence based practice as compared with health professionals who had favorable attitude (AOR=1.78, 95% CI: 1.06, 2.97). Health professionals who had poor skill about evidence based practice were 2.91 more likely to have low evidence based practice as compared with those who had good skill about evidence based practice (AOR=2.90, 95% CI: 1.79, 3.00). In the same way, health professionals who lacked regular orientation about priority health issues were 1.7 times more likely to have low evidence based practice as compared with those who got regular orientation about priority health issues (AOR=1).

Table 7: Analysis of Factors Associated with Evidence Based Practice Implementation among Health Professionals Working in Public Hospitals in Northwest Ethiopia, 2017

| Variables | | Evidence Based Practice Implementation | | Crude OR 95% C.I | Adjusted OR (95% CI) | p-value |
|-----------------|--------------------------------|--|------------|---------------------|-------------------------|---------|
| | | Low | High | | | |
| | | No (%) | No (%) | | | |
| Age | 21-25 years | 55(30.1%) | 61(27.5%) | 1 | 1 | |
| | 26-30 years | 100(54.6%) | 137(61.7%) | 0.81(0.52,1.27) | 0.53(0.3,0.96) | 0.035 |
| | 31-35 years | 17(9.3%) | 19(8.6%) | 0.99(0.47,2.1) | 0.23(0.07,0.73) | 0.012 |
| | ≥ 36 years | 11(6.0%) | 5(2.3%) | 2.44(0.8,7.47) | 0.43(0.07,2.78) | 0.374 |
| Sex | Male | 96(52.5%) | 158(71.2%) | 1 | | |
| | Female | 87(47.5%) | 64(28.8%) | 2.24(1.48,3.37) | 1.82(1.06,3.11) | 0.029 |
| Marital status | Single | 87(47.5%) | 121(54.5%) | 1 | 1 | |
| | Married | 69(37.7%) | 46(20.7%) | 2.09(1.31,3.32) | 2.25(1.16,4.36) | 0.017 |
| | Separated | 27(14.8%) | 55(24.8%) | 0.68(0.4,1.17) | 0.39(0.2,0.76) | 0.06 |
| Work experience | ≤5 years | 121(66.1%) | 186(83.8%) | 1 | 1 | |
| | >5 years | 62(33.9%) | 36(16.2%) | 2.65(1.65,4.24) | 2.72(1.31,5.67) | 0.008 |
| Profession | Nurse | 153(83.6%) | 133(59.9%) | 1 | 1 | |
| | Midwife | 24(13.1%) | 32(14.4%) | 0.65(0.37,1.16) | 0.2(0.05,0.82) | 0.025 |
| | Physician | 6(3.3%) | 57(25.7%) | 0.09(0.04,0.22) | 0.17(0.06,0.45) | 0.001 |
| Working Unit | Adult OPD | 14(7.7%) | 53(23.9%) | 3.16(1.13,8.8) | 0.36(0.15,0.9) | 0.028 |
| | Pediatrics ward | 10(5.5%) | 12(5.4%) | 3.31(1.52,7.21) | 1.39(.43,4.45) | 0.583 |
| | Medical ward | 28(15.3%) | 32(14.4%) | 3.99(1.91,8.33) | 0.73(0.32,1.65) | 0.449 |
| | Surgical ward | 45(24.6%) | 45(20.3%) | 1 | 1 | |
| | Gynecology and obstetrics ward | 34(18.6%) | 34(15.3%) | 3.79 (1.78,8.07) | 3.95(0.96,16.23) | 0.057 |

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| Variables | | Evidence Based Practice Implementation | | Crude OR 95% C.I | Adjusted OR (95%CI) | p-value |
|---|-------------------------|--|------------|---------------------|------------------------|---------|
| | | Low | High | | | |
| | | No (%) | No (%) | | | |
| Working Unit | Pediatrics Ward | 33(18.0%) | 21(9.5%) | 5.95(2.66,13.29) | 1.6(0.69,3.72) | 0.277 |
| | Anti-Retroviral Therapy | 5(2.7%) | 5(2.3%) | 3.16(1.13,8.8) | 0.7(0.14,3.53) | 0.665 |
| | Emergency | 14(7.7%) | 20(9.0%) | 2.65(1.08,6.53) | 0.93(0.36,2.45) | 0.889 |
| Knowledge | Adequate Knowledge | 41(22.4%) | 89(40.1%) | 1 | 1 | |
| | Inadequate Knowledge | 142(77.6%) | 133(59.9%) | 2.32(1.49,3.6) | 1.83(1.06,3.13) | 0.029 |
| Attitude | Favorable Attitude | 103(56.3%) | 158(71.2%) | 1 | 1 | |
| | Unfavorable Attitude | 80(43.7%) | 64(28.8%) | 1.92(1.27,2.9) | 1.78(1.06,2.97) | 0.028 |
| Skill | Poor Skill | 147(80.3%) | 113(50.9%) | 3.94(2.5,6.17) | 2.91(1.70,30) | 0.001 |
| | Good Skill | 36(19.7%) | 109(49.1%) | 1 | 1 | |
| Lack of organized patient education department | Yes | 154(84.2%) | 162(73.0%) | 1 | 1 | |
| | No | 29(15.8%) | 60(27.0%) | 0.51(0.31,0.83) | 0.56(0.3,1.03) | 0.064 |
| Lack of regular orientation about priority health issues | Yes | 129(70.5%) | 117(52.7%) | 2.14(1.42,3.24) | 1.7(1.01,2.82) | 0.046 |
| | No | 54(29.5%) | 105(47.3%) | 1 | 1 | |
| The importance of evidence not made clear | Yes | 96(52.5%) | 80(36.0%) | 1 | 1 | |
| | No | 87(47.5%) | 142(64.0%) | 0.51(0.34,0.76) | 0.64(0.39,1.06) | 0.84 |

Discussion

This study was conducted to assess the level of evidence based practice and associated factors among health professionals. We found that 45.2 % of health professionals had low evidence based practice. This finding is lower than the finding of a survey conducted in regional hospitals throughout Taiwan in which 58.1% of health professionals didn't integrate EBP for clinical decision-making [17]. This finding is also lower than the finding of a study conducted in 2012 across United States health care setting which indicated 65.5% of health professionals didn't consistently use EBP in their clinical practice [20]. These discrepancies might be due to the difference in educational status of health professionals because the participants were nurses and physical therapist technicians who had only two-year university education. On the other hand, in the current study professionals who had three years and above college or university education, and physicians who participated in different conferences and who implemented more evidence based practice participated.

The finding of this study is also consistent with the findings of a study conducted in Black Lion Hospital where 42.4% implemented EBP [12] and in North Gondar 47% of the health professionals used EBP and with the finding of a survey conducted in Yemen in which 50 % of the respondents never used EBP resources in their clinical decision making [22].

However, the finding of this study is higher than a cross-sectional study conducted in United States healthcare setting. It indicated that 33% of health professionals didn't use the prevailing research information during their treatment plans [23]. This discrepancy might be due to the difference in the study setting in which there was enough electronic resource.

The finding of this study revealed that 90.6% and 72.8% of health professionals accessed Up-to-date and Medscape respectively. This finding is inconsistent with the finding of a study conducted in Nigeria. In most cases (99%) the database most recently searched was Medline/PubMed, and only 15.7% of the respondents had ever searched the Up-to-date [24]. This discrepancy might be due to the fact that in our study area the habit of using Up-to-date and Medscape was more common due to accessibility of the software.

The finding of this survey indicates that 59% of the health professionals had never evaluated their practice. This finding is higher than the finding of the study conducted in Dubai which indicated that 19.8% of the health professionals had never evaluated their practice based on the recent clinical information[16]. This difference might be due to the socioeconomic status of the two study settings. The previous study was conducted in developed country where electronic resources were easily available.

In addition to this, this study also indicates that there were different factors that contributed for low evidence based practice. Health professionals who were between 20-25 years of age were more likely to have low evidence based practice. This finding is consistent with the study conducted in Black Lion Hospital for most of the specialists had more experience and practice in evidence based practice were under the age of this category.

Regarding the relation between gender and evidence based practice, contrary to the finding of a survey conducted in Black Lion Hospital [12], being female was a contributing factor for low EBP. This discrepancy might be due to the disproportional samples of the two studies. The previous study was conducted among more females whereas in the current study male physicians with more knowledge and skill on evidence based practice were participated.

The finding of this study shows that health professionals who had more than five years work experience were less likely to implement evidence based practice. This finding is not similar with the finding of a survey conducted in Black Lion Hospital which showed that the absence of significant association between experience and evidence based practice [12]. This might be due to the difference in training opportunity and availability. Unlike the current study area, Black Lion Hospital is an educational institution where most training takes place. In addition, most professionals who had got advanced and modern training were primarily recruited from this hospital. Moreover, those who had more work experience were eligible and had prevalence to get training in advance. Therefore, even if professionals have worked for long time in the same place, they might have not equal opportunity to use the current best health information with newcomers. Health professional's profession was significantly associated with outcome variable. This finding is consistent with study conducted in regional hospitals throughout Taiwan

which showed that nurses had low evidence based practice implementation when they were compared with physicians[17].

The reason for this discrepancy particularly with regard to midwifery might be, currently, in Ethiopia more emphasis is given to maternal and child health care. Due to this reason, midwives got more training opportunity than nurses in new and different types of health issue. Regarding medical professionals, the difference might come from educational difference. Currently, in Ethiopia nursing professionals who are working at hospitals are degree holders or below in their qualifications. If nursing professionals have Master's Degree of Science (MSc) and above, they engage in academic wings, whereas in Medicine when professionals learn more, they engage directly to clinical services. All these factors can help physicians and midwives to have better evidence based practice than nurses.

Moreover, the study has shown that knowledge of health professionals was significantly associated with EBP implementation. This finding is consistent with a survey conducted in regional hospitals throughout Taiwan which indicated low EBP implementation that was associated with inadequate knowledge of the respondents[17]. Similarly, poor skill to retrieve evidence was significantly associated with low evidence based practice implementation. This is similar with the finding of study conducted by Norwegian and the study conducted in Taiwan which showed that poor personal skills in finding and managing research evidence was significantly associated with low evidence based practice implementation[15, 17, 22].

In the same way, those health professionals who have unfavorable attitude toward the issue are more likely to have low evidence based implementation. This finding is consistent with the finding of cross-sectional study conducted in Iran, Malaysia and Taiwan which shows that unfavorable attitude significantly associated with low EBP implementation[17, 25, 26]. Moreover, health professionals who lacked regular orientation about priority health problems were more likely to have low level of EBP>

Limitation of the Study

Most of the literatures reviewed in this study were from developed country and they might have affected the discussion of the local context. The study also used self-administered questions that may lead to under and/or over-

estimated the actual practice. Skill was measured with self-reported questionnaire which is prone for social desirability bias. Moreover, knowledge was assessed with self-report question again this might have affected the result. We used cross-sectional design that couldn't address temporal relationship between outcome variable and contributing factors.

Conclusion

The study revealed that a significant proportion of health professionals were found to have low EBP implementation. Age, sex, marital status, work experience, profession, working unit, knowledge, attitude, skill, regular orientation about priority health problems were contributing factors for low evidence based practice implementation. It suggests that the Federal Ministry of Health should give training for health professionals to enhance their knowledge, skill and practice towards EBP implementation and should give especial attention to female and nursing professionals. Hospital managers and team managers should initiate and support health care providers to use current best evidence for patient care. Staffs that had more than 5 years' work experience should be trained about recent health information.

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