ADDIS ABABA UNIVERSTY

COLLEGE OF HEALTH SCIENCE

DEPARTMENT OF EMERGENCY MEDICINE

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF NURSES WORKING IN ADULT AND PEDIATRIC ICU AND EMERGENCY DEPARTMENT TOWARDS STANDARD PRECAUSIONS AT TIKUR ANBESA SPECIALIZED HOSPITAL FROM DECEMBER 2016 TO JUNE 2017.

SET BY: - BELAYNESH DESTA

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ADDIS ABABA, ETHIOPIA

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BY BELAYNESH DESTA

A THESIS PAPER SHOUD BE SUMMITED TO BE ADDIS ABEBA UNIVERISTY COLLEGE OF HEALTH SCINCE , SCHOOL OF MEDICINE, DEPARTMENT OF EMERGENCY MEDICINE AS FULFILMENT OF DEGREE OF MASTERS IN EMERGENCY MEDICINE AND CRITICAL

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Contents

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[Belaynesh Desta]

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LIST OF ABBREVIATIONS

AAU	ADDIS ABABA NIVERSTY
BSI	BODY SUBSTANCE ISOLATION
CDC	COMMINICABLE DISEASE CONTROL
CHS	COLLEGE OF HEALTH SCIENCE
ED	EMERGENCY DEPARTMENT
FMOH	FEDERAL MINISTRY OF HEALTH
HAIs	HOSPITAL AQAUIRED INFECIONS
HBV	HEPATITIES B VIRUSE
HCW	HEALTH CARE WORKER
HH	HAND HAYGE
HIV	HUMAN IMINODEFIENCY VIRUSE
ICU	INTENCIVE CARE UNITE
MOH	MINISTRY OF HEALTH
PPE	PERSONAL PROTECTIVE EQUIPMENT
SIP	SAFE INJECTION PRACTICE
SPSS	STASTICAL PACKAGE FOR SOCIAL SCIENCE
TASH	TIKUR ANBESA SPECILISED HOSPITAL
WD	WASTE DISPOSAL
WHO	WORLD HEALTH ORGANIZATION

Abstract

Introduction: - Healthcare Associated Infection (HCAI) is the major cause of morbidity and mortality in hospital based settings; with nosocomial infections and their control creating a world-wide challenge. This also adds to the burden of healthcare costs due to added antimicrobial treatment and prolonged hospitalization. Para medical staff, especially nurses is at great risk of exposure to blood and body fluids and other means of spread of infection. **Objective: -** This study was conducted to access knowledge, attitude and practice regarding standard precautions among the nursing staff work in emergency and ICU at Tikur Anbessa Specialized Hospital. **Method: -** A cross sectional study was conducted on knowledge attitude and practice of nurses working in emergency and ICU at Tikur Anbessa Specialized Hospital from December 2016 to Jun 2017 GC. Data were collected using pre tested questionnaire on 142 nurses selected by convenience sampling method. Collected data were checked, coded and transferred to SPSS version 22 for analysis. Frequency, Mean and other statistics were calculated. **Result: -** This study revealed that, the mean knowledge score of all participants was 5.65, i.e. more than half (60.5%) of the studied sample had good knowledge level. The mean attitude score of all respondents was 4.95 which showed that 55.6% of the studied participants had good attitude level. However, only 48.59 % of the participants had Good practice with a mean score of 6.34. According to the correlate bivariate model No significant statistical correlation were found between mean Attitude scores towards age, years of experience, gender and factor affecting SP. Significant statistical relation were found between mean knowledge scores and year of experience (P=0.02). And a significant statistical correlation were found between mean practice scores towards year of experience, gender, and factor affecting SP (P=0.02, 0.01, 0.04) respectively. **Conclusion:-** Based on findings of the current study, it can be concluded that in spite of having positive attitude level regarding standard precaution, nurses had fair knowledge level and poor practice level. Low compliance of hand hygiene, lack of training, heavy workloads, lack of infection prevention supply, unavailability of guideline, lack of awareness about availability of PEP and shortage of vaccine for HBV are major obstacles for compliance of standard precaution. **Recommendation: -** Providing training on standard precaution to all health care staff and enhancing sustainable supplies systems are recommended.

Chapter one

1. Introduction

1.1Background

Standard precautions are means to reduce the risk of transmission of blood borne and other pathogens from both recognized and unrecognized sources. They are the basic level of infection control precautions which are to be used, as a minimum, in the care of all patients. (1) In 1987, the Centers for Disease Control and Prevention (CDC) proposed the concept of "universal precautions" originally designed to protect health care workers from exposure to blood borne pathogens. (2) In 1996, CDC recommended that universal precautions be renamed standard precautions, which combine the major features of the universal precautions and body substance isolation (BSI). (3) Universal infection control precautions that are advised by the World Health Organization to help protect health care workers and clients from blood-borne infections including HIV are the following: 1. Washing hands with soap and water before and after procedures, 2. Using protective barriers such as gloves, gowns, aprons, masks, goggles for direct contact with blood and other body fluids, 3. Discarding contaminated sharps immediately and without recapping in puncture and liquid proof containers that are closed, sealed and destroyed before completely full, 4. Respiratory hygiene and cough etiquette and 5. Proper waste disposal. Health care workers are increasingly at risk of becoming infected with serious blood borne viruses such as HBV, HCV, HIV and many other multiple drug resistance bacterial infections and clients also exposed for different infections after admit ion due to poor compliance of standard precaution. This survey was addressed the above major four components. (1)

The primary strategy for nosocomial infection control in hospital is applying Standard precautions; Occupational exposure to blood and body fluids is a serious concern for health care workers, and presents a major risk for the transmission of infections such as HIV and hepatitis viruses. It is applicable to all patients receiving care irrespective of their diagnosis or presumed infection status and covers blood, body fluids, secretions, excretions, non-intact skin and mucous membrane (4). It is designed to protect both health care staff, patients and their relatives. Blood borne infections acquired during clinical services have remained a

major health issue worldwide, particularly in low income countries where there is high morbidity and mortality associated with such infections. (5) These include hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV) infections and are acquired through exposure to infected blood and body fluids. (6)

The challenge of achieving significant improvement in patient care is one of the task facing health care providers. A large number of people continue to be successfully cared for and treated in health facilities, however errors and other forms of harm occur. (7) It is important to mention here that little resources are required to implement standard precautions. By applying the fundamental principles of infection control, through hand washing, utilization of appropriate protective barriers such as gloves, mask, gown, and eye wear. (8) In Ethiopia, most activates for patient care is covered by nurses assessing the necessary knowledge, attitude and practice on standard precaution and factors affecting the practice in hospitals as early as possible can give way to manage the limited resource available in the sector, and improves the quality and safety of health service for the health providers and consumers. Thus, this survey will be necessary to assess the knowledge, attitude and practice (KAP) of nurses on standard precaution and determinant factors for practice in TASH . So that, the health planners, hospital managers and FMOH can use the outcome of this study to improve service quality.

1.2. Statement of the problem

Globally standard precaution is not fully practiced. Among developed and developing country Adherence of standard precaution is not uniform. (9) Globally it is estimated that about 40% of HBV and HC infection and 2.5%of HIV infection in health care worker are attributable to occupational exposure.(10) Beyond this patients may stay four to five additional days due to nosocomial infection. And about 9000 people died each year with nosocomial infection. (11) European survey of needle stick injury found that nurses are exposed more commonly (91%) than doctors which is (6%). A study done by Akuna et.al conducted in Iran in 2003 show that 70% medical, 74% of dental and 72% nurses reported having at least one sharps injuries in their working place. (12) Study conducted In UK show that nurses poorly perform aseptic technique particularly gloving and hand hygiene. (13) Needle stick injury prevalence in Ethiopia was

17.5% annually which is attributed to risky habit and inappropriate standard precaution compliance. (11)

In the past two decades, considerable progress has been made globally in understanding the basic principles of preventing such infections, but they continue to be a significant cause of morbidity and mortality. At the same time, there is lack of evidence the number of needle stick injuries and their consequences to HCWs, although unsafe injection practice have been linked to the transmission of blood borne pathogens between patients and health care providers. To prevent the transmission of blood borne pathogens that result from unsafe injection use must be reduced and injection safe achieved. Safe injection does not harm the recipient, does not expose the HCWs to any risk and does not result in waste that is dangerous for the community. (14, 15) So it is necessary to consider study about nurses KAP. Infection prevention is critically important to deliver effective and safe service and to management heath care services. In 2014 there is a study to know the level of medical student's knowledge practice and attitude about standard precaution in Tikur Anbesa specialized hospital. But no research available that has been done concerning on nurses who are working permanently in ICU and ED regarding to Standard precautions compliance. Therefore, this study will help to identify nurse's knowledge, attitude and practice on safe precautions and would have a significant input for improving practice of preventive measures in the clinical areas.

1.3. Significance of the study

This study examines the knowledge attitude and practice of standard precautions among nurses working in Emergency and ICU at TASH. Assessing the necessary knowledge, attitude, and practice on standard precaution particularly those working in emergency situation and ICU service which is life-saving procedures & activities are prior and identify factors affecting full compliance in hospitals as early as possible can improve quality of service and way to manage the limited resource available in the sector. Findings from the study will be used by FMOH, the hospital management, and other stakeholders in planning and targeting appropriate measures/interventions to improve compliance to standard precautions among nurses.

Chapter two

2. Literature review

Study done in India on Knowledge about hospital-acquired infections amongst nursing staff of tertiary care teaching hospital in rural western Maharashtra, shows that, all 100 nurses had heard about HAIs. Majority (73%) of nurses knew that respiratory and urinary tract infections were the two most common HAIs. Nearly 38% nurses did not know about the barrier nursing plays a role in preventing HAIs or not. In the study, regarding the single most important measure for preventing HAIs, majority (68%) of nurses gave hand washing as a correct answers. (16)

Study conducted in china in 2010 show that one thousand five hundred registered nurses were involved half of the nurses were fully qualified and half were not in training. The vast majority of the nurses (93.7%) worked in departments equipped with sharps disposal boxes. With a maximum possible score of 80, the quartile range of the overall score for compliance for all nurses was 48.29 (upper quartile score 76.36, lower quartile score 28.07), which was occupied by 64.7% of the participants. The lowest score was obtained for the use of protection equipment such as eye shields, protective masks, and quarantine clothes. The score was higher for hand washing and sterilization (17)

Study conducted in Vietnamese in 2012 on Health Care Workers found in Vietnam shows the large percentages of correct responses to the items about knowledge of standard precautions (range for individual items, 83.9%-99.2%). Correct answers were less frequent for attitude than knowledge, which mostly ranged from 54.5% to 76.3%. Attitude questionnaire items about hand hygiene indications such as before glove use, after touching patient surroundings and before patient contact were answered correctly by 54.5%, 54.8% and 64.2% of HCWs, respectively. Only 58.8% of HCWs believe that patient care activities require the use of a single pair of gloves. The small percentages of correct responses to most items about knowledge and attitude toward isolation precautions were observed. Regarding the knowledge question about the use of N95 mask and the safe distance from patients with droplet spread disease, correct answers were found in 10.8% and 17.8% of HCWs, respectively. There were less than 25% of HCWs with correct attitude toward N95 mask use and waste management

from the room of a patient with SARS/AI infection . For practice questions about standard precautions, only small number of correct responses to items about hand hygiene indications (before patient contact: 29.1%, before using gloves: 14.5%, and after touching patient surrounding: 14.3%) and about the use of surgical mask (18.0%) and goggles (7.2%) when procedures likely to generate splashes and sprays of blood or body fluids. With the exception of the question about waste management, correct practices of isolation precautions were reported in less than 10.2% of HCWs. The percentage scores for knowledge of and attitude toward standard and isolation precautions were acceptable: 79.1% for knowledge and 70.0% for attitude.(18)

Study conducted in Zabol University which is found in Iran shows the mean score of the participants or nurses on the knowledge of infection was poor (42.5±8). The highest levels of knowledge were related to hand hygiene with a mean of 74.5±24 and precautions to avoid needle stick injuries with a mean of 70±3. In addition, the lowest level of knowledge was related to precautions such as wearing the gown, gloves, mask and glasses during clinical procedures with mean of 64±2.8. Of the 145 nurse participants in this study, 43% (n=63) had poor knowledge, 35% (n=51) had average knowledge, and 22% (n=31) of the nurses had good knowledge about the prevention of HAIs. Based on the Pearson correlation coefficient, there is no statistically significant relationship between knowledge and practice (r=00.8 p=0.3). (19)

The study done about Knowledge, attitudes and practices of health care workers regarding needle stick injuries at a tertiary care hospital in Pakistan shows that, Of 80 participants, 29 were doctors and 51 were registered nurses. About 45% reported having a needle stick injury in the past. Frequency of injury was significantly higher among doctors ($p < 0.001$). The most common reason identified was stress or being overburdened followed by careless attitude. More than 50% of the injuries occurred while injecting or drawing blood samples. (20)

A cross-sectional study done in Emergency Departments at Tahran Iran in (2010) on 224 nurses by random sampling from three teaching hospitals the result of the research showed that the majority of participants were female (53.6%), married (80.4%), had BS degree (89.3%) and had the working experience between 11 and 20 years (51.8%); 41.1% and 33.03% of the participants respectively had intermediate and high level of knowledge about infection control. Also the

result showed that (75.8%) had intermediate level of performance in this field. There was a significant correlation between sex and performance of the participants (P = 0.014). (21)

Cross sectional Study done in Kerala state health service personnel found in India shows that 86.5 percent of the health care personnel (HCP) had good awareness in hand hygiene (HH), 64 percent in use of personal protective equipment's (PPE), 78.8 percent in respiratory hygiene (RH), 93.5 percent in safe injection practices (SIP) and 18.5 percent in waste disposal and decontamination (WD). Good practice was seen in 9.2percent of HCP for HH, 69.5 percent in PPE, 94.2 percent in RH, 86.8 percent% in SIP and 97.8percent for WD respectively. When all elements were analyzed together nurses were the most likely to have good awareness (15.9%) and doctors were the most likely to have good practice (8.97%). (22)

Study done in Northern Nigeria shows that a total of 421 HCWs were interviewed, Majority (77.9%) correctly describe universal precaution and infection control with 19.2, and 28.0%, respectively unable to recognize vaccination, post exposure prophylaxis, and surveillance for emerging diseases as standard precaution for infection control. About 70.1% usually wear gloves before handling patients or patients' care products, 12.6% reported wash their hand before wearing the gloves, 10.7% washed hands after removal of gloves, and 72.4% changed gloves after each patient. Only 3.3% had a sharp disposal system in their various workplaces. Majority (98.6%) of the respondents reported that the major reason for noncompliance to universal precautions is the non-availability of the equipment's. (23)

Study done in Nigeria Gombi show that 142 (88.75%) of the respondents were aware of standard precautions and 18 (11.25%) were not. 18 (11.25%) of the respondents were of the view that, the conditions for which standard precautions is mandatory is in patient with HIV, 2 (1.25%) went for patients with Hepatitis B virus, 8 (5.00%) went for patients with nosocomial infection, 24 (15%) for seriously ill patient and 108 (67.5%) for all patients irrespective of their health status. 88 (55.0%) of the respondents were of the opinion that sterilization is the correct method of treating item that comes in contact mucous membrane, 50 (31.25%) said disinfecting those items is the idea method, 10 (6.25%) went for cleaning, and 12 (7.5%) were docile to the methods mentioned. 86 (53.75%) of the respondent attended update/seminar on standard precautions while74 (46.25%) have not.34 (21.25%) of the respondents can only mentioned one out of the five (5)components of the

standard precautions hence score 1 points, 60 (37.5%) 2 points, 24 (15%) 3 points, 12 (7.5%) 4 points, 10 (6.25%) 5 points while 20 (12.5%) scored zero. 70 (43.75%) of the respondents always observe standard precautions in clinical practice, 90 (56.25%) sometimes and none of the respondents indicated that it is not necessary. (24)

Cross sectional health institution based survey conducted in Plateau State North Central Nigeria to assess knowledge and practice of standared sefty precation among primary health care workers in 2015 by *Tolulope O Afolaranmi, Zuwaira et,al* their result show that the mean age of the respondent were 34.5 ±9.9 years with more than half of the respondents, 28 (56.0%) as females. Most 34 (68.0%) of the health care workers had good overall knowledge of Standard Safety Precautions. Good practice of Standard Safety precaution was found among 39 (78.5%) of the respondents. (25)

A cross sectional descriptive study conducted in south East Nigeria show that the mean age (SD) of the respondents was 34 ± 2.3. Out of the 300 healthcare workers interviewed, 0nly 18% had adequate knowledge, 88.3% had a positive attitude, while 19.7% exhibited optimum practice. The CHOs had better knowledge than the Nurses/Midwives, CHEWs and Orderlies, however, the Nurses/Midwives had better practice, compared to CHOs, CHEWs and Orderlies. Having undergone training in universal precaution was a significant determinant of both adequate knowledge and optimum practice. (26)

Survey conducted on 475 HCWs working in 10 hospitals and 20 health centers in eastern Ethiopia using a structured questionnaire show that life time risks of needle stick (30.5%; 95% CI 26.4–34.6%) and sharps injuries (25.7%; 95% CI 21.8–29.6%) were high. The one year prevalence of needle stick and sharps injury were 17.5% (95% CI 14.1–20.9%) and 13.5% (95% CI 10.4–16.6%) respectively. There was a high prevalence of life time (28.8%; 95% CI = 24.7–32.9%) and one year (20.2%; 95% CI = 16.6–23.8%) exposures to blood and body fluids. (27)

study conducted at Mizan-Aman General Hospital, Southwest Ethiopia by using Cross-sectional study design out of 135 respondents, 57 (42.2%) of HCWs think that they apply standard precaution always. About two-third (65.6%) of them had ever participated in training program. All of the respondents know that dirty needle and sharp materials could transmit disease causing agents. More than three fourth (76.3%) of health care workers think that they

were at risk of acquiring HIV in their work place. Among HCWs 59 (43.7%) of them disposed sharp materials in open pails, 91 (67.4%) in sharp and liquid proof container without removing syringe. Ninety five (70.4%) HCWs know that gloves and gowns were required for any contact with patients. Among respondent 63 (46.8%) of HCWs practice standard precautions on blood and body fluid always. One hundred three (76.5%) of HCWs wear gloves last time while they took blood sample. Ninety two (68.7%) of HCWs wash their hands before examining the patients and 84 (62.5%) of HCWs recap needle immediately after using them. (28)

Cross sectional health institution based survey conducted in TASH, Addis Ababa University, among medical students who are 4th, 5th and 6thyear.show that total knowledge score 118(54.6%) had fair knowledge 71(32.9%) has good knowledge and 27(12.5%) had poor knowledge. The knowledge level on standard precaution132 (61.1%) had good knowledge, 25(11.6%) fair and 59(29.6%) poor knowledge. Attitude score of the respondents showed that 180(8 3%) scored above half. Overall practice score showed that 117(53.9%) had fair practice while 15(6.9%) had good practice and 85(39.2%) had poor practice. Practice score standard precaution showed that 125(56.8%) had fair 69(32.6%) poor and 23(10.6%) good practice. (29)

Hospital based cross-sectional Study done on needle stick injuries among HCWs at army force referral and teaching hospital AA, Ethiopia show that 97.2% of health care workers were aware of the fact that hepatitis B, hepatitis C, and HIV could transmitted by needle-stick injuries. 82(57.3%) had participated in any training related to infection prevention program. 40(27.9%) and 38(26.6%) were exposed blood /body fluids and had needle stick or sharp injuries in the last one year's respectively. 104(72.8%) were of the impression that needle should be recapped after used. 24 (16.8%) had been vaccinated against hepatitis B. The prevalence of NSSIs was highest among nurses 21 (55.5%) and injuries had occurred while sudden movement of the patient was the most common source of NSSIs. (15)

Study done on Assessment of knowledge and practice of standard safety precautions among Emergency medicine professionals at TASH show that only 15(24.6%) of the respondents know the presence of anti HIV prophylaxis after sustaining needle stick or sharp injuries while 46 (75.4%) didn't know. The respondents who had perceived risk of acquiring HIV infection from their health facility waste, when disposed improperly, 2 said the risk would be for HCW, 3 for supportive staff, 40 (65.6%) for both health professionals &supportive staff and 8 said would be

for Health Professionals, Supportive staff, the client/patient & the community. Among the emergency medicine professionals 36(59%) perceived that oxygen delivery materials like mask, nasal cannula & prong can be reusable whereas 25(41%) perceived as this materials can't be reused. (30)

Chapter Three

3. Objective

3.1. General Objective

- To assess knowledge attitude and practice of ICU and ED nurses on standard precaution working in TASH, Addis Ababa, Ethiopia, 2017.

3.2. Specific Objectives

- To identify knowledge of nurses on standard precaution.
- To assess attitude of nurses on prevention of nosocomial infection and occupational exposure.
- To assess practice of nurses on standard precaution
- To identify associated factors for the compliance of standard precaution

Chapter four

4. Methodology

4.1 Study Area

The study was conducted in Tikur Anbesa Specialized Hospital adult and pediatric ED and ICU Addis Ababa Ethiopia from January to May 2017. This study was carried out in the emergency center and ICU of Tikur Anbesa specialized Hospital in Addis Ababa, Ethiopia. Tikur Anbesa Specialized Hospital is one of the referral hospitals under federal ministry of health which has its own adult and pediatric ICU.

4.2 Study period: The study was carryout from Dec. 01/2016 to July 12/2017.

4.3 Study Design: Hospital based descriptive, quantitative cross sectional study was carried out to assess knowledge, Attitude and practice of nurses

4.4 Source of population: All nurses working in TASH (902 in number)

4.5 Study population: All nurses who are working in ICU and ED in study period.

4.6 Eligibility Criteria

4.6.1 Inclusion Criteria

- All nurses who are willing to give their consent to participate in the study.

4.6.2 Exclusion Criteria

- Those who are absent from the Hospitals for different reasons during study period
- Those who are not willing to participate for different reasons
- Nurses who are nongovernmental employer and who come for practice
- MSc nurses are excluded because there were prior studies done on this target group.

4.7 Methods of Data collection

Data was collected by using self-administer structured questionnaire which is adopted from published literatures**. (**28) Which consists of 5 parts: demographic information, assessment of knowledge, attitudes, practices and availability supply. Knowledge was assessed using 10 questions which includes multiple choice and "yes" or "no" questions. Attitudes were measured using 11 questions where the respondents were given the option to select on a 0 to 4 point scale between agree, neutral, strongly agree and disagree. Practices and facilities were assessed in a similar way using 14 and 9 questions respectively. A scoring system used where 1 point was given for each correct response to knowledge, and practices. was given for incorrect knowledge and poor practices. A score of more than mean score was considered good and less than mean score poor. Different Knowledge, Attitudes and Practices (KAPs) studies have used different analytic methods. The cut off values to determine good and poor levels were taken from previously published studies with some modification to make the study more convenient. A higher total score indicates better KAP towards standard precaution; a score of less than mean suggests that standard precaution and infection prevention strategies needed further evaluation. Two supervisor and four nurses for data collection were employed.

4.8 Data Quality Assurance

The questionnaires were used by English language since it was given for Health professionals. To evaluate instruments understandability and applicability pre-test data was collected 10% from total sample that is 14 nurses who were working in Tirunesh Beging Hospital for self-administered questionnaire. From the feedback which was collected from the respondent some corrections were taken. Data collectors were organized with supervisor in teams and start collecting data. As much as possible the questionnaires were forwarded to the respondents after the purpose of the study was explained. The collected data was reviewed and checked for completeness, missed and jumped questions by the supervisors and principal investigator.

4.9 Sampling technique: Convenience sampling method was conducted.

4.10 variables

4.10.1 Dependent variables

1. Knowledge
2. Attitude
3. Practice

4.10.2 Independent Variables

1. Socio demographic characteristics
2. Educational Level
3. Year of work experience
4. Training on infection prevention
5. Presence of infection prevention guide line
6. Availability of personal protective equipment

4.11 Operational Definitions

- **Knowledge** is awareness and understanding of nurses regarding standard precessions.
- **Good Knowledge** about Standard precaution: refers to those study participants who scored point greater than or equal to the mean score of knowledge questions about the standard precautions.
- **Poor knowledge** about Standard precaution: Refers to those study participants who scored point less than the mean score of knowledge questions about the standard precautions.
- **Attitude:** the beliefs, feeling or opinion of the nurses about standard precessions
    - **Positive attitude**: Refers to those study participants who scored point greater than the mean score of attitude.
    - **Negative attitude**: Refers to those study participants who scored point less than Mean attitude score which is average of response on the attitudinal questions.

- **Practice** - In this study it refers to the nurses actions done them on the subject regarding standard precaution
    - **Good Practice**: Refers to those study participants who correctly respond to practice questions and score above the mean value
    - **Poor Practice**: Refers to those study participants who correctly respond to practice questions and score mean value and below mean value.(25)

- **Standard precaution** – a set of infection control practices used to prevent transition of disease that can acquired by contact with blood and body fluid on non-intact skin (including rashes) and mucus membranes.

4.12 Data analysis & presentation

The collected were entered and cleaned by using Epi Info version 3.5 and analyzed by using the SPSS version 22 statistical software. Simple descriptive statistics were used (mean ± standard deviation for quantitative variables and frequency with percentage, distribution for categorized variables)

4.13 Ethical consideration

The proposal were submitted to Addis Ababa University, Emergency department and ethical clearance were obtained from Addis Ababa University, College of health sciences and IRB. In order to obtain permission to proceed with data collection. Informed consent were obtained from each participant prior to enrollment the participants will check a box indicating willingness to participate in the study.

4.14 Dissemination and utilization of the result

The result of this study will be disseminated to Addis Ababa University, College of Health Sciences Department of Emergency medicine and critical care of Nursing. A copy of the results will be submitted to the studied hospitals. Furthermore, the manuscript will be submitted to national or international peer reviewed journals for possible publication

Chapter Five

5. Result

5.1 Socio demographic back ground

From the total 157 nurses who were working in selected departments 142 of them fulfilled inclusive criteria and participated in the study. Thus, the response rate found valid and included in the analysis was 90.4%. From those who participated 57 nurses were from adult emergency, 38 nurses were from pediatric emergency, 34 nurses were from adult ICU and 13 nurses were from pediatric ICU. The age of the respondents ranges from 20 to 50 years with mean age of 20-25 and the median age was 33-38 year. The mean work experience of nurses was 5 years± **(SD 6.4).**. The overall socio demographic characteristics of nurses are described in table 1.

Table1. Selected socio demographic characteristics of respondent nurses TASH, 2017.

		Adult ED		Pedi ED		Adult ICU		Pedi ICU	
		Number	percent	Number	percent	Number	percent	Number	Percent
sex	female	34	59.7	19	50	16	47	6	46.2
	male	23	40.3	19	50	18	52.9	7	53.8
age	20-25	27	47.36	21	55.26	20	58.82	9	69.23
	25-30	21	36.84	8	21.05	5	147	2	15.38
	30-35	3	5.26	3	7.89	3	8.8	0	0
	35-40	3	5.26	3	7.89	3	8.8	1	7.69
	40-45	2	3.50	2	5.26	2	5.88	0	0
	45-50	1	1.70	1	2.63	1	2.94	0	0
Year of experience	< 5 Years	35	61.4	32	56.14	20	58.82	10	76.9
	5-10 years	15	26.31	3	5.26	10	2.94	3	23.07
	>10 years	7	12.28	2	5.26	3	8.82	0	0

5.2 Knowledge about Standard precaution

From the total participants, 123 (86.6%) of them had knowhow about standard precaution while 19 (13.4) respondents didn't knew about it. However, concerning the components of standard precaution only 34(29.2%) of them knew the four components which is described in measuring tool, the rest 81 (65.8%) of respondents know only one component and 6 (0.48%) of respondents who knows about standard precaution didn't respond about the components.

Regarding the knowledge of nosocomial infection, 55 (38.7%) of participants knew about it while the rest 87 (61.2%) of them didn't knew about nosocomial infection.

Concerning the knowledge about risk of infection, 96 (67.6%) of respondents knew that all patients are considered as a source of infection regardless of their diagnosis while the response of the rest was in contrast. With regard to disease transmitted by dirty needles and sharps, 62(43.7%) respondents said HIV, HBV, and HCV transmitted by dirty needles and sharps, the rest of the respondents 56.3% mentioned only one from the provided choices i.e. HIV, HBV, HCV, HIV, HBV, HCV, TB, malaria and Tetanus.

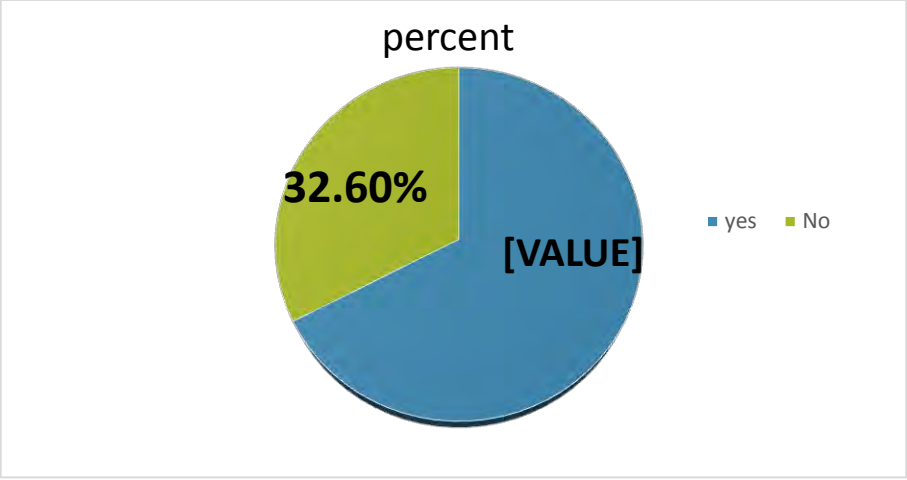


Figure 1 response about all patients are considered as a source of infection regardless of their diagnosis TASH, 2017.

Among respondents 99(69.7%) of them respond hand washing on the same patient and between procedures and tasks is necessary the rest respond not necessary.

Regarding when to dispose suction catheter for a single patient, among the respondents 79(55.6%) respond immediately after a single use, and 43 (30.1%) respond that it can be cleaned and reused twice, while, 11(7.7%) said that it can be used for several days without being cleaned and the rest 9(6.3%) have no idea about the disposal. Concerning who are at risk of infection from health facility waste disposal, 90(63.4%) of respondents knew that all who are at risk i.e. health professional, supportive staff, the patient, the community and children. Whereas, 52 (36.6%) of the respondents answered one from mentioned above.

5.3 Attitude about standard precaution

The result of this study shows, 66(46.5%) and 68(47.9%) of respondents agree and strongly agree respectively, about the fact that in the absence of standard precautions health care facilities can be the source of infection and epidemic disease and only10(2.1%) of respondents disagreed about it. However, only 81(57%) of participants responded that they follow standard precaution regularly. whereas 56(39.4%) follows standard precaution sometimes, the rest 5(3.5%) have said that they never follow standard precaution at all.

According to the respondents, the reason for poor adherence of standard precaution is, lack of supply 88(62%), shortage of time 19(13.4%), lack of awareness 33(23.2%) whereas 2(1.4%) of the respondents doesn't know the reason. Respondents that use glove for all patients when needed were 98 (68.5%), for only HIV suspected case were 12 (8.4%), for only HIV positive cases were 6 (4.2%), and for procedures which needs glove were 25 (17.5%).

Regarding the importance of infection prevention guideline, More than half 80(56.3%) of the respondents agreed on the use of guidelines for HAI‟s to reduce the risk of infection.

Among the respondents 68(47.9%) respond needles should be recapped whereas 70(49.3%) responded it should not be recapped, and the rest 4(2.8%) of respondents have no idea.

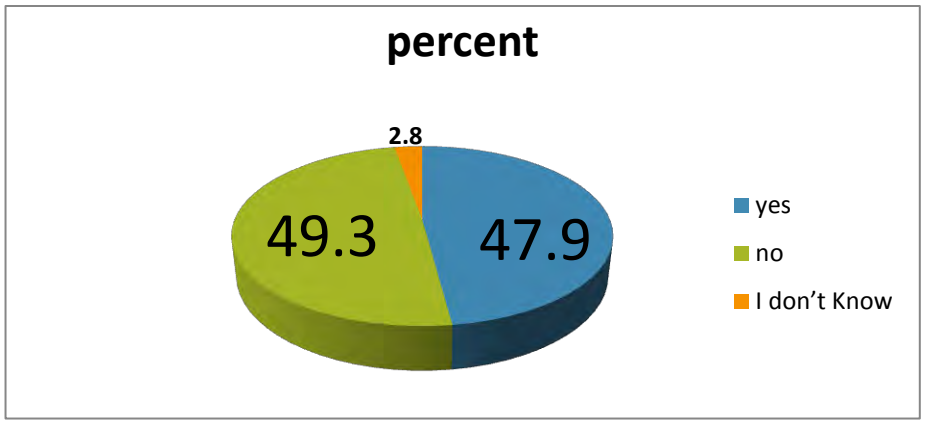


Fig 2:- Perception of nurses regarding needle recapping TASH, 2017.

Attitude of nurses towards PPE which are measures to prevent HAI showed that out of total participants those who agree were 68(47.8%), those who strongly agree 58(40.8%), those who disagree 7(4.9%), those who strongly disagree 5 (3.5%) and the rest 4(2.8%) of the respondents were neutral.

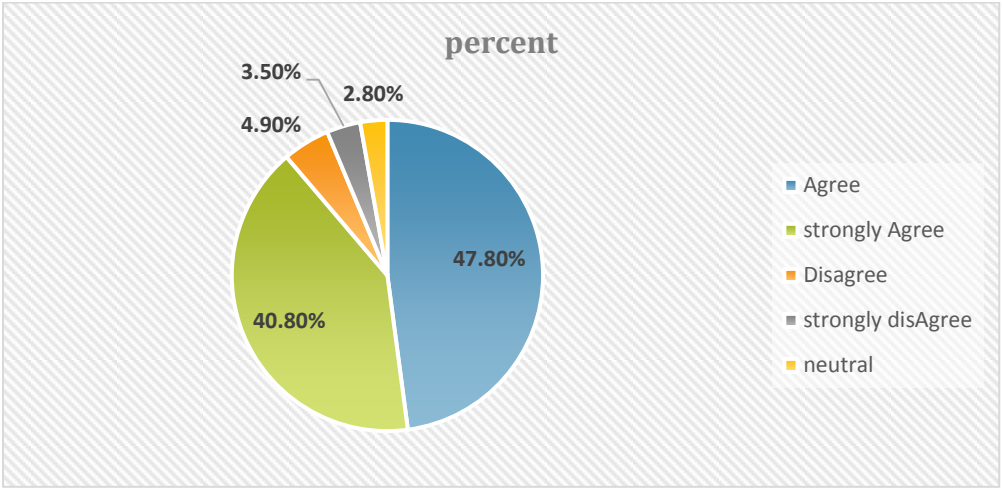
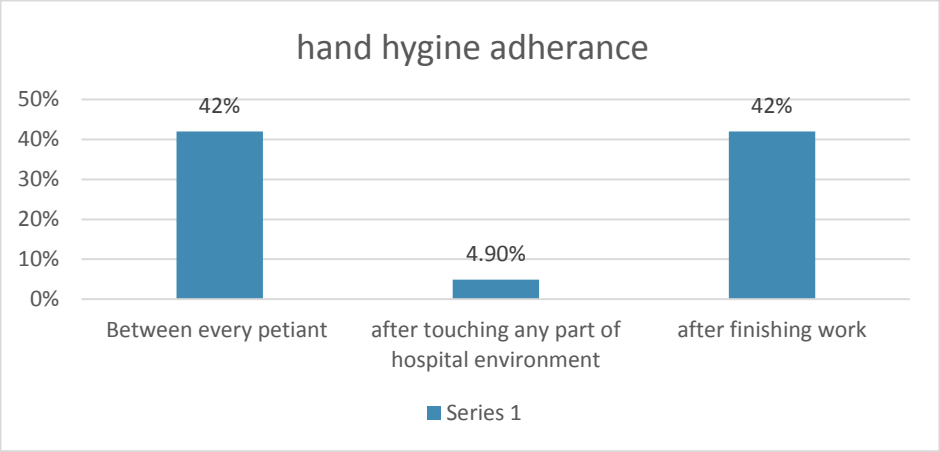


Figure 3 Attitude of nurses towards PPE TASH, 2017.

5.4 Practice score regarding standard precaution

Regarding the practice of hand hygiene adherence, among the respondents 60(42%) of them responded that they practice hand washing between every patients. Whereas 7(4.9%) of respondents responded that they practice hand washing after touching every part of hospital



environment and 60(42%) of them said that they wash their hands after finishing their work.

Figure 3 hand hygiene adherence of nurses TASH, 2017.

With respect to the reason to wash hands, 135(95%) of respondents mentioned three of the specified i.e. hand washing b/n every patient is necessary, hand washing affect clinical outcome and hand washing necessary even when gloves are worn. 3(2.1%) of respondents mentioned two of the specified and 2(1.4%) mentioned one the above mentioned alternatives. From total respondents 88(62.0%) of them use plain water and soap to clean their hands while, 54(38.02%) of them use alcohol hand rub and the rest 31(14.3%) of them use both together.

Half of the respondents 71(50%) knows the appropriate instrument that should be disposed in safety box which is Needles, lancet and other contaminated sharps. Other 63(44.3%) respondents responded that they know only one of the above mentioned alternatives. Whereas, 7(4.9%) of respondents said empty vials and the rest 1(0.7%) of respondent said latex gloves should be disposed in safety box.

Table 2: Proportion of nurses who identified types of waste materials to be discarded in to safety box TASH, 2017.

waste materials to be discarded in safety box	Frequency	Percent
Needle	52	36.6
Lancets	5	3.5
Empty vials	7	4.9
Latex glove	1	0.7
Other contaminated sharps	6	4.2
Needle, lancet and Other contaminated sharps	71	50
Total	142	100

Regarding HBV vaccination, only 41 (28.8%) had been vaccinated for HBV. among those who were vaccinated (n=41), 28 (68.29%) were completely vaccinated, While those incompletely vaccinate were 13(31.70%). For those who were not vaccinated (n=101), the reason for 86(60.5%) was lack of availability, for 9(6.3%) negligence, and for the rest 6(4.2%) was lack of awareness.

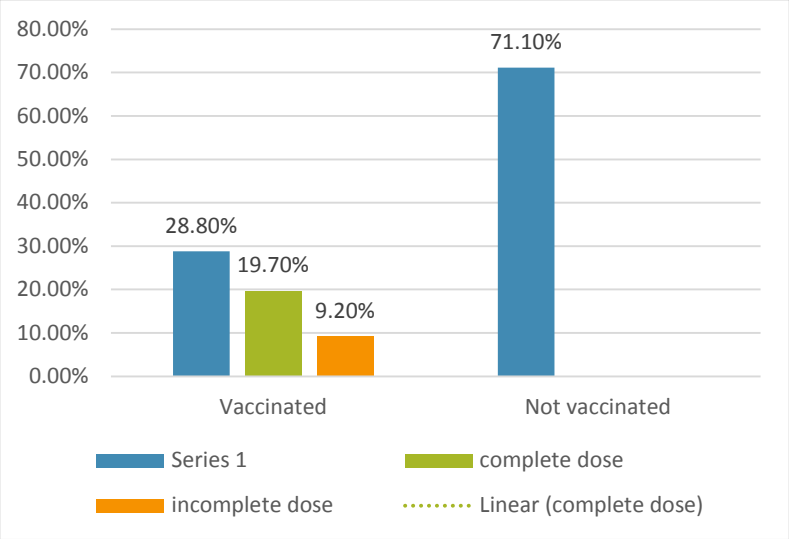


Figure 4 HBV vaccination rate of nurses TASH, 2017.

Regarding exposure to body fluid and blood from total participants 81(57%) of them reported that, they had blood or body fluid splash. Among these (n=81), only 63(77.7%) had got appropriate services including wash with soap and water, use antiseptics, seek PEP and report to the head person but 8(9.8%) only washed with water and didn't take any action. From the total participants 74(52.1%) of them had needle stick or sharp related injury. among these (n=74), almost half 32 (43. %) of them were injured during recapping, 10(13.5%) of them during collection of sharp instruments in procedure rooms and 32(43.2%) of them at sudden movement of the patient during different procedures.

The practice score of nurses regarding the use of PPE shows that, 49 (34.5%) of the respondent had use at least three type of personal protective equipment. The rest use only one PPE. Specifically, for glove use 98(69.01%) of respondents said they use glove for all people when needed and for procedures that need glove however, the rest of them responded they use glove Only for HIV Patients.

Table 3:-personal protective device utilization by nurses TASH, 2017.

Seri No	PPE	Frequency	Percent
1	Apron	13	9.15
2	Utility glove	41	28.9
3	Gowon	2	1.4
4	Boots	3	2.1
5	Mask	15	10.6
6	Goggle	5	3.5
6	Examination glove	14	9.9
7	Examination glove, mask and gown	49	34.5
	Total	142	100

The study shows that there is a variation between departments regarding the availability of personal protective equipment's. Table 4 shows a brief picture about the variation.

Table 4 personal protective equipment's which is available in each department TASH, 2017.

personal protective equipment's		Departments				Total
		EMER Adult	EMER Pediatric	ICU Adult	ICU Pediatric	
1	Apron	11	0	4	0	15
2	Utility glove/ double glove	22	11	9	1	43
3	Head cover	0	3	4	0	7
4	Boots/ shoe	2	2	1	0	5
5	Eye protectors / goggle	2	1	0	1	4
6	Mask	10	6	0	1	17
7	Examination glove	9	4	0	0	13
8	all	1	11	16	10	38
Total		57	38	34	13	142

5.5 Factor affecting compliance of standard precaution

According to the respondents there is different factors that affect compliance of standard precautions. Regarding persistent water supply 61(42.9%) say there is inconsistent water supply in the room but the rest of the respondent said there is no water in the room at all. With respect to the availability of detergents for hand washing majority 104(73.2%) of respondents says there is alcohol swab in the room for hand cleaning, whereas 38(26.7%) them says no alcohol swab in the room. About the availability of soap for hand washing out of total participants 80(55.9%) of them said that there is soap in the room and those who said no soap for hand washing were 62(44.1%).

With regard to infection prevention training, more than half 88(61.97%) of respondents reported that they were participated in on job training but the rest 54(38%) of them reported that they had no training at all. Regarding post exposure prophylaxis from the total participants 92(64.8%) of them knows the availability of PEP in their facility for HIV and those participants who doesn't know its availability in their facility were 50(35.2%). From respondents who know the availability PEP (n=92), 60(65.2%) of them knows from where they can get PEP whereas, 32(34.8%) of the respondents didn't know from where they can get PEP.

Table 5 Factor affecting compliance of standard precaution TASH, 2017.

Factor	Departments							
	adult emergency		Pediatric Emergency		Adult ICU		Pediatrics ICU	
	Number	percent	Number	percent	Number	percent	Number	percent
Nurses who have taken training on infection prevention	57	49.1	38	76.3	34	70.5	14	50
Nurses who have infection prevention guideline in their department.	57	50.8	38	60	34	70.5	14	50
Nurses who said we have persistent water source in their department.	57	36.8	38	21	34	61.7	14	71.4

Nurses who said there is alcohol swab in the room always.	57	64.9	38	76	34	76.4	14	85.7
Nurses who said there is soap for hand washing in the room always	57	59.6	38	42	34	55.8	14	78.5
Nurses who knows the availability of PEP in the facility.	57	63.1	38	57.8	34	85.25	14	21
Nurses who knows from where they get PEP.	57	68.4	38	52	34	85.25	14	21

Chapter Six

6. Discussion

This study contributes to determine the knowledge, attitude, and practices of nurses working in emergency and ICU departments toward standard precautions in Tikur Anbessa Specialized Hospital.

Among the Participants of this study 40.1% were from adult emergency, 26.7% from pedantic emergency, 23.9% from adult ICU and 9.2% from pediatric ICU. The female to male ratio was 5:4 and the mean age of participants was 25-30 years with median 33-38 years showed that the participants were fairly distributed from young to middle adulthood. And the respondent's average service year is 5 ± (SD 6.4).

The finding of this study shows that, the mean knowledge score of all participants was 5.65, the mean attitude score of all respondents was 4.95 and the mean score of practice was 6.34. Accordingly the correlation result of all the above variables shows that, there is no significant correlation between knowledge and attitude. According to the correlate bivariate model No significant statistical correlation were found between mean Attitude scores towards age, years of experience, gender and factor affecting SP. Significant statistical relation were found between mean knowledge scores and year of experience (P=0.02). And a significant statistical correlation were found between mean practice scores towards year of experience, gender, and factor affecting SP (P=0.02, 0.01, 0.04) respectively.

The mean knowledge score of all participants was 5.65. The total knowledge score showed that 60.5% of the respondents had good knowledge while 39.4% of them had poor knowledge. This result is almost similar with the study conducted in Zabol University in which out of 145 nurses 43% of them had poor knowledge. (19) According to the result of this study the specific knowledge of participants about standard precaution was 86.6%. However, concerning the

components of standard precaution 71.8% of the respondent's knowledge was below the expectation since they know only one of the components which is described in measuring tool. This result is similar with the finding of Saidu Mohammed Abubakar et al. which was 71.25%.(24)Regarding the knowledge of nosocomial infection even though most 78.9% of the respondents know about nosocomial infection, there are still some 21.1% respondents who doesn't know about nosocomial infection at all. Also among those (n=112) respondents who responded that they know about nosocomial infection 49.1% of them provided the wrong description of nosocomial infection. This result is unlike with the study done in western Maharashtra, India in which 65% of the participants describe nosocomial infection correctly. (16) This difference might be due to lack of continuous training about infection prevention.

According to the result of this study (32.6%) of respondents didn't know that all patients are considered as a source of infection regardless of their diagnosis. This shows there is a significant gap concerning the knowledge about risk of infection. There is also a big gap regarding the knowledge about disease transmitted by dirty needles and sharps, since 56.3% of respondents didn't mention the correct disease.

This study shows that there is poor adherence of hand hygiene since, almost half 42% of the respondents wash their hands after finishing their work. This was similar compared to study done by Dr. Jaydeep J. Devaliya et al. in which hand washing compliance among nurses was 40%. [32] But the result of this study is much less than the study done by Teka Girma in which hand hygiene adherence of nurses were 86%.(33)The reason behind this controversy might be due to lack of persistent water supply (especially in adult and pediatric emergency department), lack of soap and alcohol swab supply and work over load.

The finding of this study shows that, there is a positive perception about the use of standard precaution for infection prevention. Because, 46.5% and 47.9% of respondents agree and strongly agree respectively, about the fact that in the absence of standard precautions health care facilities can be the source of infection and epidemic disease. However, only 57% of respondents follow standard precaution regularly. This finding is less compared to a study done by Saidu Mohammed Abubakar et al. which is 67%. (24) This difference might be due to lack of training and it shows that even though they have positive perception about compliance of standard precaution they have poor practice. According to the respondents, the reason for poor adherence of standard precaution is, lack of supply, shortage of time, and lack of awareness.

This study shows, there is a negative perception about recapping of needle. Because, among the respondents 50.7% respond needles should be recapped. That is why from 52.1% of the respondents who were exposed to needle stick or sharp related injury almost half (n=73), 43. % of them were injured during recapping. The result of this study about needle stick or sharp related injury is almost similar to the study done by Lemessa et al., risks of needle stick and sharps injuries were (55.5%).[15] In addition, concerning what should be disposed in safety box half of the respondents knows the appropriate instrument that should be disposed in safety box. This shows that there is in appropriate practice of sharp disposal.

According to the result there is a positive perception i.e. 92.2% towards PPE, as a measures to prevent HAI. However, there was a poor practice score regarding the use of PPE because, only 34.5% of the respondent use at least three type of personal protective device. As a result, 81(57%) of the respondents had blood or body fluid splash. This is very high compared to the study done by Ayalu A. Reda et al., in which exposures to body fluids was (49%).(11) This difference might be due to shortage of PPE.

With regard to pre and post prevention of blood borne pathogens that affect health care workers, only 28.8% of nurses had been vaccinated for HBV among those 19.7 take complete vaccine. This shows that most of nurses were at risk for HBV. This was much less as compared to studies done by Afia Zafar *et al which* was 82%.[20] this difference might be due to economic incapability and lack of proper attention from the concerned management. The response of the participant's shows that the major reason for not vaccinated was lack of availability in the facility. Regarding post exposure prophylaxis in spite of the fact that, most of the respondents 64.8% know the availability of the service, 50(35.2) of the participants didn't know its availability. This finding is lower compared to the study done by Yakob E, Lamaro T and Henok A in Mizan Aman Hospital in which 69.2% of the respondents consider the presence of post exposure prophylaxis. (28) This difference might be due to lack of awareness about the availability of PEP in the facility when the nurses were assigned. But the finding was much better than the result indicated in the study of Mesele Damite which is 31.3% of the participants consider the presence of PEP. [31] From respondents who know the availability of PEP 34.8% didn't know where to get the service. This shows that, there is a great probability of exposure for HIV.

Regarding persistent water supply 61(42.9) say there is water supply in the room but not always the rest of the respondent says no water in room. With respect to the availability of detergents for hand washing 104(73.2) of respondents says there is alcohol swab in the room for hand cleaning, 38(26.7) says no alcohol swab and 80(55.9) of respondent says there is soap while 62(44.1) of them says there is no soap for hand washing.

Training is a major factor for compliance of standard precaution. However, only 61.97 of participants were participated in on job infection prevention training. This result is relatively better compared to the study done in Central Nigeria which is 52% of participants attended infection prevention training. [25] The in-service training given for nurses had complaints of short in duration leading to poor skill. The short duration might compromise the qualities and contents of the training. Also, only provision of a lot of information at a time may not convince staff about the duty of care to client/patient, environment and safe practice of health care workers. In addition to this, even though there is a national guideline on infection prevention, only 57.8 of the respondents said there is a guideline in their departments. This result is better than the finding of Saidu Mohammed Abubakar et al. in which Majority of the respondents 51.25% denied the availability of operational guidelines for the practice of standard precautions in their ward/unit. (24)

Strength and limitation

Strengths

- Contextually adapted standardized questionnaire.
- High response rate.
- Since there were no studies conducted in the facility it can contribute as baseline information to the facility.

Limitations

- There also may have been recall bias and social desirability bias since the self-care practices of the study participants were based on self-reports and performance of these behaviors was not observed and could not be confirmed.
- The study design were cross-sectional method, the direction of causal relationship between variables can't always be determined.

Chapter Seven

7. Conclusion and Recommendations

7.1 Conclusion

In conclusion, good knowledge, perception and practice about standard precaution were so defined based on the provision of more than half right answer to all questions on various aspects of standard precautions. Thus, it was observed that knowledge about standard precaution is low among nurses and quite a significant number showed poor compliance. The study also detected unsatisfactory practice and behavior that place patients and nurses at significant risk of acquiring infection. In addition, strict supervision, policy/operational guidelines and change in attitude need to be implemented. Factors affecting the practice of standard precautions lack of PPE, lack of persistent water supply and detergents, and lack of adequate infection prevention training have been identified.

7.2 Recommendations

Based on the findings of the study, the following recommendations are made:

- Nurses should endeavor to practice standard precautions always irrespective of the patient diagnosis or presumed health status.
- Organized seminars/workshops on standard precautions should be continuously facilitated by the hospital management, health Employers and professional association for Nurses and other health care workers to increase awareness and practice.
- The hospital should adopt the national guideline and develop specific policies/operational guidelines on the practice of standard precaution.

- Managers of health care facilities should ensure regular supply of infection prevention materials at all time within the facility.
- There should be strict supervision by nurse managers at all levels to ensure best practice.
- Facilitating the availability of Hepatitis B vaccine and supply for Routine screening and immunization of staff against Hepatitis B
- Providing sustainable supplies, which include all types of personal protective equipment's, water supply and other related materials are mandatory to correct the unsafe practice.
- The hospital management should facilitate the availability of post exposure prophylaxis for HIV and awareness creation about where to find the service.
- Further survey should be done to identify predictors which determine KAP of nurses.

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34.

ANNEX

ANNEX I: Assurance of principal investigator

Declaration:

I, the undersigned, declare that this is my original work and has not been presented in this or any other University and all sources of materials used for this research have been fully acknowledged.

Name: Belaynesh Desta Signature: _____Date: _____

Place: Addis Ababa University, College of Health Sciences, Department of Emergency medicine

This research has been submitted for examination with my approval as University advisor

Dr Muluwork Tefera (Pedestrian)

Signature: _____

Date: _____

Haimanot Geremew (BSc, MSc,)

Signature: _____

Date: _____

Place: Addis Ababa University, College of Health Sciences, Department of Emergency medicine

ANNEX II: Consent

ADDIS ABABA UNIVERSITY SCHOOL OF MEDICINE
DEPARTMENT OF EMERGENCY MEDICINE

Informed Consent Form for Quantitative survey questionnaires:

Date_____ Code number of the checklist----------

Hallo!

My name is Sr. / Ato ---------- We are a research team member of AAU, Department of Emergency medicine. Today we are here to collect data on the assessment of knowledge attitude & practice of nurses working in Emergency and ICU on universal precaution which will be done by **Belaynesh Desta** who is the member of emergency medicine MSc students.

The objective of this questionnaire is to assess the knowledge, attitude and practice of nurses on standard precaution in the emergency room and ICU, TASH.

We would like to assure you that the study is confidential. We will not keep a record of your name and address. You have a right to skip any question that you do not want to answer. Your correct answer can make the study to achieve the goals. Therefore, you are kindly requested to respond genuinely and voluntarily with patience. The questions may take about 10-15 minutes.

Do you have any question?

Are you willing to participate in the interview?

If Yes, Go to the next page

If No, Thank them and interrupt it.

Signature of the consenting interviewer----------

A. Questionnaires responded

1. Completed

2. Partially completed

3. The interviewee refused 4. Others----------

Data collector's Name: 1. ---------- Signature ---------- 2. ---------- --------

Supervisor's name---------- Signature ----------

ANNEX III Questionnaire

Number _____

Direction: Circle options provided.

PART ONE. SOCIO-DEMOGRAPHIC CHARACTERISTICS

1. Sex A. Male B. Female
2. Age _____(in years)
3. Year of experience

   A. <5 years B. 5-10 years C. >10 years

4. Which department you have been working? Circle One
   A. Emergency department(Adult)
   B. . Emergency department (Pediatric)
   C. Adult ICU
   D. Pediatrics ICU

PART TWO. KNOWLEDGE OF NURSES TOWARDS NOSOCOMIAL INFECTION, STANDARD PRECAUTION AND HAND HYGIENE

1. Do you know nosocomial infection? A. Yes B. No
2. If yes, Could you describe it ----------
   ----
3. Do you know standard precautions?
   A. Yes B. No
4. If yes, which components do you know?(circle all mentioned)
   a. Use of barriers (gloves, gown, cap and mask);
   b. Care with devices, equipment and clothing used during care;
   c. Environmental control (surface processing protocols and health service waste handling); adequate discarding of sharp instruments;
   d. Patient's accommodation in accordance to requirement levels as an infection transmission source.
5. All patients are sources of infection regardless of their diagnoses.
   a. True B. False
6. Hand washing is indicated between tasks and procedures on the same patient.

   A True B False

7. Which of the following disease can be transmitted through dirty needles and sharps? (Tick all you know)

   A. Hepatitis (HBV) B. HIV (AIDS C. Tetanus (Clostridium tetani

   D. Malaria E. Tuberculosis

8. When it is required to dispose a suction catheter?
   a. Immediately after one single use
   b. Can be cleaned and used twice
   c. Can be used without being cleaned
   d. can be used for several days
   e. I don't know

9. Which of the following should be avoided associated with increased likelihood of colonization of hands with harmful germs? Circle all you know.

   A. Wearing jewelry B. Damaged skin C. Artificial finger nails

   D. Regular use of hand cream E. All except D

10. Who could you think at risk of infection from your health facility waste?

   A. Health Professionals B. Supportive staff C. The client / patient

   D. The community E. Children F. All

PART THREE: ATTITUDES TOWARDS NOSOCOMIAL INFECTION, STANDARD PRECAUTION AND HAND HYGIENE

11. Wearing gloves, mask, and protective eyewear are a Hospital acquired infections control Measures?

   A. Agree B. Strongly agree C. Disagree D. I don't know

12. How do you follow standard precautions?

   A. Regularly B. Sometimes C. Never

13. The use of guidelines for hospital acquired infection control practices reduce the risk of infection

   a. Agree B. Strongly agree C. Disagree D. Neutral

14. Do you think the organizations for hospital acquired infection policies are practical in your setting?

   a. Agree B. Strongly agree C. Disagree D. Neutral

15. When do you think standard precautions should be observed?

   A. At all times C. For HIV patients

   B. In the operation D. At all times, for all patients

16. Health care associated organisms are commonly resistant to alcohol.

A. Agree B. Strongly Agree

C. Disagree D. Strongly disagree

E. I don't know

17. In the absence of standard precaution, health care facilities can be the source of infection and epidemic diseases.

A. Agree B. strongly agree

C. Don't know D. strongly disagree E. I don't know

18. Use of gloves for all patients care is a useful strategy for reducing risk of transmission of organism.

A. Agree B. strongly agree

C. Don't know D. strongly disagree E. I don't know

19. What do you think the reasons for poor adherence to standard precautions?

A. lack of supply B. shortage of time

C. lack of awareness D. I don't know

E. other specify----------

20. Do you think needles should be recapped?

A. Yes B. No C. I don't know

21. Why do you wash your hands? (circle all mention)

a. Hand washing between every patient encounter is necessary
b. Hand washing does affect clinical out come
c. Hand washing is necessary even when gloves are worn
d. Hand washing facilities are conveniently placed or well designed
e. Hand washing do not take too much time

PART FOUR: PRACTICE OF NURSES STANDARED PRECATION

22. When do you wash your hands? Circle all applied

A. Hand washing between every patient encounter
B. Before every patient encounter
C. After gloves are worn off
D. Touching every part of hospital environment
E. when I finish my work time only

23. What disposed in to the safety box? (circle all that apply)

A. Needles B. Lancet C. Empty vials C. Dressing materials E. Latex gloves

F. Other contaminate sharps

G. A, B and F

24. Have you taken hepatitis b vaccination?

A. Yes B. No

25. If no, what is the reason not to be vaccinated? ----------

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26. If vaccinated what is your immunization status?

A. Complete 3 doses B. Not complete 3 doses

27. Have you ever had blood or body fluid splash to your eye, mouth and/or nose?

A. Yes B. No C. I don't know

28. If you exposed to blood or body fluid what measure did you take? Circle all applied.

A. Washing with soap and water B. Wash with alcohol, iodine, chlorine

C. Applying pressure to stop bleeding D. Squeezing to extract more blood

E. Seek PEP F. Report to the head person

29. Have you ever had needle stick /sharp injury? .

A. Yes B. No

30. If yes how did you sustain the injury?

A. During recapping B. By sudden movement of the patient

C. During sharp collection D. Other specify

31. Do you wear personal protective equipment? Circle all applied

A. Apron B. Utility glove/ double glove C. Head cover

D. Boots/ shoe E. Eye protectors / goggle F. Mask

G. Examination glove H. Gown

32. When did you use glove?

A. For all patient when needed B. For only HIV Suspected cases

C. For only HIV Positive cases D. For procedures which needs glove

E. Other specify_____

35. If you do not use glove why?

A. Difficult to work with B. Not always necessary

C. Uncomfortable D. Out of stock

E. Other specify_____

36. How often do you clean your hands after touching an environment surface near to the patient (for example, table wall or bed)

A. Always B. Often C. Sometimes D. Never

37. Which method do you use to clean your hands at work?

A. soap and Plain water B. Anti-microbial C. Alcohol based hand rub

E. Other specify_____

PAR FIVE .QUETION FOR FACTORES AFFECTING COMPLIANCE OF STANDARED PRECATION IN EACH DEPARTMENT

38. Have you taken training on infection prevention?

A. Yes B. No

39. Do you have infection prevention guideline in your department?

A. Yes B. No

40. Is there persistent water source in your department?

A. Yes B. No

41. Is there alcohol swab in the room always?

A. Yes B. No

42. Is there soap for hand washing in the room always?

A. Yes B. No

43. Is there personal protective equipment in your department? If yes which one circle all applicable

A. Apron B. Utility glove/ double glove

C. Head cover D. Boots/ shoe

E. Eye protectors / goggle F. Mask G. Examination glove

41. Is there Post Exposure prophylaxis for occupational exposure in your facility?

A. Yes B. No

42. If yes do you know from where did you get?

A. Yes B. No

Thank you for your cooperation!!