

Assesment of Knowledge, Attitude and Practice towards Post Exposure Prophylaxis about HIV among Health Workers at Mertule Mariam Hospital and Health Center

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Abstract:-

INTRODUCTION: The first instance of human immunodeficiency virus reported in 1984 and HIV/AIDS declared as public health emergency in 2002 in Ethiopia. Human immunodeficiency virus is a chronic infection caused by type 1 and type 2 of human immunodeficiency virus, which infects human only. The major transmission is sexual contact but others can also include transmission through occupational and non- occupational exposures. Work-related revelation is when someone work in health care setting is possibly exposed to Human immunodeficiency virus, because of blood and body fluid contacts. The main objective of this paper is to assess knowledge, attitude, and practice of health workers (HCWs) about post exposure prophylaxis (PEP) for Human immunodeficiency virus (HIV) among health care workers in Mertule mariam Hospital and health center.

METHODS: Institutional based cross-sectional study design was carried out from January 01 to May 30,2021. A total of 124 health care workers were take part in the study health facilities. Data were collected using pretested self- administered questionnaire and analyzed using SPSS in version 21.

RESULTS: Among the total participants, 73% were males and most of them were between 20 to 30 years' age range. Around 59.9% of them were single. Ninety-two-point seven percent participants have heard about post exposure prophylaxis, 52.8% had unfavorable attitude towards post exposure prophylaxis and 7.2% had poor knowledge towards post exposure prophylaxis for human immunodeficiency virus.

CONCLUSION: Despite there were adequate knowledge towards post exposure prophylaxis, participants' attitude and practice of PEP is low and intent of initiation was delayed for PEP.

Keywords:- Knowledge, attitude, practice, PEP, HIV, health workers.

I. INTRODUCTION

In Ethiopia HIV/AIDS was emerged first and reported in 1984 and declared as public health emergency in 2002 (1). HIV is a chronic infection caused by human immunodeficiency virus, type1 and type2, which infects human only. The major transmission was sexual contacts, but various mode of transmission may be classified as profession and non –professional exposure. Occupational exposure is when someone work in health care setting is potentially exposed to material exposed to HIV (2, 3).

Health care workers of developing countries are at greater risk of infection due to blood borne pathogens such as HIV, Hepatitis B and C virus (4) particularly these health care professionals are victims of HIV as they are occupational exposed to blood and other body fluids. Therefore, there should be a great concern for work place related spread of blood borne pathogens. Approximately, 1000 new cases appear every year worldwide because of accidental exposure. Through in December 2001, there were 50 documented cases of occupational transmission to health workers in the united state (5, 6, 7).

Literatures revealed that there is an information break in the health care setups about PEP which is evidenced by a study conducted in London showed that only 22 % of doctors identified all the three drugs recommended while exposed to PEP (8).

Another investigation done at Jimma town, Ethiopia, confirmed that significant percent (83.9%) of health care workers had insufficient knowledge about PEP. In this Study, the majority (81.6%) of exposed health professionals did not use PEP mainly because of lack of information (8).

Post exposure prophylaxis is crucial in preventing transmission of pathogens after potential exposure and also enables to manage at referral comprehensive health care setups and hence it is possible to minimize the risk of infection after potential exposure (9).

PEP is not solely use of drugs with follow-up evaluation but also includes first aids, psychoanalysis, risk assessment, investigation applicable laboratory parameters based on informed consent of the exposed professionals and sources of exposure (10).

There are also factors that increase risk of work related transmission of blood borne pathogens which include inappropriate handling of contaminated needles, demand based unnecessary injections, recycle of unsterilized needles and unsuitable disposal of hazardous waste (11).

The study of knowledge, attitude and practice of PEP among health care workers in Amhara region are scarce. Thus, this study was under taken to assess knowledge, attitude, and practice about HIV post exposure prophylaxis among health workers of Mertule mariam hospital and health center.

HIV is a global health burden costing the lives of many people of which health care workers are at frontline. As of 2012, UNDIS global HIV/AIDS burden report, 34 million peoples living with HIV/AIDS globally, about half do not know their status (12, 13).

In the past years, though there seems epidemically has stabilized, HIV/AIDS was continued to be major development challenges in Ethiopia. In 2010, approximately 1.5 million Ethiopians living with HIV/AIDS and adult prevalence rate was estimated to be 1.5 percent in 2011. The government of Ethiopia is making great efforts to respond to epidemic and nationally the incidence of HIV infection declined by over 25% between 2001 and 2009. In 2011 percentage of HIV infected adults taking ART was 86%. Currently the response was guided by the second multi sectorial strategic plan (SPM-II) (2009-2014) (13, 14, 15).

Health workers are facing a number of unique challenges due to significantly increase number of people infected with the HIV virus that is synergized by occupational risk to the virus. This leads mostly to anxiety among HCWs specially in developing countries including Ethiopia (5, 6, 12, 16). According to WHO study, 2.5% of the total HIV global cases are due to occupational exposure among health care workers (17) and WHO highly recommended to use PEP since preventing its occurrence is very serious, (18, 19).

Implication of taking PEP should be given considerable attention among healthcare workers. Even though it is possible to avoid by following good working practice. Available data from developing countries show that adherence to the “standard precaution” and documentation of occupational exposures are suboptimal and knowledge about PEP among health workers is poor (7, 16).

An availability of PEP reduces the risk of acquiring infection though its use after exposure was depending on HCWs knowledge and attitude (20, 21). Therefore, this paper aimed to assess the knowledge, attitude, and practice of health care workers about PEP against HIV/AIDS at Mertule mariam hospital and health center in 2021.

II. METHODS

A. Study area and period

This study was carried out among health care professionals at Mertule mariam hospital and health center from January 01 to May 30, 2021.

B. Study Design

Institutional based cross sectional study design was done to assess knowledge, attitude, and practice towards PEP among health care professionals at Mertule mariam hospital and health center.

C. Study Populations

All health care workers, working at Mertule mariam hospital and health center were considered as source population and those who fulfill the inclusion criteria were considered as study populations.

D. Inclusive and Exclusive criteria

All health care professionals available during the study period and willing to participate were included and those who are critical ill, on ART and who refuse to participate in the study were excluded.

E. Sample size Determination and sampling technique

The sample size was determined by using single proportion formula with the assumption that 5% marginal error (d), 50 % expected prevalence of PEP use since there is no similar study in the area (p), and 95% confidence interval. Using the formula:

$$n_i = (z)^2 p(1-p) / d^2$$

$n_i = 384$, but since the total number of source population is <10,000 which was 160, the formula was adjusted as

$$n_f = n_i(N) / n_i + N$$

$= 384 * 215 / 384 + 215 = 113$, then adding 10% non-respondent rate, the final sample size was 124.

Therefore; a total of 124 health care workers were selected by using simple random sampling technique from the study area.

F. Study variables

The dependent variables of this study were Knowledge, Attitude and practice while sex, income, profession, age, ethnicity, work experience, professional qualification, marital status, and religion were considered as independent ones.

III. OPERATIONAL DEFINITION

- **Good knowledge:** when respondents correctly answered greater or equal to 75% the knowledge item questions (22).
- **Poor knowledge:** when respondents correctly answered <75% of knowledge item questions (22).
- **Favorable attitude:** when respondents correctly replied greater or equal to 75% of attitude item questions (22).
- **Unfavorable attitude:** when participants correctly replied <75% of attitude item questions (22).
- **PEP use/practice/** reporting as they have practiced using PEP of HIV at least once.

IV. DATA COLLECTION INSTRUMENTS, PROCEDURES, AND QUALITY CONTROL

Data were collected through self-administered structured questionnaires adopted from different literatures and previous similar studies. Pretest was done before the actual data collection and some modification was made to keep data consistency.

After providing a one-day training on how to code and refill data for data collectors, they collected under the supervision of the principal investigators. Data were

analyzed using SPSS version20 and the results were presented using pi-chart and statements.

V. ETHICAL CONSIDERATION

Prior to actual data collection an official permission letter was given from Fana Health, Business and Technology College. Brief explanation about the purpose of the study was delivered to avoid ambiguity and misunderstanding. verbal informed consent was obtained from each HCW under study.

VI. RESULTS

A. Socio-demographic characteristics of the study population

Among the total participants, 73% were males and most of the respondents were in the age of 20 to 30 years with 27.76 and 5.57 mean age and standard deviation respectively. Almost all (96.10%) participants had amhara ethnicity. More than half of them (59.90%) were single and around 47.40 % were Bsc holders by qualification. Professionally as depicted in fig. (1) majority (42.8%) were nurses followed by midwives (16.4%).

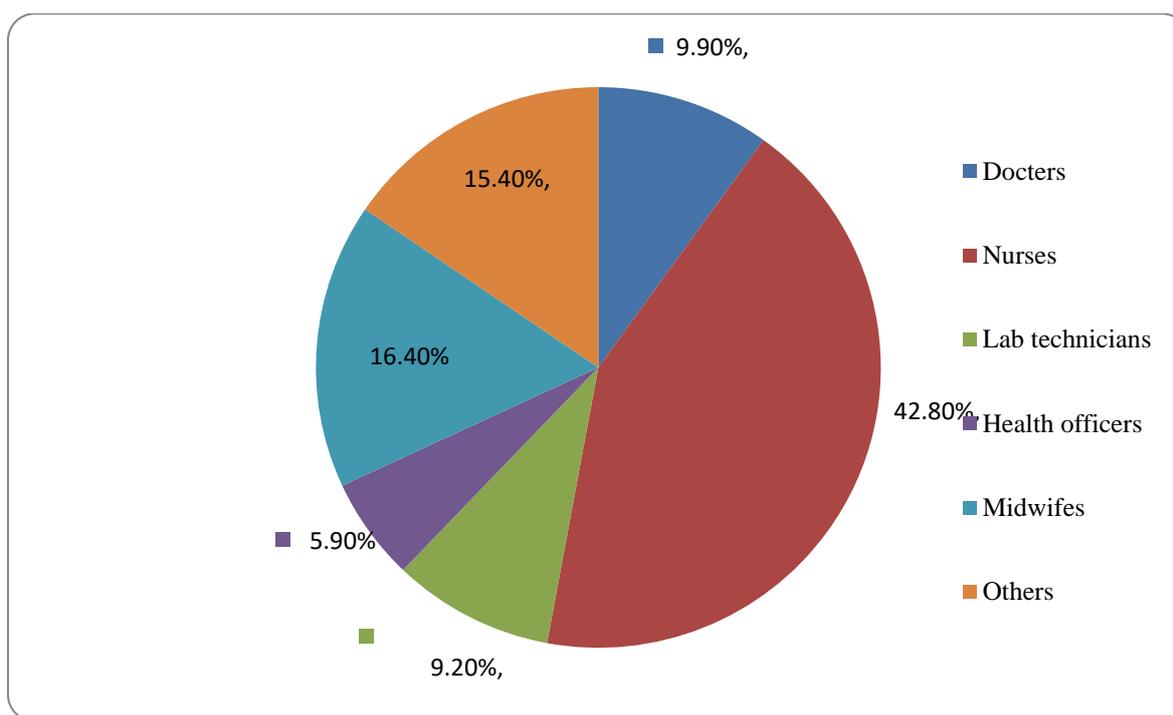


Fig. 1: Professional rank of Mertule mariam hospital and health center in 2021

B. Knowledge of health care workers towards PEP

Majority (92.8%) of the participants had adequate (Good) knowledge about the risk of the occupational exposure for HIV/AIDS and 92.7% had also good knowledge about PEP for HIV. From the study participants, 95.4%) had adequate knowledge about universal safety precaution procedures for decreasing the risk of exposure such as, correct handling of sharp objects (7.6%), use protective barriers (6.9%), disinfection and sterilization of

reusable materials(3.4%), and hand washing before and after procedure accounted 2.1%. Majority (87.5%) of the respondents had adequate knowledge about the initiation period to use PEP after exposure and said that within 0-72 hours were the best time to initiate PEP. One hundred thirty-two (87.4%) had good knowledge for the duration of using PEPfor a period four weeks (28 days) with appropriate combination of drugs.

C. Attitude of health care workers towards PEP

Among 124 respondents, (86.9%) had attitude about HIV acquired occupationally. The attitude about universal precaution protective methods for HIV were significantly high(88.8%). More than half of the participants (53.3%) agreed that avoidance of occupational exposure was paramount important. Generally, significant numbers of (78.2%) participants had favorable attitude about occupational exposure for HIV. Antiretrovirals were perceived as they are effective for PEP by the majority of the participants (63.8%).

From the total respondents, 41.4% had good attitude about when to start PEP without test after occupational exposure and 42.1% were having attitude about PEP indication after sexual exposure.

D. Practice of health care workers towards PEP

Among the respondents, 38.2% were exposed for HIV/AIDS risky condition of which 54.9% didn't took PEP. The most common immediate measures taken by exposed individuals were washing their hands with soap and water (32.7%) followed by washing with alcohol or disinfectant (8.6%). In this result, the major reason for individuals who didn't receive PEP following exposure were found to be lack of support on procedure (33.3%) and negligence (28.6%). Among the respondents who took PEP (84.6%), majority (86.4%) had completed the prescribed PEP and 90% participants were checking their status after treatment. After exposure, 90.9 % took PEP once, 4.5% were taking twice and 4.5% were taking three times. Regarding with training about PEP, almost all of them 91.4% didn't take any training.

VII. DISCUSSION

In this study, 92.7% participants have heard about PEP for HIV which is higher as compared to previous studies conducted in Nigeria tertiary hospital (90.4%) and in Addis Ababa city (83.1%) (23,24). Since Addis Ababa is the capital of Ethiopia, training opportunity is much more accessible than the area of this study. In addition, the difference in the study period may be significantly attributed to the difference of the results.

A study conducted among HCWs in Gonder university hospital showed that 36.9% of the respondents had poor knowledge (25). The respondents with poor knowledge accounts 7.2% in this study which is less than the study conducted in Gonder university hospital. This means that, in our study area the awareness about PEP is much better than the comparative studies. Experiences, training opportunities and patients size may be the factors affecting health worker's knowledge about PEP.

In this study, 38.2% of the health workers were exposed for HIV/AIDS risky conditions. Which is lower than the study done in Jimma zone (68.5%) (25,26). Low level awareness of risky conditions among the participants, neglectance and high work load may be attributed for the discrepancy of the results.

As part of occupational safety measures, 54.9% of exposed HCWs didn't receive PEP for their exposures against HIV/AIDS risk factors. This finding is better than a study done in Jimma zone (81.6%), but is lower than a study done in Gonder university hospital (25.7%) (25, 35). This might be because of difference in period of study, study area and sample size.

A survey conducted in India to assess attitude towards PEP for HIV among 70 health workers revealed that 63% correctly stated that PEP should be initiated within one hour of injury (27). But in our study (36.4%) respondents replied that PEP should be initiated within one hour after exposure. Early, initiation of PEP is critical and help reduce the consequences following exposure of risk factors.

A study done in Serbia showed that, among 230 health care professionals, 84.2% agreed that universal precaution methods are protective (28), but in our study, among 124 health care workers, 88.8% respondents agreed that universal precaution methods are protective (28). The difference might be due to the sample size study area.

Study conducted in Mangalore, India among interns of medical college, 23.5% knew the first aid measures following exposure and approximately 57.6% of them expressed their knowledge related to the application of antiseptics to the injured site (29). In this study, 32.7% of respondents were washed by water with soap followed by washing with alcohol or disinfectant (8.6%). This finding is better than a study done in Mangalore, India interns of medical college. The study population and the study period among these study are different and hence the results were varied.

A study conducted in Gonder city, north west Ethiopia, revealed that the major reason for individuals who didn't receive PEP following their exposure was negligence (49.6%) and whose HIV negative test result was (31.4%) (30). But in this study the reasons who didn't receive PEP following their exposure were lack of support on procedure (33.3%) and (28.6%) negligence. This might be due to awareness of practice towards PEP in our study area.

VIII. CONCLUSIONS

Some unnecessary measures were taken by health care workers after exposure like washed by alcohol and disinfectants. Despite there were adequate knowledge towards PEP for HIV and favorable attitude towards occupational exposure about HIV, this study revealed that there was unfavorable attitude towards PEP for HIV, delay initiation of PEP and low use of PEP.

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