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ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF POST EXPOSURE PROPHYLAXIS FOR HIV/AIDS AMONG HEALTH CARE WORKERS IN SHAMBU GENERAL HOSPITAL, HORRO GUDURU WOLLEGA ZONE, OROMIA REGIONAL STATE, ETHIOPIA

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ABSTRACT

Back ground: Although AIDS remains one of the world's most serious health challenges; global solidarity in the AIDS response during the past decade continues to generate extraordinary health gains. Globally 34.0 million peoples were living with HIV/AIDS at the end of 2011, although the burden of the epidemic continues to vary considerably between countries and regions. Sub-Saharan Africans remains most severely affected ,with nearly 1 in every 20 adults (4.9%) of living with HIV/AIDS and accounting for 69% of the people living HIV/AIDS in worldwide ,in UNAIDS Report on the global AIDS epidemic | 2012).In 2011, the prevalence of HIV/AIDS in adults was estimated 1.5% and approximately 1.2 million Ethiopians were lived HIV/AIDS in 2010; even if the prevalence of HIV/AIDS infections is decreased the number of peoples living HIV/AIDS are high, so this play the great in increasing the occupational exposure of HCWS to HIV/AIDS. Infection with Human Immunodeficiency Virus is a serious public health problem costing the lives of many people including health workers. Hence, Ethiopia has developed guideline on the prevention of infection in health institutions in July 2004 and also employed the use of post exposure prophylaxis since the implementation of free antiretroviral in January 2005. **Objective:** To assess the knowledge, attitude and practice of health care workers about PEP against HIV/AIDS in Shambu General Hospital, Horro Guduru Wollega Zone, Oromia Regional State, Ethiopia. **Method:** A cross sectional study was carried out to determine knowledge, Attitude and Practice of PEP for HIV/AIDS. Data was collected using self-administered structured questionnaire and the data analysis was done SPSS 21. **Result:-** A total of 84 HCWs were included in this study. Most of the respondents 80 (95.24%) knew about the occupational risk of HIV/AIDS at the work setting among this needle sick/sharp cuts (91.25%), exposure to blood (87.5%) and then exposure to body fluid (53.75%). A significant number 73(86.90%) of HCWs had adequate knowledge about PEP of the risk exposures and 13.09% of the participants had inadequate knowledge about PEP of HIV/AIDS risk exposure and a 90.48% of respondents knew the correct time of initiation period of PEP. A total of 38(47.5%) of participants had ever exposed to HIV/AIDS risk conditions and from this 28(73.64%) of respondents were who tried to get PEP drugs, the rest 10(26.32%) were did not tried to get PEP drugs.

KEYWORDS: Health care workers, PEP, KAP.

1. INTRODUCTION

Acquired Immunodeficiency Syndrome [AIDS] remains one of the world's most serious health challenges; global solidarity in the AIDS response during the past decade continues to generate extraordinary health gains. Historic success in bringing HIV programs to scale – combined with the emergence of powerful new tools to prevent people from becoming infected and from dying from

AIDS-related causes – has enabled the foundation to be laid for the eventual end of AIDS. Although much of the news on AIDS is encouraging, challenges remain. The number of people newly infected globally is continuing to decline, but national epidemics continue to expand in many parts of the world. Further, declines in the numbers of children dying from AIDS-related causes and

acquiring HIV infection, although substantial, need to be accelerated to achieve global AIDS target.^[1]

Populations such as healthcare workers (HCWs), injection drug users (IDUs), and people engaging in unprotected sex are all at risk of being infected with the human immunodeficiency virus (HIV). Animal models show that after initial exposure, HIV replicates within dendritic cells of the skin and mucosa before spreading through lymphatic vessels and developing into a systemic infection (CDC 2001). This delay in systemic spread leaves a "window of opportunity" for post-exposure prophylaxis (PEP) using antiretroviral drugs designed to block replication of HIV (CDC 2001). PEP aims to inhibit the replication of the initial inoculum of virus and thereby prevent establishment of chronic HIV infection.^[2]

Health-care professionals are at a high risk of AIDS infection, among hospitalized HIV infected patients in the world. Proper training and knowledge accompanied by necessary preventive measures are by all means, the most significant factors which ensure low accident rates and furthermore lower contamination rates of the health-care personnel.^[3]

Needle stick injuries (NSI) in healthcare settings are a global issue. Occupational exposures to percutaneous injuries are a substantial source of infections with blood borne pathogens among healthcare workers (HCWs). Reported risk associated with transmission of hepatitis B virus (HBV) to a non-immune health care worker ranges from 2% if the source patient is Hepatitis B antigen negative, to 40% if the patient is positive. Similarly, studies of HCWs exposed to hepatitis C virus (HCV) by a needle-stick or any other percutaneous injury have found that the incidence of anti HCV sero-conversion averages at 1.8% (0-7%) per injury. The calculated rate from meta-analysis of worldwide studies for HCWs exposed to HIV infected blood through percutaneous injuries is 0.3-0.4% per injury.^[5]

In the paired case studies, the theoretical responses of participating health professionals showed a greater preference for initiating self-directed treatment with antiviral or immunization rather than complying with the hospital protocol, when the patient was known to be infected. The differences in practice when exposed to a patient with suspected blood pathogens compared to patient known to be infected was statistically significant ($p < 0.001$) in all 3 paired cases. Failure to test an infected patient's blood meant that an adequate risk assessment and appropriate secondary prevention could not be performed, and reflected the unwillingness to report the occupational exposure.^[6]

Regarding knowledge- the majority knew the very important issues related with laboratory safety like Post Exposure Prophylaxis (96.55%) & discarding of blood samples (93.10%) etc. In regard to attitude towards the

scientific process, all are very much aware about importance of protective devices (i.e. Wearing Gloves) and Biomedical waste management. In regard to the practice in laboratory, the entire study subject group (100%) replied "YES" in each question that shows the good quality work of the laboratory.^[7]

Antiretroviral post-exposure prophylaxis (PEP) is short-term antiretroviral therapy initiated soon after known or suspected exposure to HIV, aims to prevent the establishment of HIV infection in an exposed person. PEP has become the standard of care to prevent acquisition of HIV infection after occupational exposure to blood or other bodily fluids of people infected with HIV. There is less of a consensus regarding the administration of PEP after no occupational exposure. While PEP is part of the package of post-sexual assault care in most countries, the use of non-occupational PEP, outside of rape or isolated incidents of exposure, is more controversial particularly when the HIV status of the source case is unknown. The World Health Organization (WHO) and the U.S. Department of Health and Human Services offer guidelines for non-occupational PEP.^[8]

Health care workers (HCWs) are at a high risk of occupational blood-borne infections, which may be increased in low and middle income countries by low adherence to Universal Precautions (UP). A baseline survey of Knowledge, Attitudes and Perceived adherence (KAP) was executed to design evidence-based tailor made interventions.^[9]

The HIV/ AIDS epidemic has become one of the most important public health problems in recent times, and sub-Saharan Africa has been disproportionately impacted by the disease. As the largest and most populous country in Africa, population approximately 130 million.^[7]

The most cases of infection in Africa are through heterosexual transmission, there is inadequate documentation of the incidence of occupational HIV infection among health care workers. It has been estimated that at least 1 in 500 surgeons is likely to be infected by HIV in the next 35 years and that a surgeons cumulative life risk of HIV sero conversion ranges from 1% to 10%. This risk arises from the frequent and intimate exposure to the patient's body fluids through glove punctures, needles tick injuries, or ocular splashes and it is related to the prevalence of HIV infection in the community. In a study done in Nigeria, attitude and practices of Nigerian surgery trainees to HIV infected person's in 1997; it was found that non-availability of relevant devices remains the most important factor militating against the use of universal precautions. Studies from other parts of the world have addressed these issues, but due to differences in sero-prevalence, among other factors the results of studies conducted in one environment cannot be extrapolated to others. Previous studies in this environment have either focused on health workers generally or on categories of health.^[9]

Nigeria has been experiencing a steady increase in annual HIVsero-prevalence rates (from 0% in 1986 to 3.7% in 1993, and 5.8% in 2003), with rates of up to 23% being reported among commercial sex workers. Gwarzo; examined examined the HIV prevalence rates in health care settings in Nigeria and found that the prevalence of HIV infection ranges from 4.5% in antenatal clinic users, 15% in Sexually Transmitted Disease (STD) patients to 34.5% among commercial sex workers. The national prevalence is 5.4% and 2.9 million people are already infected with the HIV virus. These statistics, it is noted parenthetically, come from sentinel surveys in the formal medical sources, which are accessible to less than 50% of the population, suggesting that the prevalence is much higher than is reported. The difference between HIV sero prevalence in urban and rural areas is not large, indicating that the AIDS problem in Nigeria is not strictly an urban one. As the prevalence of HIV/AIDS continues to rise, health care practitioners in all geographic regions of Nigeria can expect greater clinical exposure to patients infected with HIV.^[7]

After initial reports in 1981, Sub-Saharan Africa now has the highest prevalence of Human Immunodeficiency Virus (HIV) infection in the world with profound social economic impact. This has led to a heightened concern in the surgical community in terms of its impact on the practice of surgery and safety of the practitioners. This concern arises from the significant risk of infection through the parental route, lack of curative treatment, and the highest risk of exposure of surgical staff to the body fluids of patients.^[9]

Since the rapid spread of HIV infection in the 1980s and 1990s—primarily by commercial sex workers, truck drivers, and soldiers along major transportation routes—children, adolescents, and the general population have increasingly become infected. While the epidemic has spread rapidly in the towns and more slowly in rural areas, surveillance activities remain underdeveloped. Thus, the fragmentary data on the occurrence and impact of HIV/AIDS are speculative, and planning and implementation of prevention and control programs have been hindered. Available data show that knowledge levels about HIV/AIDS and use of condoms have increased in towns, and a few populations with declining risk behavior have been identified in Addis Ababa, although a high degree of denial, discrimination, and high-risk behavior persist. Little is known about the situation in rural Ethiopia. Poverty, war, gender inequities, traditional practices, and political problems have all inhibited the effectiveness of prevention and patient care/support programs. The socioeconomic impacts of HIV/AIDS are severe and increasing, and a sharp decline in population growth is anticipated. The national HIV/AIDS prevention program is briefly reviewed, and prospects for decentralized, multi sectoral, and community based planning and implementation of prevention and patient support strategies are examined.^[10]

In 2000, after seven years of limited prevention measures, the Ethiopian government implemented the comprehensive Multi sectorial HIV/AIDS Five-Year Strategic Plan (Ministry of Health 1999a) and established a National AIDS Council responsible for its implementation. Although the implementation, monitoring, and evaluation of this plan—including prevention, control, and patient care and support interventions—require extensive and reliable baseline data on the progression of the epidemic as well as its impacts on society, no such studies have been carried out besides the epidemiological study. While epidemiological studies are necessary to answer questions about who, when, where, and how people become infected and thus guide health policy and control programs, they cannot fully explain the great disparities in the prevalence of HIV/AIDS among communities, regions, and countries. It is well recognized that broader underlying socioeconomic, cultural, and political factors, including poverty, women's rights and other gender issues, must be considered as well for effective interventions.^[11]

Infection with HIV is a serious public health problem costing the lives of many people including health workers. Hence, Ethiopia has developed guideline on the prevention of infection in health institutions in July 2004 and also employed the use of post exposure prophylaxis since the implementation of free antiretroviral in January 2005. However in the country, specifically in Jimma zone, published studies showing the clear picture about HIV post exposure prophylaxis in the work place were non-existent. Therefore, this study was conducted to assess the knowledge, practice and factors associated to HIV post-exposure prophylaxis use among health workers of governmental health institutions in the Zone.^[3]

Globally 34 million peoples were living with HIV/AIDS at the end of 2011, although the burden of the epidemic continues to vary considerably between countries and regions. Sub-Saharan Africans remains most severely affected, with nearly 1 in every 20 adults (4.9%) of living with HIV/AIDS and accounting for 69% of the people living HIV/AIDS in worldwide. In 2011, the prevalence of HIV/AIDS in adults was estimated 1.5% and approximately 1.2 million Ethiopians were lived HIV/AIDS in 2010;even if the prevalence of HIV/AIDS infections is decreased the number of peoples living HIV/AIDS are high, so this play the great in increasing the occupational exposure of HCWS to HIV/AIDS.^[1]

There is increasing evidence of exposure to HIV/AIDS at work. Despite this exposure increment, availability of PEP reduces the risk of post exposure infections and ensures workplace safety. PEP is recommended for exposed individuals who seek care before 72hrs after potential exposures and it has been associated with 80% reduction in risk of HIV/AIDS infection. The use of PEP after potential exposure depends on the knowledge and

attitude of HCWs about it, but some HCWs are not aware of the presence of PEP and proper utilization of it.^[1]

Due to an increased number of people living HIV/AIDS and non-adherence of HCWs to universal precautions, the risk of being infected by HIV from occupational exposure is increased. So PEP is the means of reducing the occupational risk of infection in working setting, the use of PEP depend upon the knowledge and attitude of the HCWs about it. The study will be carried with an intension of assessing KAP of HCWs about PEP in Shambu General Hospital. This will provide information to concerned bodies and to take measures to improve the use of universal precautions by HCWs while at work. It may also help to take measures to improve the awareness about PEP, its utilization after occupational exposure of HCWs and as baseline research for further studies.

2. METHODS AND MATERIALS

2.1 Study Area and Period

The study was carried out at Shambu General Hospital, Shambu Town, which is located 315 km west of Addis Ababa. Located in the Horro Guduru Wollega Zone of the Oromia Region. Shambu General Hospital was established in 1978 E.C. The Catchment Population of Shambu General Hospital was about 1,000,330. It has different departments like Surgery, Pediatrics, Internal Medicine, Gynecology, Obstetrics, Radiography, Laboratory, Pharmacy, Neonatal Intensive Care Unit. It also has different Clinics like Psychiatry Clinic, ART Clinic, TB Clinic, Dental Clinic, Ophthalmic Clinic, Mother and Child Health Clinic. Pharmacy Department has different units like Out Patient Pharmacy, ART Pharmacy, Emergency Pharmacy, Drug Information Services, Main Store, Inpatient Pharmacy and Clinical Pharmacy.

2.2 Study Design

A cross sectional study was conducted using structured, self-administered questionnaire was filled by HCWs of Shambu General Hospital, from March 07- April 07, 2018 GC.

2.3 Study Populations

2.3.1 Source Population

All health care workers in Shambu General Hospital.

2.3.2 Sample Populations

All HCWs excluding pharmacy and NHCWs in Shambu General Hospital.

2.3.3 Inclusive and Exclusive Criteria

2.3.3.1 Inclusive Criteria

Those had probability of exposure to HIV/ADIS of HCWs in Shambu General Hospital.

2.3.3.2 Exclusive Criteria

Those had no probability of exposure to HIV/ADIS of HCWs including pharmacy and non health professionals in Shambu General Hospital.

2.4 Sample Size and Sampling Technique

The sample size was determined by using single proportion formula ($n = Z^2 P (1-p) / d^2$) at 95% confidence interval, where, $Z = 1.96$, $P =$ prevalence of 50% was taken since there is no similar study in the study area and $d = 5\%$ of marginal error was taken. Using this calculation, we obtained 384 to be the sample size. Since the exact number of source population of respondent is less than 10,000, we used correction formula of $n_f = n_i / (1 + n_i/N)$ where $n_f =$ corrected sample size (384), and $N =$ total number of all the source population.^[94] Therefore, $(384 / (1 + 384/94 = 84))$, obtained sample size of 84.

2.5. Study variables

2.5.1. Independent Variables

The independent variable includes socio demographic variables, professional type, Ward section and year services of HCWs of Shambu General Hospital.

2.5.2 Dependent Variables

The dependent variable includes knowledge about PEP, attitude about effectiveness of PEP and practice of PEP of HCWs of Shambu General Hospital.

2.6 Method of data collection

The data was collected by using structured self-administered questionnaires.

2.7 Data processing and analysis.

The data was analyzed by using SPSS 21 and it presented by using tables and figures.

2.8 Data quality assurance

Data was collected by using questionnaire and the result of the questionnaire was checked by the investigator at the end of each day.

2.9 Plan for data dissemination and utilization

The results of the study were presented, disseminated to Wollega University College of Health and Medical Science and other concerned bodies to update information.

2.10 Ethical considerations

A formal letter were written from College of Medical and Health Science, Wollega University to research program and permission will be obtained and given to Shambu General Hospital Medical Director. Verbal Consent was obtained from the respondents and brief explanation of aim of study will be provided with the questionnaire. Confidentiality of participants was ensured throughout the study.

2.11 Limitations

Some health care workers were willing to respond.

2.12 Operational Definitions

Adequate Knowledge: when respondents correctly answer > 75 % of the nine knowledge questions.

Exposure to HIV risk conditions: Health care workers' exposure to HIV risk conditions, Such as blood, patients /clients' body fluids, needle prick/sharps injury at work place.

Health care workers: persons working in health care setting who have potential for exposure for exposure in infectious materials/ infectious conditions.

Inadequate knowledge: when the correct answer of respondents is < 75 % of the nine knowledge questions.

Occupational exposure: procedures that put the health care workers in to a risk of infection.

PEP use /practice: reporting as they have practiced using Post-exposure prophylaxis of HIV.

Post-exposure prophylaxis: is an emergency medical response that can be used to protect individuals exposed to the human immuno-deficiency virus (HIV) and a short term anti retro viral treatment to reduce the likely hood of HIV infection after potential exposure either

occupational or through sexual intercourse. It consists of counseling, laboratory tests and or medication.

Percutaneous injury: a needle stick or sharp cut with an infected needle or sharp materials that put the health care worker at risk.

Regimen: a course of treatment, possibly combining drugs, exercise, diet etc. designed to bring about an improvement in health.

Universal precautions: universally adopted measures take before medical procedures to avoid risk of exposure whole on.

3. RESULTS

A study was conducted in order to assess the knowledge, Attitude, and, Practice of PEP after a potential exposure to HIV/ AIDS.

A total of 84 HCWs were included among this HCWs 55(65.48%) were males and the rest 29(34.52%) were females. Of the respondents most of them were Nurses 36(42.86%), 16(19.05%) physicians, 15(17.86%) midwives, 9(10.71%) laboratory professionals, 5(5.95% anesthetist and 3(3.51%) were other health.

Most of HCWs 59(70.24%) were in the age group between 25-34, 23(27.38%) youngsters in the age group between 15-24 and 2(2.38%) in the age group between 35-44.

Table 1: Socio demographic characteristics of respondent health care workers of Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Socio demographic characteristics		Number	Percent
Age of respondents	15-24	23	27.38
	25-34	59	70.24
	35-44	2	2.38
	>44		
Sex:	Male	55	65.48
	Female	29	34.52
Ward section:	Medical	20	23.81
	Surgical	15	17.86
	Gynecology and obstetrics	17	20.24
	Pediatrics	11	13.09
	Others	21	25.00
<2 Service in year:	2--4	25	29.76
	5--7	35	41.67
	7--9	20	23.81
	>10	1	1.19
		3	3.51
Field of profession:	Doctors	16	19.05
	Laboratory professionals	9	10.71
	Nurse	36	42.86
	Midwife	15	17.86
	Anesthetist	5	5.95
HO		3	3.51

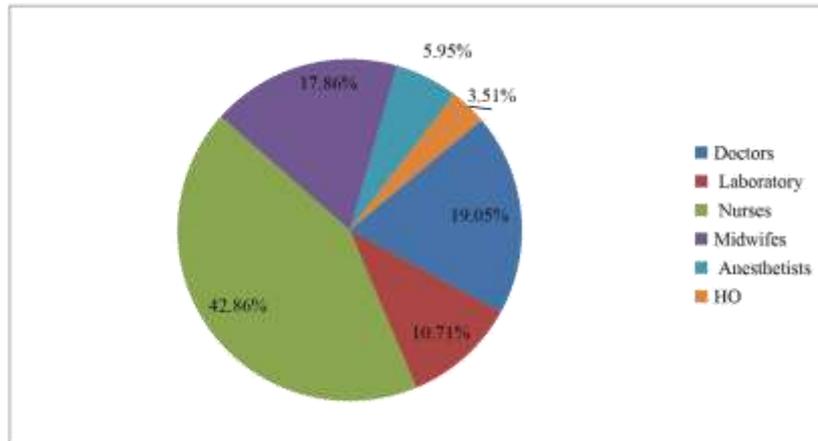


Figure 1: Distribution of health workers by professions in Shambu General Hospital.

Table 2: Distribution of HCWs based on their knowledge about occupational risk for HIV /AIDS and universal precaution, in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Knowledge on		Doctors	Laboratory Technologist	Nurse	Midwife	Anesthetist	HO intern	Total
		N.(%)	N.(%)	N.(%)	N.(%)	N.(%)	N.(%)	N.(%)
Occupational risk	Yes	16	8	33	15	5	3	80
	No	-	1	3	-	-	-	4
Universal precaution	Yes	15	8	33	15	4	3	78
	No	1	1	3	-	1	-	6

Most of the respondents 80 (95.24%) knew about the occupational risk of HIV/AIDS at the work setting. All the Doctors, Midwives, Other Health, anesthetist, 91.67% of the Nurses and 88.89% of Medical laboratory professionals knew about the occupational risk of HIV/AIDS.

A total of 78(92.86%) respondents knew about universal safety precautions among this all Midwives and HO, 93.75% of Physicians, 91.67% of Nurses, 88.89% of Medical laboratory professionals and 80% of Anesthetics.

Table 3: Respondent health care workers knowledge about occupational risk conditions for HIV/AIDS in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Variables	Profession / occupational status						Total
	Doctors	Laboratory Technologist	Nurse	Midwife	Anesthetist	HO intern	
	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	
Needle stick/sharp cut	15	7	30	13	5	3	73
Exposure to blood	13	7	27	15	5	3	70
Exposure of body fluid	8	4	21	6	2	2	43

Most of the respondents knew about that needle sick/sharp cuts (91.25%) were risk factors for acquiring HIV/AIDS at work place. 87.5% due to exposure to

blood and 53.75% exposure to body fluid had knowledge about the occupational risk conditions of HIV/AIDS.

Table 4: PEP of HIV - knowledge of respondent health care workers of Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Variables	Doctors	Laboratory Technologist	Nurse	Midwife	Anesthetist	HO intern	Total
	N.(%)	N.(%)	N.(%)	N.(%)	N. (%)	N.(%)	N. (%)
PEP of HIV Knowledge Level:							
Adequate knowledge	15	8	28	15	4	3	73
Inadequate knowledge	1	1	8	-	1	-	11

In this study around 73(86.90%) of HCWs had adequate knowledge about PEP of the risk exposures and 13.09%

of the participants had inadequate knowledge about PEP of HIV/AIDS risk exposure.

Table 5: Distribution of HCWs based on their knowledge about the availability of PEP in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Knowledge on of PEP		Doctors	Laboratory Technologist	Nurse	Midwife	Anesthetist	HO Intern	Total
		N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)
Availability of PEP	Yes	15	8	30	14	3	3	73
	No	1	-	3	1	2	-	7

From the participants of this study 73 (86.90%) of them knew about the availability of PEP for HIV/AIDS.

The rest 11(13.09%) of the HCWs didn't know the availability of PEP in Shambu General Hospital.

Table 6: HCWs by their knowledge about the time of initiation and duration of PEP for HIV/AIDS in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Occupation		Doctors	Laboratory Technologist	Nurse	Midwife	Anesthetist	HO intern	Total
		N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N.(%)
Optimal period of initiation of PEP	As soon as	12	6	19	7	3	2	49
	24hr	-	2	1	5	-	-	8
	24-72hr	4	-	10	3	1	1	19
	>72hr	-	-	3	-	1	-	4
Duration of PEP	7 days	4	-	10	1	2	-	17
	14 days	-	1	1	1	-	-	3
	21 days	1	-	1	1	-	-	3
	28 days	9	6	19	10	3	3	50
	2 month	2	1	2	2	-	-	7

From the respondents 90.48% of the HCWs knew the correct time of initiation period of PEP. Among these all physicians, medical laboratory professionals, midwives and HO, 90.91% of nurses and 80% anesthetists knew the correct time of initiation of PEP. And also from the

respondents 50(62.5%) of them knew the correct duration of PEP treatment; 9(11.25%) of physicians, 6(7.5%) of laboratory technologist, 19(23.75%) of nurses, 10(12.5%) of midwives, 3(3.75%) of anesthetist and 3(3.75%) HO.

Table 7: Attitude of HCWs towards the effectiveness of PEP for HIV/AIDS in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Effectiveness	Doctors	Laboratory Technologist	Nurse	Midwife	Anesthetist	HO intern	Total
	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N.(%)	N.(%)
Strongly agree	6	1	17	7	3	2	36
Agree	10	6	15	7	2	1	41
Undecided	-	1	-	1	-	-	2
Disagreed	-	1	-	-	-	-	1
Strongly Disagree	-	-	-	-	-	-	-

From the participants 36(45%) of HCWs had strongly agree, 41(51.25%) agree, 2(2.5%) undecided, 1(1.25%) disagree and none of the respondents strongly disagree

about the effectiveness of PEP for HIV/AIDS occupational exposure risk conditions.

Table 8: Distribution of HCWs by their past occupational exposure to HIV /AIDS in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Variables Occupational risk	Profession/ occupational status						Total
	Doctors	Laboratory Technologist	Nurse	Midwife	anesthetist	HO intern	
	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)	N. (%)
Needle stick/sharp cut	-	3	11	1	2	-	16
Exposure to blood	4	1	6	4	1	2	18
Exposure of body flood	2	-	-	2	-	1	6
Others	1	-	-	2	-	-	3

Most of the respondents exposed to blood 18(41.86%), 16(37.21%) needle sticks/sharp cuts, 6(13.95%) body fluid and 3(6.98 occupational exposure to HIV/AIDS risk conditions were seen in this study.

Table 9: Health care workers exposure to HIV risk conditions and practice of PEP after exposure in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Variables		Doctors	Laboratory Technologist	Nurse	Midwife	Anesthetist	HO intern	Total
		N. (%)	N. (%)	N.(%)	N. (%)	N. (%)	N.(%)	N.(%)
Ever been exposed To HIV risk conditions	YES	5	4	19	5	3	2	38
	NO	11	4	14	10	2	1	42
Practice of PEP after exposure	YES	1	4	17	3	1	2	28
	NO	4	-	2	2	2	-	10

From the respondents HCWs 38(47.5%) had ever exposed to HIV/AIDS risk conditions of this 19(50.0%) nurses, 5(13.16%) of physicians, 5(13.16%) of midwives, 4(10.53%) of medical laboratory professionals, 3(7.89%) of anesthetists and 2(5.26%) of HO. Of this who had ever risk conditions, 28(73.64%) were who tried to get PEP drugs, the rest 10(26.32%) were did not tried to get PEP drugs.

Table 10: Respondent health care workers’ and reasons for not using PEP of HIV in Shambu General Hospital, Oromia, Ethiopia from March 07 to April 07, 2018.

Variables	Health care workers	
	Frequency	Percent
Reasons for not using PEP:		
Unaware of the existence of PEP service and protocol	-	-
Lack of understanding the value of reporting exposures	2	10
Fear of stigma and discrimination	7	35
Fear of judgment from colleagues	3	15
Uncertain about confidentiality	8	40
Lack of support and encouragement to report	-	-
Client tested negative	-	-

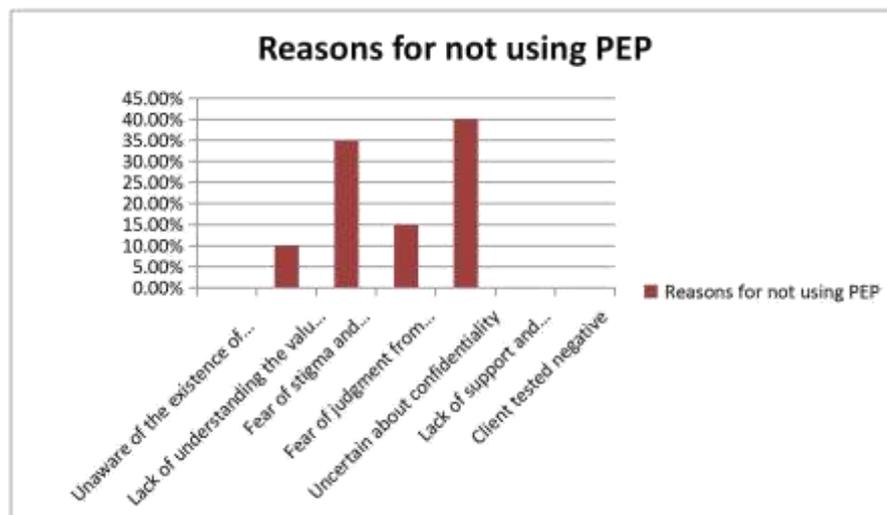


Fig. 2: Reason for not using PEP after exposures to HIV/AIDS of HCWs of Shambu General Hospital.

In this study reasons for not utilizing PEP is 8(40%) uncertain about confidentiality, 7(35%) fear of stigma and discrimination, 3(15%) fear of judgment from colleagues and 2(10%) lack of understanding the value of reporting exposures.

4. DISSCUSSION

This study assessed the knowledge, Attitude, and practice of associated with HIV/AIDS PEP use among

health care workers who are directly involved in the care of patients in Shambu General Hospital, Horro Guduru Wollega zone , Oromia Ethiopia.

Among the total 84 participants; Most of them, 95.24% knew about the occupational risk of HIV/AIDS. When we compare it with other two study which was conducted in a tertiary hospital in Nigeria, it was found that less percentages(97.7% and 97.0%) of the study participants

in the present study had been found who heard about PEP^[15,21] and this result more percentage(94.23%) than study conducted in Benghazi, Libya.^[22]

Among the participants this study, 78(92.86%) knew about the universal safety precaution exposure of HIV/AIDS. This may influence the health seeking behaviors positively; since knowing and avoiding the risk is the first measure to reduce occupational risk exposure and ensure work place safety and had better aware than the study participant in Nigeria.^[15]

A study conducted in UBTH and Gondar revealed that 66%and 63.1%respectively of the respondents scored more than 50% of the questions regarding knowledge which was regarded as good knowledge. In the present study the percentage of the respondents with adequate knowledge($\geq 75\%$) is (86.90%) which indicated that it is better than the findings of the study conducted in Gondar, North West Ethiopia the difference due to the availability of non standard questionnaires and difference in setting.^[21,23]

Regarding when to start PEP for HIV, in the present study 61.25% of the total respondents responded starting PEP should be taken within one hour and 95.0% of the HCWs knew the correct time of initiation period of PEP which is higher than other findings from study conducted in Gondar North West Ethiopia with only 50.8% being sure it should be started within an hour and 74.9% of the HCWs knew the correct time of initiation period of PEP after exposure.^[23]

Among the HCWs knowledge about the duration of time in PEP for exposure of HIV/AIDS, 62.5 % of them knew the correct duration of PEP treatment which is less percentage 64.20% than the study done in Nigeria.^[21]

In the present study, 38 (45.24%) of the respondents have been exposed for HIV risky conditions. This finding is more than the result found in a study conducted in Gondar North West Ethiopia in which 66 (33.8%) of respondents were exposed and number of HCWs that have ever been exposed to HIV risky conditions in the present study could not be considered as low since in Italy a study indicated only 11.3% of occupational exposure which is lower than the present study.^[23,24]

In present study less respondents 45.24% ever exposed to HIV than study conducted in Tanzania 174 (68.5%) had ever been exposed to HIV risk conditions. Out of 174 health workers exposed to HIV risk in Tanzania the majority of exposed health workers, 105 (60.3%) due to sustained needle prick/cut by sharps but in present study majority 18(41.86%) of exposed health workers due to blood exposure and the left account 77 (44.3%) to blood and 68 (39.1%) exposed to patients' body fluid for Tanzania study.^[3]

The difference between the present study and the others might be due to the difference in the setting. Of the occupational exposed HCWs of this study, 73.68% of them had taken PEP, this indicate greater than 47.4% study was conducted in UBTH Benin City Nigeria and almost similar with the study conducted in Gonder north west Ethiopia which is 74.20% took PEP.^[21,23]

After exposure practice of utilizing PEP poor in study conducted in Tanzania around 81.6% of those exposed did not use post-exposure prophylaxis but, practice of using PEP in this study revealed that 73.68% which indicate better than the study done in Tanzania. Lack of information about the existence of post-exposure prophylaxis service 48 (33.8%), fear of stigma and discrimination 46 (32.4%), lack of understanding the value of reporting 33 (23.2%) and lack of support and encouragement to report 29 (20.4%) were the reasons for not using.^[3]

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The findings of this study revealed the gap that knowledge of HCWs towards PEP for HIV is adequate but, still a gap in practice of using PEP. Even though many of the HCWs had HIV risky exposure, the number of HCWs that were exposed but did not take the PEP for HIV cannot be considered as low.

Most of HCWs have knowledge about occupational risk of HIV/AIDS, universal safety precaution for HIV/AIDS. A significant proportion of HCWS had good attitude about occupational risk of HIV/AIDS, protectiveness of universal safety precaution and effectiveness of PEP but there is a knowledge gap regarding the general condition and the utilization of PEP after the potential occupational exposure.

Large number of the respondents knew the availability of PEP in Shambu General Hospital. From the respondents 95.0% of the HCWs knew the correct time of initiation period of PEP. Among the HCWs knowledge about the duration of time in PEP for exposure of HIV/AIDS, 62.5% of them knew the correct duration of HIV/ AIDS PEP treatment.

Blood exposure were the prominent risk and; needle stick /sharp cut and fluid followed respectively involved in placing the HCWs at risk of HIV/AIDS infections.

5.2. Recommendation

Training and re-training of all HCWs on standard precaution and on the importance of HIV-PEP in reducing HIV transmission. Policy makers in the health sector and employers of health workers should ensure that HIV-PEP protocols are provided, clearly written, and administered to every employee at induction, and displayed publicly in the work place.

Establishing a 24 hour accessible formal PEP center with proper guideline is recommended so that their practice towards utilization of PEP can be improved in Shambu General Hospital.

A Participatory and illustrative seminars about occupational risk of HIV/AIDS acquisition should be prepared for HCWs to increase the knowledge and practice of PEP and knowledge about the merits and demerits of universal safety precaution methods, to share their exposure experiences and to learn past exposure.

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