

OCCUPATIONAL HEALTH AND SAFETY OF  
HEALTH WORKERS AT PUBLIC HEALTH  
FACILITIES OF WOLAITA ZONE, SOUTHERN  
ETHIOPIA.

By

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Occupational health and safety of health workers at public health facilities of  
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## **Abstract**

**Background:** Globally, poor occupational health and safety results in 271 million work related injuries, 2 million work-related deaths and 160 million work-related diseases per year. In developing countries, the risk is 10 to 20 times higher than in developed countries. In Ethiopia, the epidemiology of work related injuries were not adequately documented.

**Objective:** To assess occupational health and safety practices at public health facilities in Wolaita Zone, Southern Nations and Nationality People Region, Ethiopia, 2011.

**Methods:** A cross-sectional Study was conducted during March 15 to April 15, 2011 among 390 health professionals. Semi-structured self administered questionnaire and in depth interview guide were used for quantitative and qualitative methods of data collection respectively. For quantitative part of the study all the health professionals from the selected Woredas were recruited. Data were entered into SPSS version 16. Binary and multiple logistic regressions were used to estimate the crude and adjusted odds ratios for the prevalence of injury respectively.

**Result:** A total of 351 health workers were included in the study and 326(92.9%) of the health workers were knowledgeable on occupational health and safety measures and 67(19.1%) had history of injury within the past 12 months. Clinical nurse encountered physical injuries more than any of the professional categories (61%) followed by the midwives (18%). Health workers working in hospital were 2 times higher to have incidence of injury as compared with working in health centre (OR=1.90, 95% CI of (1.087, 3.475)).

**Conclusion and recommendation:** More than three fourth of the health workers were knowledgeable on occupational health and safety. Most of the health workers use personal protective equipments but shortage of materials is a common problem. Employees should get training on occupational health and safety and necessary protective materials should be provided.

**Key words:** occupational health, occupational safety, injury, Wolaita zone.

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## **Acronyms and abbreviations**

AIDS	Acquired Immune Deficiency Syndrome
AOR	Adjusted odds ratio
CDC	Center of Disease Control
CEO	Chief Executive Officer
CI	Confidence Interval
COR	Crude Odds Ratio
FDRE	Federal Democratic Republic of Ethiopia
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
ILO	International Labour Organization
JU	Jimma University
LBP	Low Back Pain
MOH	Ministry of Health
NGO	Non- Governmental Organizations
OHS	Occupational Health and Safety
OR	Odds Ratio
PPE	Personal Protective Equipment
SNNPR	Southern Nations and Nationality People Regions
WHO	World Health Organization

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# **Chapter 1 Introduction**

## **1.1 Background**

Occupational health and safety is a worldwide concern of workers and their families. The history of occupational health is a constant struggle between workers fighting for protection and preventative measures and employers seeking to deny or reduce their liability for work-related diseases and injuries. People everywhere are exposed to almost limitless risks to their health, including both communicable and non communicable diseases (1).

Globally, poor occupational health and safety results in 271 million work related injuries, 2 million work-related deaths, and 160 million work-related diseases per year (2). In developing countries the risk is 10 to 20 times higher than in developed countries. In developing countries, only about 10% of workers have access to occupational health services (1).

In the health care industry, the fundamental ethics is that sick persons must receive care irrespective of their conditions. This premise carries an unstated consequence: an occupational risk to healthcare workers who respond to the needs of contagious patients (3).

World Health Organization (WHO) reported that, among the 35 million health workers worldwide, there were 3 million percutaneous exposures to blood borne pathogens in 2000. This finding is equivalent to between 0.1 and 4.7 sharps injuries per year per health worker. It was concluded that of all the hepatitis B and hepatitis C present in health care workers, about 40 percent was caused by sharps injuries, with wide regional variation. The organization also found that between 1 and 12% of HIV infections in health care workers was caused by sharps injuries (4).

In Ethiopia, occupational health and safety is lower in priority as compared to other national issues. Even if Legal and policy framework for OHS seems to be in place, Current practice emphasizes mid to large sized manufacturing entities.

## **1.2 Statement of the problem**

According to the principles of the United Nations, WHO and international labour organization (ILO), every citizen of the world has a right to healthy and safe work and to a work environment that enables him or her to live a socially and economically productive life. Universal minimum standards are needed for health, safety and social protection of workers in all countries. In order to prevent social dumping and over-exploitation of workers who are not able to defend themselves, compliance with standards should be internationally controlled and should not be compromised for any reason (5).

All injuries to persons and damage to property or equipment must be reported to supervisors immediately. All incidents and hazards should be reported to supervisor's immediately (6).

Health at work and healthy work environments are among the most valuable assets of individuals, communities and countries. Occupational health is an important strategy not only to ensure the health of workers, but also to contribute positively to productivity, quality of products, work motivation, job satisfaction and thereby to the overall quality of life of individuals and society (5).

Worldwide in average 14.4% of health professionals are affected by different occupational related problem. Out of this 90% of them are found in the developing countries (7).

The world health report 2002 shows that in the African Region, more than 40% of hepatitis B and hepatitis C cases and more than 3% of HIV infections are caused by risk at work. Some industries in some southern African countries report the negative impact of HIV/AIDS in workplaces (8).

Work-Related Injuries resulting in Medical Treatment, Lost Time from Work or Restricted Activity among health worker is 7.9 Injuries per 100 Full-Time Workers which is greater than all industry, mining, and (Agriculture, forestry, and fishing) which accounts 6.2, 4.7 and 7.6 injuries per 100 full time workers respectively (9).

The Corporate Institute of Personal Development survey in Scotland “Employee Absence in 2002” shows the Health Sector as 4.9%, local government 4.7%, Central Government 4.5% and Education 4.4%. The average of all public services is 4.8 % (10).

Workers’ perceptions and experience in relation to OHS are scarcely considered in programmes for the prevention of work related injuries and diseases (11).

In Ethiopia, the Epidemiology of work related injuries are not adequately documented. According to labour proclamation No.377/2003, Ministry of Labour and Social Affairs is the organ charged with the responsibility to inspect, in accordance with law, labour administration, experienced problems in managing health and safety in the workplace (12).

A study conducted in Addis Ababa hospitals shows that the ratio of needle stick injury was 1.34% per person and 71(18.3%) of the health professional had history of needle stick injury within the past 12 months (7).

In general, the presence occupational health and safety legislation is inadequate to address problems of that are occurred in health facilities such as injuries, infection and violence unless it is implemented effectively and taking appropriate action.

The implementation of effective Occupational Health and Safety (OHS) management in organizations will assist to resolve OHS problems successfully and is also a means to legal compliance. In addition, the need for research on the implementation of OHS management is vital to ensure continuous OHS performance improvement. The purpose of this study is to present an overview of the implementation of the occupational health and safety management practices and to identify barriers that hinder the implementation of occupational health and safety practices as well as to determine the magnitude of the occupational health and safety problems in the wolaita zone public health facilities.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Literature review**

A number of researches have investigated occupational injuries within health care settings. The results of these studies indicate that between 6% and 67% of health care workers studied in a variety of settings have experienced a work-related injury (13-17).

The U.S. Centers for Disease Control and Prevention (CDC) estimate that, nationwide, between 600,000 and 800,000 percutaneous injuries from contaminated sharp devices occur each year in health care; approximately half are sustained by hospital workers. Sharps injuries are preventable and health care facilities are required by state and federal regulations to implement comprehensive plans to reduce these injuries (18).

In USA as Bureau of labour statistics (BLS) data shows that in 2000, 48% of all nonfatal injuries from occupational assault and violent acts occurred in health care and social services. Most of these occurred in hospitals, nursing and personal care services (19).

A total of 3,413 sharps injuries among hospital health care workers in Massachusetts were reported for the surveillance period January 1 to December 31, 2002. Ninety-seven percent (3,303) of the injuries were reported by acute care hospitals. Eighty-eight percent of workers (2,992) who sustained injuries were hospital employees, 6% (192) were non-employee practitioners, 3% (109) were students, and 2% (78) were temporary or contract employees. Nurses sustained more injuries (1,393, 41%) than any other occupational group followed by physicians who sustained 32% (1,088) of all reported sharps injuries. The risk of infection following a needle stick injury from an infected source patient is 0.3% for HIV, 3% for hepatitis C virus and 6-30% for hepatitis B virus (18).

Workers' perceptions and experience in relation to occupational health and safety are scarcely considered in programmes for the prevention of work related injuries and diseases. Healthy environments and healthy behaviours are key determinants in occupational health. Workplace environment includes physical as well as organisational factors, and attention and interventions should be focused on both (11).

Employees must be trained so that they can practice safely in their specific areas, including learning when and how to use personal protective equipment and how to use equipment safely.

All health care and public service workers must receive infection prevention and control education regarding blood borne pathogens and safe practice in the workplace before beginning work and on an ongoing basis thereafter like assessing risk of exposure; preventing exposures; immunization for HBV (20).

Personal protective and equipment (PPE) recommended by universal precautions include: gloves to protect the hands and skin, masks and eye protection together or a face shield to protect the eyes, nose and mouth in situations where splattering of body fluids occurs, and gowns or aprons to protect the skin and clothing from splatters (21).

The number of occupational injuries, in Scotland, has risen over the period and for 2002/03 are 102.47 per million hours. This is made up of violence and aggression 59.23 per million hours, needle stick injuries 11.24 per million hours and other injuries 32.00 per million hours. The incidence of violence and aggression is significantly greater in the Primary Care setting compared to the acute setting. Nursing and Midwifery have the greatest number of occupational injuries and incidents of violence and aggression. Medical and Dental staff have a slightly greater incidence of needle stick injuries than violence and aggression .Where as In Australia the ultimate aim is to achieve “zero tolerance” to workplace aggressive behaviour and bullying at Department of Health worksites. The working party defines “zero tolerance” as a complete refusal to tolerate unjustifiable aggressive behaviours (10).

The United Kingdom (UK) British Retail Consortium surveys in 1994/5 and 1995/6 indicated a 5% increase in physical violent incidents. The cost to society of violence and stress may account for 1 to 3.5 % of gross domestic product. In the United States, 85 percent of all non-fatal assaults occur in retailing and service industries. Within the service sector, health-care workers are at particular risk of workplace violence, with one author estimating that health-care workers face 16 times the risk of violence from patients/clients that other service workers face (22).

Health-care workers have three to four times' higher risk for these forms of violence. In Finland, one in ten health-care workers reports experiencing a work-related violent incident within the past year, and approximately one-third of Swedish nurses have experienced violence at some point within their careers. In British Columbia, nurses have nearly four times the incidence of violence of any other profession. Data from developing nations is virtually non-existent, and the level of violence against healthcare workers in these countries is largely undocumented.

Workplace violence has a number of factors. Individual factors may play a role. For example, female gender of workers, or mental illness, alcohol or drug use in patients, may heighten the risk of violence to health-care workers. Understaffing may increase the risk of violence due to longer patient wait times and workers being alone with patients. Workplace stressors, such as low supervisor support can lead to work place violence (23-30).

Lack of reporting of events is a major concern for the health industry. Organisations require evidence of aggressive behaviour and bullying incidents. The information is necessary to assist organisations develop and implement effective prevention and management strategies and gain support from government, employees and the community (30).

In a study conducted among Irish hospital managers, 49% of them disagree that Staff members with low back pain (LBP) should stay off work until they can return to full duties where as 22% agrees and 29% neither disagree nor agree. Eighteen percent of the managers agree that it is best for a manager not to make direct contact with the staff member while they are on sick leave with LBP where as 58% disagree and the rest 26% neither disagree nor agree (20).

Work-related injuries and illnesses cost 1.5 billion dollars annually in workers' compensation claims in Michigan, and the indirect costs of these conditions may be as much as five times greater (7.5 billion dollars). Health care workers, laboratory workers, and correctional institution workers are particularly at risk. There are approximately 10 million health care workers in the United States, making up eight percent of the workforce (31).



Injuries from sharps (e.g., needles, scalpels) are the most frequent source of exposure to blood borne pathogens for health care workers. The CDC estimated that 384,000 percutaneous injuries from contaminated sharps occur annually among health care workers in hospitals in the U.S (32).

A study in Nigeria showed that needle stick injuries among health worker were caused by recapping contribute 18% and patient movement 29% which is similar with south Africa study recapping contribute 17.4% and patient movement 23 % ( 33, 34).

A study conducted on health professional in Addis Ababa hospitals showed that 71(18.3%) had history of needle stick injury within the past 12 months and 76.1% injured once the rest 23.9% have injured more than one times within the past 12 months. The ratio of needle stick injury is 1.34 per one person per year. Most the injury were occurred due to patient movement and during procedure with 44(31%) and 46(32.4%) respectively (7).

Similar study showed that Estimates of the annual number of percutaneous injuries per health-care worker, for nurses in Chile, Tanzania, Nigeria and Greece were 4.1, 5.4, 0.6 and 0.03 respectively, as compared to physician injuries 1.11, 5.3, 1.4 and 0.016 respectively (34).

Health care waste is considered the second most hazardous waste, after radioactive waste in the United Nations listing. Health care waste is a by-product of health care. These include infectious waste (15% to 25% of total health care waste), of which sharp waste constitutes 1%, body part waste 1%, chemical or pharmaceutical wastes 3%, and radioactive, cytotoxic or broken thermometers less than 1% (35).

A Bureau of Labour Statistics investigation of occupational hazards in health care settings showed that injury rates among health care workers are high. The injury rate among hospital workers has been estimated to be twice that of other service industries. Activities involving patient contact are highly correlated with occupational injuries among health care workers. High levels of patient contact, as well as other variables in the health care environment that are thought to cause injuries, are common in the field of health care (36-38).

Interventions over workers' behaviour intended to risk prevention are usually based on specific training programmes. These programmes are generally devoted to increasing workers' knowledge of job hazards and promoting safer work behaviours.

Stress is a significant occupational health risk. There is a clear link between poor work organisation and subsequent ill health. However, workers' behaviours regarding risk prevention are influenced by other factors besides proper training, and these factors should be evaluated and their relative effects on the workers' behaviour measured in order to develop integral programmes for workplace hazards control. Organisational factors related to safety and health at work, including management's policies and practices regarding occupational risk prevention, have been shown to affect implementation of workers' safety training (39).

All health care environments regardless of role, function, size or location should be places in which people want to work and develop; where the workforce is valued and supported and operates in an environment of mutual collaboration (40).

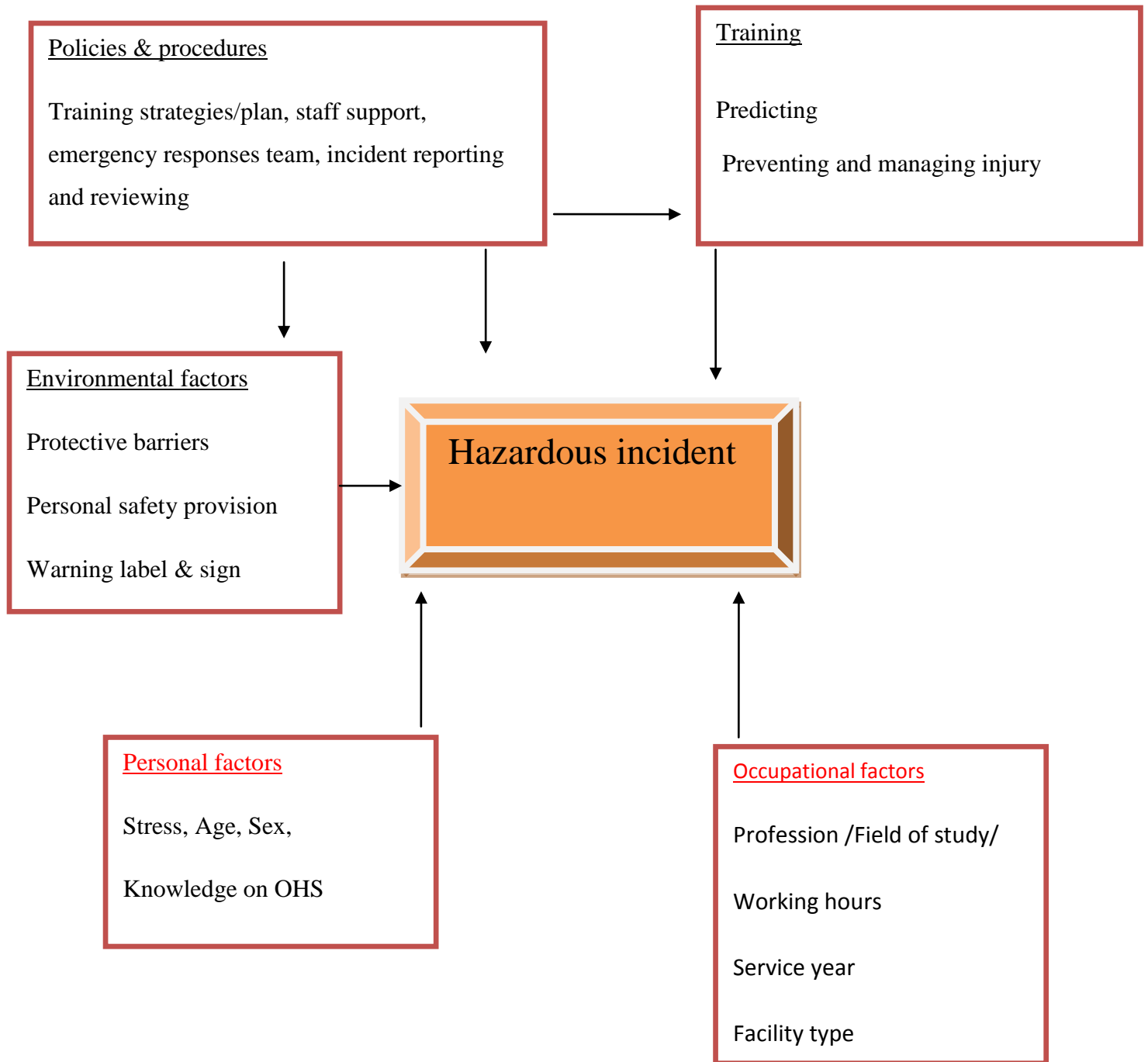
Manager's commitment to health and safety, training needs, rewarding performance, and workers involvement important in creating good work relation environment. They also stated the association between safety management, safety climate, and safety culture. Safety climate is perceived as the precise indicator of overall safety culture while safety management practices display the safety culture of top management and as a result, good safety management practices are reflected in enhanced safety climate of all employees. Management commitment plays a vital role in all aspects of safety intervention.

Management commitment to safety indicates the extent to which the organization's top management demonstrates positive and supportive safety attitudes towards their employees' safety. From prior study, noted that employees' perception of dedicated management's action to safety had resulted in accident reduction (41).

A study found that clear policy statements and safety training played an important role in reducing accident rate. Earlier studies discovered the link between safety training and increased safety performance. Consequently, effective training assists workers to have a sense of belonging and thus, is more accountable for safety in their workplace. In addition, a company objective and communication of the objective to all workers is the crucial aspect of

effective health and safety management as lack of communication may hinder employee involvement (41).

The study in Addis Ababa hospitals show only 38(9.8%) of them trained on prevention of needle stick injury and there was a significant relationship between nurses and needle stick injury with AOR=15.39 at 95% of CI=3.70-18.05(29).



**Figure 1** Conceptual frame work for studying occupational health and safety practices at public health facilities of Wolaita zone, 2011 (developed)

## **2.2 Significance of the study**

There are few researches in Ethiopia which deals on assessment of OHS practice at the public health facilities therefore. The main objective of this study is to assess the OHS of health workers at the public health facilities and to identify barriers that hinder the implementation of OHS practices as well as to determine the magnitude of the occupational health and safety problems in the study area.

It is obvious that the cost for the training of health professional is very expensive and they deal with real human being and expected to serve for a lot of people. There is shortage of health professional where as injury and infection can affects the performance as well as the health status of many health professionals in developing countries including Ethiopia which has an influence on the health professional ,the community as well as the development of the countries.

Conducting this study will have its own contribution on reduction of injuries and infection for health professionals and create an awareness as well as evidence base for managers for decision making, planning, implementation of occupational health and safety practice.

Finally this study will identify the prevalence of injury barriers of OHS and gaps which require further study.

## **CHAPTER 3 Objectives**

### **3.1 General objective**

- To assess the occupational health and safety of health workers at public health facilities in Wolaita Zone, Southern Ethiopia, 2011.

### **3.2 Specific objective**

- ➡ To assess the knowledge of employees about occupational health and safety measures required at the health facilities.
- ➡ To assess the practice of occupational health and safety measures at the health facilities.
- ➡ To determine the prevalence of hazardous incidents occurred in public health facilities
- ➡ To identify barriers to implementation of standard occupational health and safety measures.

## **CHAPTER 4: METHODS AND MATERIALS**

### **4.1 Study area and period**

The study was conducted from March 15 to April 15 2011, in Wolaita Zone. Wolaita zone is one of the thirteen zones of the SNNPR region covering an area of 4471.3 km<sup>2</sup>. For administrative purpose it is divided into twelve Woredas namely, Boloso - Sore, Damot-Galle, Damot- Weyde, Sodo- Zoria, Kindo- Koisha, Aofa, Kindo didaye, Humbo, Damot-Sore, Damot -Fulase, Duguna- Fango, Boloso- Bombe and three administrative cities namely Sodo, Boditi and Areka. Topographically the zone lies on an elevation ranging from 1200 to 2950 meters above sea level. The total population of the zone is estimated about 1,721,339 with 51.2% female and 49.5% male with a density of 385 inhabitants per square kilometre. The zone has three agro -ecological zones. Dega (3%) Weynadega (57.96%) and Kolla (40%). The annual average temperature of the zone is 15.1°C and the mean annual rainfall ranges from 1200 to 1300 mm. Regarding the land utilization, 261,000 hectares (ha) is used for cultivation, 5318 ha for grazing, 8261 ha. Bush- land and the remaining 35382.5ha is a cultivable land. Sodo town is the administrative center of the zone. It is located at a distance of 327 km. south of Addis Ababa and 157 km away from Awassa town. The main ethnic groups are Wolaita and Gammo. The major religions are Christianity; namely protestant and orthodox Christian. The common languages spoken are Wolaintigna and Amharic (46).

The zone has 56 health centers and 1 public hospital employing a total of 1200 health workers excluding health extension workers. Additionally, the zone has 2 non-governmental hospitals and one university.

## **4.2 Study design**

A cross-sectional study design that employed both quantitative and qualitative data collection methods was conducted.

## **4.3 Population**

### ***4.3.1 Source population:***

The source population for this study included all public health facilities health professionals and health managers in Wolaita Zone.

### ***4.3.2 Study population/sample population:***

A sample of health managers and health professionals' at public health facilities in Wolaita Zone constituted the study population for this study.

### ***4.3.3 Variable***

Dependent variable

- Occurrence of hazardous incidents

Independent variables

- ➡ Age
- ➡ Sex
- ➡ Educational status
- ➡ profession
- ➡ Service year
- ➡ In service Training on OHS
- ➡ Working hours
- ➡ Availability of PPE
- ➡ Facility type
- ➡ Residence
- ➡ Knowledge on OHS



The **inclusion and exclusion criteria for the study were:**

**Inclusion Criteria:** Hospital and health centers rendering service for at least two years before the data collection period were included in the study.

**Exclusion criteria:** all health posts were excluded from this study.

#### **4.4. Sample size and Sampling technique**

For the quantitative method, from a total 12 Woredas, five rural Woredas and two urban city administrations were selected using simple random sample. Then all the health workers found in the public health facilities of these districts fulfilling criteria were included in the study since these were assumed to be manageable in terms of time and financial resources.

On top of this, in-depth interview were done for gathering information from 10 key informants based on purposive sampling. Seven health managers from each Woreda town health centers and one medical director, one CEO and one sanitarian were taken from the hospital.

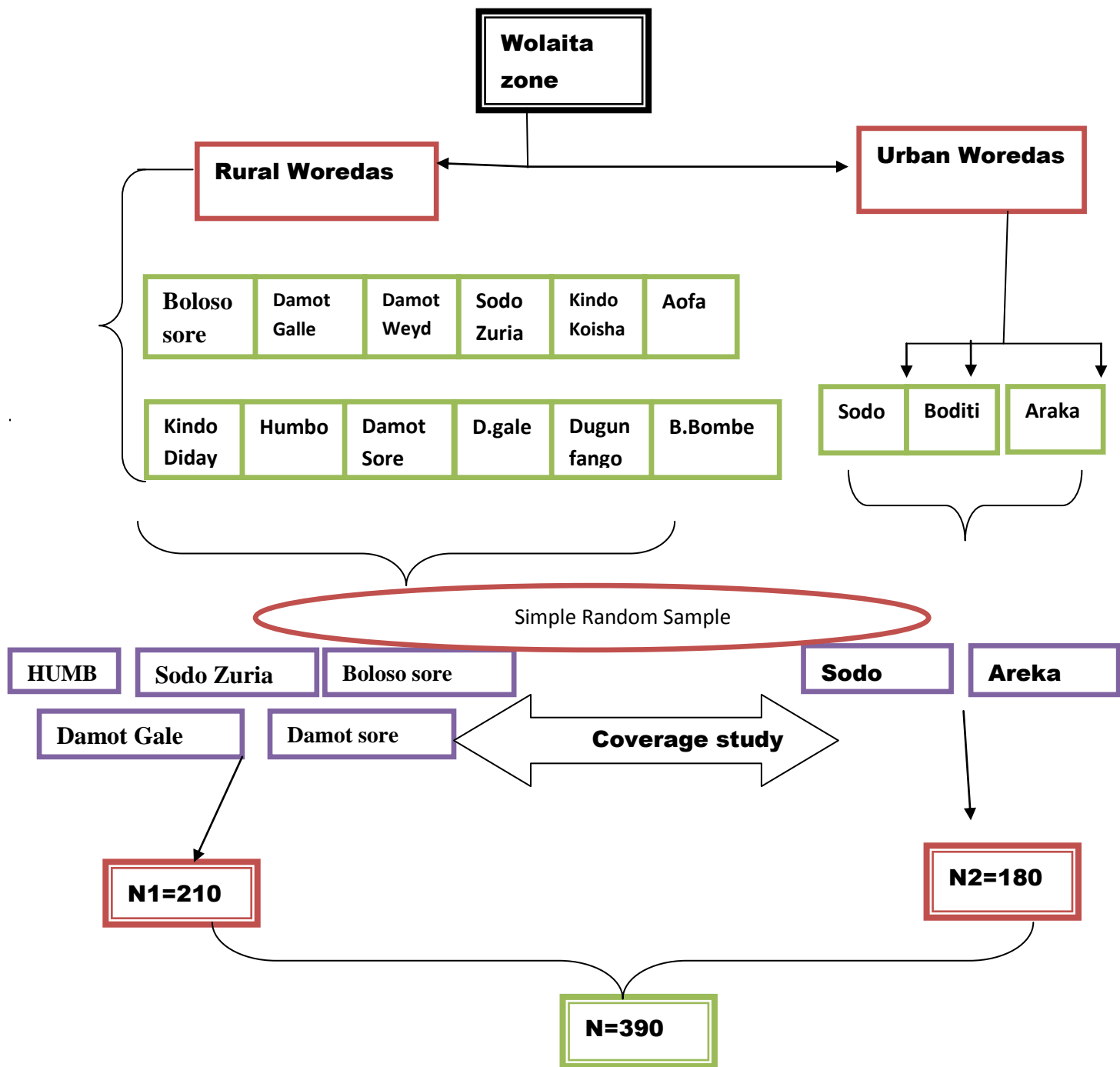


Figure 2 Schematic presentation of sampling procedure for public health facilities of Wolaita zone, southern Ethiopia 2011

## **4.5. Data Collection**

### **4.5.1 Data collection process and Instrument development**

The data were collected using semi structured self administered questionnaires for the quantitative part and in-depth interview guide were developed for the qualitative part of the study. The self administered questionnaires have socio demographic and economic conditions, knowledge on OHS, job satisfaction and work relation of health workers. The questionnaires were developed by reviewing different literatures and considering the local situation of the study subject (31, 32, 35).

Furthermore, in-depth interview guides which were used to assess the availability of OHS materials and its practices were developed to ensure subject areas were covered systematically and uniformity. For in-depth interview tape recorders were used and note was taken during the interview.

### **4.5.2 Data collection procedures**

The questioners were distributed to the health professional in the selected health facilities of the Woredas. The supervisors clarified for any doubts and supervised the data collectors. The supervisors were assigned to different sites of the Woredas. The supervisors were visits the health facilities and gives information for the purpose of their visit.

### **4.5.3. Data quality control**

The principal investigator trained 4 B.Sc nurses and 3 health officers from Wolaita Sodo University for one day on instruction and how to supervise the whole activity. 14 health officer students were assigned to the study area to collect the data.

To assure the quality of the data high emphasis were given in designing data collection instrument for its simplicity and modification were made following pre test. The Pre-test was made on 5% of the total sample size of the respondent health workers in one Arbaminch health center on March 5, 2011 before the actual data collection.

The pretested health workers were not included in the main study. The collected data were checked for completeness, edited, coded and entered in to SPSS version 16 and cleaned before analysis.

Additionally, regular supportive supervision, spot checking and reviewing the completed questionnaire was carried throughout data collection process by the principal investigator and supervisors.

The audio taped interviews were transcribed into hand written English transcript. Finally the quantitative findings were triangulated with qualitative findings

#### **4.5.4 Operational Definition**

- **Knowledgeable** - those who scores above 50 % from knowledge questions on OHS.
- **Not knowledgeable** - those who scores 50% and below from knowledge questions on OHS.

#### **4.6. Data analysis procedures**

For quantitative the data, the response were coded and entered into SPSS version 16. Then descriptive frequencies were used for checking of outliers. The frequency distribution of dependent and independent variables was worked out. Bivariate analysis such as Odds ratios were calculated to determine associations of selected variables with dependent variables. Multivariate logistic regression was applied to variables which showed significant association in the bivariate analysis to determine predictor variables on the outcome variables. For all statistical significance test, the cut off value set is  $p < 0.05$  as this is considered statistically reliable for the analysis of this study comparisons have been made with available findings in different literatures.

For qualitative part the data were analyzed manually by using log book prepared on the bases of the interview guide. The data were edited, cleaned; coded and organized using thematic framework. The result findings were presented in narratives triangulated with the quantitative results.

#### **4.7. Ethical Consideration**

Permission to undertake the study was obtained from the Ethical review board of Jimma University, college of public health and medical science and official letter of co-operation was given to Wolaita zone health office. It was explained to study participants that participation is voluntary and confidential and private information would be protected. Information about the study was given to the participants both in Qualitative and Quantitative part of the study. The right of the respondent to withdraw from the interview or not to participate had respected. All interviews were carried out with absolute privacy.

#### **4.8. Dissemination and Utilization of Results**

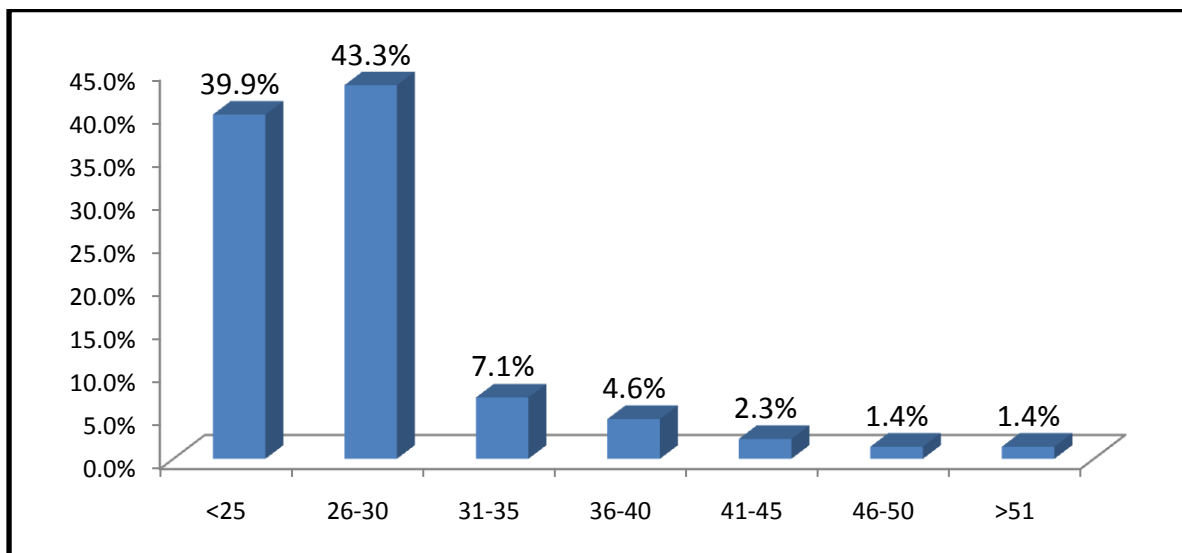
The results of the study will be submitted to the college of public health and medical science (JU), Wolaita zone health office and Wolaita Sodo University and other responsible bodies. The result will be presented during thesis defence. Finally, attempts will be made to publish the results of the study on peer reviewed journals.

## Chapter Five: Results

### 5.1 Characteristics of the respondents

A total of 351 health professionals participated in the study with response rate of 90%.

About 193(55%) of the health workers were female. The mean age was 28 ( $\pm 5.98$ ) years. And 209 (59.5%) were married followed by single with 137 (39%). Among the health workers 208 (59.3%) were nurses. Most of the health workers were diploma accounts 297 (84.6%). Average working hours per week were above 40 hours for 312 (88.9%) health workers. The health workers in the study were 170 (48.4%) from urban and 181 (51.6%) from rural Woredas. (Table 1)



**Figure 3** Age distribution of the health workers at public health facilities of Wolaita zone, Southern Ethiopia, 2011 (N=351)

Ten key informants were participated in the study seven health managers from Woreda town health centers and 3 from the hospital. Eight key informants were males and 2 females with age of minimum 25 years and maximum of 40 years old. Among key informants all are health officers except the medical director was doctor.

**Table 1** Characteristics of the health workers at the public health facilities of Wolaita zone Southern Ethiopia, 2011 N=351

<b>S.No</b>	<b>Variables</b>	<b>Number</b>	<b>Percent</b>
<b>1</b>	Sex		
	Female	193	55.0
	Male	158	45.0
<b>2</b>	Profession category		
	Medical doctor	4	1.1
	Health officer	17	4.8
	Clinical nurse	208	59.3
	Laboratory technology	39	11.1
	Pharmacy	34	9.7
	Environmental health	4	1.1
	Midwifery	37	10.5
	Others	8	2.3
<b>3</b>	Educational status		
	Medical doctor	3	.9
	Master	1	.3
	Degree	50	14.2
	Diploma	297	84.6
<b>4</b>	Marital status		
	Single	137	39.0
	Married	209	59.5
	Divorced	3	.9
	Widowed	2	.6
<b>5</b>	Residence		
	Urban	170	48.4
	Rural	181	51.6
<b>6</b>	Type of health facilities		
	Hospital	123	35.0
	Health centre	228	65.0
<b>7</b>	Working hours		
	40 hrs and less than	39	11.3
	Above 40 hrs	312	88.9

## 5. 2. Knowledge about occupational health and safety

Majority of the health workers 341(97.2%) know that proper use of personal protective equipment can reduce injury in the working site but most of the key informants said that there is negligence among the health workers during the real practice. Majority of the health workers 347(98.9%) know that training on occupational health and safety can reduce injury in the working site. Majority of the health workers 347(98.9%) know that good communication with supervisors and staffs can reduce injury in the working site. Majority of the health workers 346(98.6%) know that labelling and signing symbols of dangers can reduce injury in the working site. Most of the health workers 342(97.4%) know that reporting risk and injury can reduce injury in the working site. Majority of the health workers 348(99.1%) know that getting occupational health and safety is their right.

Generally by taking the six knowledge questions about occupational health and safety 326(92.9%) of them were knowledgeable scoring above 50% and the rest 25(7.1%) were not knowledgeable scoring 50% and below. (Fig 4)

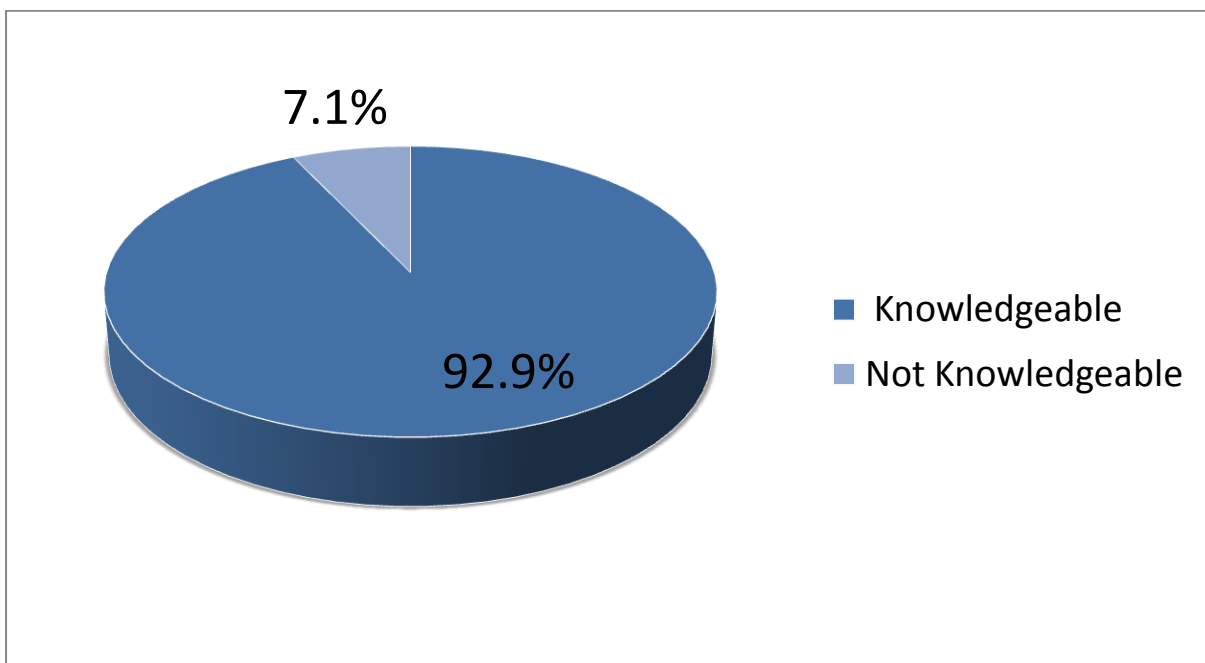
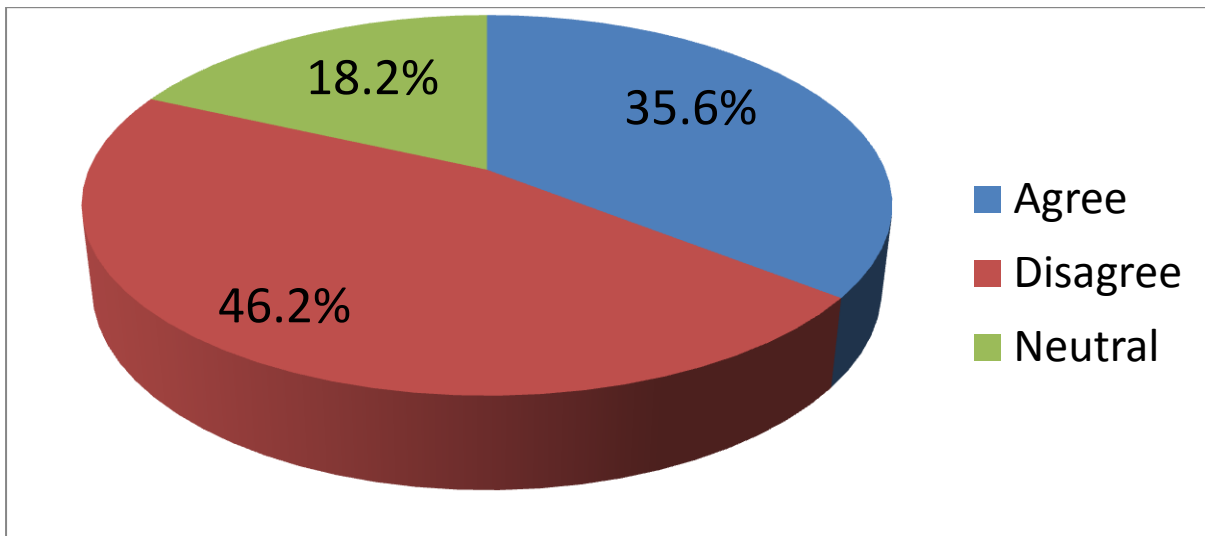


Figure 4 Knowledge about occupational health and safety among health workers at public health facilities of Wolaita zone, Southern Ethiopia, 2011 N=351

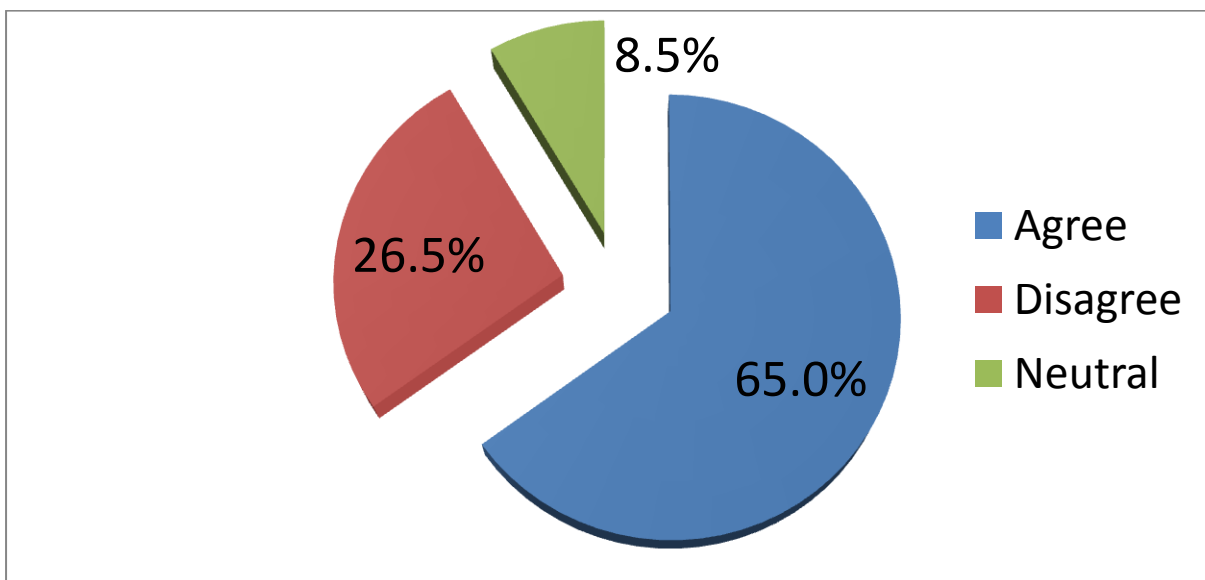


Out of the total 351 health workers 162(46.2%) agreed that their work lead to psychological stress, 125(35.6%) disagree and 64(18.2%) were neutral. (Fig 5)



**Figure 5** Perceptions of the health workers, risk of psychological stress at the public health facilities of Wolaita zone, southern Ethiopia, 2011 (N=351)

Out of the total 351 health workers 228(65.0%) agreed that their work is highly physical, 93(26.5%) disagree and 30(8.5%) were neutral. (Fig 6)



**Figure 6** Perception of the health workers, that their work is highly physical at public health facilities of Wolaita zone, Southern Ethiopia, 2011 (N=351)

### 5.3. Training on occupational health and safety

More than half of the health workers (62.4%) have received training on occupational health and safety. Of this 213 (97.3%) received training on infection prevention. Moreover, majority of the key informants said that trainings focus only on infection prevention.

All the health workers believe that training is necessary for new employee and on new materials. (Table 2)

One key informants (male, 30 years) said“... training were given even if it is mainly focus on infection prevention but some health workers were not attending the training unless there was no incentives or payment...”.

**Table 2** Training given on occupational health and safety to health workers at public health facilities in Wolaita zone in the past 12 months preceding the study survey, Ethiopia, 2011 (N=351)

S.No	Variables	Number	Percent
<b>1</b>	Ever received training		
	Yes	219	62.4
	No	132	37.6
<b>2</b>	Training on infection prevention	n=219	
	Yes	213	97.3
	No	6	2.7
<b>3</b>	Training on back injury prevention		
	Yes	13	5.9
	No	206	94.1
<b>4</b>	Training on chemical injury prevention		
	Yes	13	5.9
	No	206	94.1
<b>5</b>	Training on radiation injury prevention		
	Yes	5	2.3
	No	214	97.7
<b>6</b>	Training on others OHS measures @		
	Yes	5	2.3
	No	214	97.7

@ Training on liquid and solid waste management

#### **5.4. Use of personal protective equipments (PPEs)**

Majority 311(88.6%) of the health workers reported they were use personal protective equipments while the remaining 40 (11.4%) don't use. Of the 311 who use personal protective equipment 276 (88.7) always use gloves, 54 (17.4%) always use plastic apron, 23 (7.4%) always use goggles and 33 (10.6%) always use shoes. But from the 311 health workers 278 (89.4%) believe all the necessary material are not available. Similarly, most of the key informants agreed that there is lack of necessary equipment in their respective facilities. And one key informant (male, 37 age health manager) said that "...there is lack of protective equipment, only gloves are available the others materials very scarce". (Table 3)

Table 3 Use of personal protective equipments among health workers during the 12 months preceding the survey at public health facilities in Wolaita zone, Southern Ethiopia, 2011 (N=351)

S.No	Variables	Number	Percent
<b>1</b>	Use of personal protective equipment		
	Yes	311	88.6
	No	40	11.4
<b>2</b>	Use of gloves	n=311	
	Always	276	88.7
	Sometimes	19	6.1
	Rarely	15	4.8
	None	1	.3
<b>3</b>	Use of plastic apron	n=311	
	Always	54	17.4
	Sometimes	58	18.6
	Rarely	150	48.2
	None	49	15.8
<b>4</b>	Use of goggles	n=311	
	Always	23	7.4
	Sometimes	55	17.7
	Rarely	145	46.6
	None	88	28.3
<b>5</b>	Use of shoes	n=311	
	Always	33	10.6
	Sometimes	35	11.3
	Rarely	125	40.2
	None	118	37.9
<b>6</b>	All need material available	n=311	
	Yes	33	10.6
	No	278	89.4
<b>7</b>	Reason for not use PPE	(n=40)	
	Lack of necessary equipments	40	100.0

## 5.5 Adverse Incidents among Health Workers

Out of the 351 health workers 67(19.1%) had history of physical injury during the last 12 months preceding the survey. Thirty six (63.7%) of the injuries were occurred in the hospital while the remaining happened at the health centers.

About 24 (38.5%) and 31(46.3%) of the injuries were occurred among health professional with age of less than 25 and 30-35 respectively and 43(64.5%) of them were females.

Hand was the most commonly injured body part which accounts 55(82.1%) and the others (face, head and leg) which account 12(17.9%). The commonest type of injury was needle stick injuries with 37(55.2%), blades/sharp injuries 14(20.9%) the others (chemical, physical injuries) accounts 16(22.8%). Majority of the injuries were caused by patient movement and recapping with 12 (17.9%) and 55 (82.1%) respectively. Most of the injured health workers were injured once 57 (85.1%) and twice 10 (14.9%) within the last 12 months preceding the survey. Most of the injured health workers were in the age group of less than 25 and 26-30 accounts 24 (38.9%) and 31 (46.3%) respectively.

Only 8(11.9%) health workers reported to their immediate supervisors about the injury. Out of the 59 injured health workers 39(62.7%) did not report because they believe the injury was not severe while 20 (33.9%) said that reporting would not bring any change. The same thing was reported by the key informants from the in-depth interview that there is lack of awareness on reporting risks and incidents to immediate supervisors. In addition in most of the health facilities there is no incident recording books other than the usual recording system.

Because of the occurrence of injury 59(88.1%) were absence zero day and 8(11.9%) absence one and above days from their work. (Table 4)

Clinical nurse encountered physical injuries more than any of the professional categories (61%) followed by the midwives (18%). With 0.206 of injuries per year for one clinical nurse. (Fig 7)

Seventy six (21.7%) of the health workers had history of violence within the last 12 months preceding the study. And 42(55.3%) of the health workers having reported they were violated

by their boss/supervisors and 33(43.4%) were violated by patients. Most of the health workers were not immunized for hepatitis B virus with 336(95.7%). (Table 5)

Table 4: The prevalence of adverse incidents among health workers in public health facilities of Wolaita zone, Southern Ethiopia, 2011 N=351

<b>S.No</b>	<b>Variables</b>	<b>Number</b>	<b>Percent</b>
<b>1</b>	Physical injury		
	Yes	67	19.1
	No	284	80.9
<b>2</b>	Part of body affected	n=(67)	
	Head	4	6.0
	Face	4	6.0
	Hand	55	82.1
	Others (leg, back)	4	5
<b>3</b>	Needle stick injury		
	Yes	37	55.2
<b>4</b>	Sharp/blades injuries	30	44.8
<b>5</b>	Physical injury		
	Yes	3	4.5
<b>6</b>	Others(physical, motor accident)	3	4.5
<b>7</b>	Cause of injury		
	Patient movement during injection	12	17.9
	During recapping	55	82.1
<b>8</b>	Frequency of injury		
	Once	57	85.1
	Twice	10	14.9
<b>9</b>	Report to supervisor		
	Yes	8	11.9
	No	59	88.1
<b>10</b>	Reasons for not report		
	Injury is not severe	37	62.7
	Does not bring any change	20	33.9
	I fear my supervisors	2	3.4
<b>11</b>	Left day due to injury		
	Zero day	59	88.1
	One and above days	8	11.9

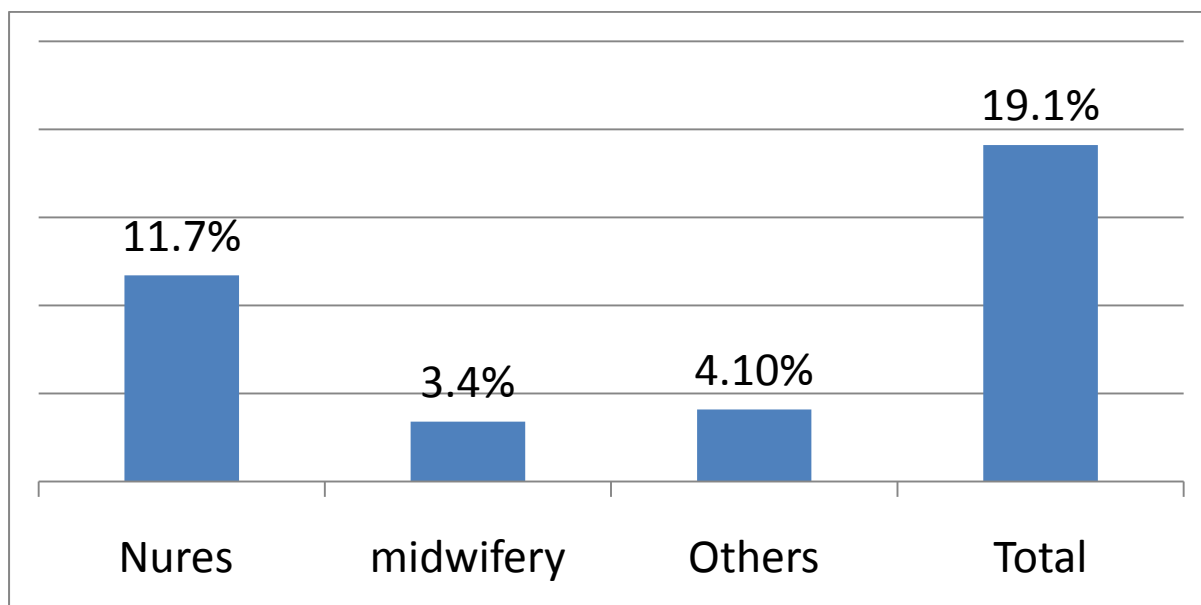


Figure 7 Occurrence of injury among health workers at public health facilities of Wolaita zone, Southern Ethiopia, April 2011. (N=351)

**Table 5** Personal violence among health workers within the past 12 months preceding the study at the public health facilities of Wolaita zone, Southern Ethiopia 2011 (N=351)

S.No	Variables	Number	Percent
1	Personal violence		
	Yes	76	21.7
	No	275	78.3
2	By whom violence occurred n=76		
	Boss/supervisors	42	55.3
	Patients	33	43.4
	Others @	1	1.3
2	Vaccinated for HBV		
	Yes	15	4.3
	No	336	95.7

@ By staff health worker

## 5.6 Predictors of the prevalence of hazardous incidents

Binary logistic regression was done for each independent variable with the dependent variables finally type of health facility, residence of health workers, taking training on occupational health and safety (OHS) and having an attitude of their work results in psychological stress becomes significantly associated (at p-value <0.05) with incidence of physical injury in the past 12 months preceding the survey. After selecting the significant independent variables with the dependent variable multiple logistic regression was done however type of health facility and having an attitude of their work results in psychological stress remained more significantly associated with incidence of physical injury in the past 12 months with p-value <0.05.

Even though knowledge about OHS and use of PPE were not significant, 64(18.23%) and 62(17.7%) injuries were occurred among the health workers that use PPE and were knowledgeable about OHS. This could be due to negligence of the health workers as most of the key informants described.

The Binary and Multiple logistic regression shows that health workers working in hospital were 2 times higher to had incidence of physical injury as compared with health workers working in health centre (OR=1.9, 95% CI of (1.09, 3.48).

Health workers that agreed their work results in psychological stress were 3 times higher to have incidence of physical injury as compared with those disagree for their work results in psychological stress (OR=2.78, 95% CI of (1.09, 7.18). (Table 6)



**Table 6** Predictors of the prevalence of hazardous incidents among workers at public health facilities of Wolaita zone, Southern Ethiopia, N=351

S.N <u>o</u>	Variables	Injured		COR	AOR
		Yes	No		
<b>1</b>	Type of facility				
	Hospital	<b>36</b>	<b>87</b>	2.63(1.53, 4.52)	1.94 (1.09, 3.48)*
	HC	<b>31</b>	<b>197</b>	1	1
<b>2</b>	Residence				
	Urban	<b>42</b>	<b>128</b>	2.05 (1.18, 3.54)	.84 (0.02, 2.21)
	Rural	<b>25</b>	<b>156</b>	1	1
<b>3</b>	Training				
	Yes	<b>50</b>	<b>169</b>	2.00 (1.11, 3.64)	1.79 (0.96, 3.34)
	No	<b>17</b>	<b>115</b>	1	1
<b>4</b>	Psychological stress				
	Neutral	<b>6</b>	<b>58</b>	1	1
	Agree	<b>42</b>	<b>120</b>	3.38 (1.36, 8.41)	2.79 (1.09, 7.18)*
	Disagree	<b>19</b>	<b>106</b>	1.73 (1.66, 4.58)	1.65 (.62,4.41)

\* Significant at p-value <0.05

## **Chapter Six: Discussion**

However all of the findings reported in this study might suffer from the limitations of the study like recall bias and focused only on health facilities providing services for two or more years.

The prevalence of physical injury is 19.1% which is consistent with study conducted in Addis Ababa hospitals which is 18.3% but, higher as compared with study of that American 7.9 % (9). This might be due to difference in the setup of the health facilities and lack of occupational health safety guide lines and equipments.

The estimated number of injury per person of clinical nurse is 0.206 which is consistent with finding of Nigeria (0.6) and Greece (0.03) (33.42). But lower as compared with finding of Addis Ababa hospitals (1.34), Chile (4.1) and Tanzania (5.4). This could be due to low recall bias and poor reporting and documenting of injuries (3, 43-44).

Majority of the needle injury were caused during recapping 82.1% and due to patient movement 17.9% this finding was higher as compared with that of Addis Ababa hospitals which is caused by patient movement 31% and during procedure 32.4%. A study in Nigeria show that recapping contributes 18% and patient movement 29% and South Africa study recapping contribute 17.4% and patient movement 23% (3, 33-34).

Although being nurse in profession had not significant association with incidence of physical injury in this study, this finding differs from another study in that it reported there is a significant association between being nurse in profession had significant association with incidence of physical injury (7).

Health workers working in hospital were 2 times more risk to physical injury as compared with working in health centre. This could be due to hospitals give services on chronic, severe illness and accidents and serve huge number of people as compared to the health centers.

Health workers that agreed their work results in psychological stress were 3 times more risk to physical injury as compared with those who disagreed their work results in psychological stress.

Clinical nurse were more likely injured physically 61%, followed by midwifery 18% this finding was consistent with study done in Scotland and Massachusetts (10, 18).

Health personnel working for 40 hours and above was 90.3% which is higher as compared with study done in Addis Ababa hospitals 73.1% (7). Also qualitative study shows shortage and high turnover of staffs.

Most of the injured health workers were injured once 57 (85.1%) and two and above 10 (14.9%) within the past 12 months which is similar with finding of Addis Ababa which accounts for injury one times 76.1% one times and 23.9% two and above within the past 2 months (7).

Majority of the health workers had received training on infection prevention which accounts 219(62.4%). Unlike to that of the Addis Ababa hospital health workers who get training on infection prevention 38(9.8%) (7). this could be due to that most of the new health professionals are assigned to the rural and training is focus on the new employees. Employees must be trained so that they can practice safely in their specific areas, including learning when and how to use PPE and how to use equipment safely.

Almost two third of physical injury in the study was occurred in hospital this finding was consistent with the U.S. Centers for Disease Control and Prevention (CDC) estimate that, nationwide, approximately half were sustained by hospital workers. And lower as compared a study done in Massachusetts with 88% workers who sustained injuries were among hospitals employees (18). This might be due under reporting of injury and lack of monitoring and recording of the injuries.

Taking training on OHS can reduce the occurrence of injuries but this is inconsistency with finding of this study show that three fourth of the injured was occurred among those who had received training on infection prevention this could be due to the occurrence of injury was before training or lack protective materials or negligence of the health professionals

Around 162(46.2%) agreed that their work lead to psychological stress and 228(65.0%) agreed that their work is highly physical. This finding goes with explanation of Stress is a significant occupational health risk. There is a clear link between poor work organisation and subsequent ill health (45).

Health personnel that agreed their work is highly physical were have 4 times higher more knowledge on occupational health and safety (OHS) as compared with those disagree for their work is highly physical (OR=3.9, 95% CI of (1.55,9.82).

Seventy six health workers (21.7%) had history of violence within the past 12 months, among them female nurses were 54(71.2%) and clinical nurses accounts 54(71.2%). The violence accounts 67(67.1%) and 25(32.9%) for health centers and hospital respectively consists with the findings that the incidence of violence and aggression is significantly greater in the Primary Care setting compared to the acute setting (10). The United Kingdom (UK) British Retail Consortium surveys in 1994/5 and 1995/6 indicated a 5% increase in physical violent incidents. The cost to society of violence and stress may account for 1 to 3.5 % of gross domestic product (22).

Lack of reporting of events is a major concern for the health industry the same is result is obtained from this study only 8(11.9%) had reported to their immediate boss/supervisors.

Like assessing risk of exposure; preventing exposures; immunization (HB vaccine) but majority 336(95.7%) health workers were not vaccinated. The risk infection following a needle stick injury with from an infected source patient is 0.3% for HIV, 3% for HCV and 6-30% for HBV (18).

Three hundred eleven (88.6%) health workers were use PPE, with 276 (88.7) always use gloves, 54 (17.4%) always use plastic apron, 23 (7.4%) always use goggles and 33 (10.6%) always use shoes designed to PPE. From the qualitative study lack of protective materials were common problem. But the Personal protective equipment (PPE) recommended by universal precautions include: always to use gloves to protect the hands and skin, masks and eye protection together or a face shield to protect the eyes, nose and mouth in situations where splattering of body fluids occurs, and gowns or aprons to protect the skin and clothing from splatters (20).

## Chapter Seven: Conclusion and Recommendation

### 7.1 Conclusion

Based on the finding presented above, this study revealed the following conclusion

- More than three fourth of the health workers were knowledgeable about occupational health and safety measures.
- Only gloves were available but shortage of protective materials was a common problem.
- Hepatitis B virus Vaccinated health professional are very few
- The prevalence of hazardous incidents occurred and work related violence is high within the past 12 months.
- In addition to this the practices of reporting injuries to the responsible body is low.
- Working in hospital has twice more risk to have incidence of physical injury as compared with working in health centre.
- Health workers that agreed their work results in psychological stress were 3 more risk to have incidence of physical injury as compared with those disagreed.
- A common barrier that affects the practice of occupational health and safety were lack of materials, low human power, and negligence of the employee and absence of occupational health and safety unit/department or committees.

## 7.2 Recommendation

Based on the findings of the study the following recommendation have been forwarded for MOH, the Regional health office, Wolaita Zone health department, Woreda health office, the health facilities and researchers.

- The ministry of health should work towards ensuring on the implementation of occupational health and safety standards.
- The zonal health office should recruits and assign adequate health professional to reduce workload that predisposes worker to stress.
- The Woreda health office should have committee which deals on occupational health and safety that monitor and evaluate the activities of these on health facilities.
- Greater attention should be given in allocating budget for personal protective equipment (PPE) by the Woreda health offices.
- Employees should get training on occupational health and safety and how to report injury and risks. Immunization of HBV should be given for the health professional.
- Guidelines on occupational health and Safety should be distributed to the health facilities including the training manual. If the guide lines are not available at all effort should be instituted to produce one.
- Each health facilities should encourage their employees to report risks and injuries in order to take appropriate action.
- Further research should be done including the type of Violence, assessing the status and complication of the injuries and action taken.
- Finally, further studies are recommended to explore the real time prevalence of adverse events among health workers and factors contributing to those events.

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## **Annex**

English Questionnaire

Semi Structured questionnaire for quantitative data collection

Greeting

Hello! There is a study to be conducted here in Wolaita zone public health facilities and if you are willing, you may participate. You will not have any risk in participating except losing part of your time. Moreover, you can get the chance to know more on occupational health and safety. I would like to ask you some questions about occupational health safety practice. The main aim of this study is to assess the knowledge, attitude and practice of occupational health and safety in Wolaita zone of health workers. It would help in improving the knowledge, attitude and implementation of occupational health and safety in the future. All the information you give will be kept confidential and we won't use your names. Moreover, you are not forced to answer to all questions and you can have some break time during the self administered if you want. Can you proceed to the question?

Yes      No

If yes signature\_\_\_\_\_

If you have something to ask concerning the study, at any time you can contact the principal investigator by Phone No. 0913036399, Yemane G/mariam.

Thank You!

**Part I Socio-demographic and economic characteristics of health workers on occupational health and safety in Wolaita zone public health facilities**

Number	Question	Response	Remarks
101	Name of health centers or hospital	_____	
102	Sex:	1. female 2. male	
103	Age in year	_____in year	
104	Marital status	1.single 2.married 3. Divorced. 4.widowed	
105	Profession or field of study	_____	
106	Educational status	1. Medical doctor 2. Master 3. Degree 4.diploma 5. others	
107	Monthly Salary in birr	_____in birr	
108	Years of Service (in year)	_____ in year	
109	Hours worked per week in hours	1. 40 hrs and less than 2. Above 40 hrs	

## Part II. Workers Health and Safety information

Number	Question	Response	Remarks
201	Have you ever had an incident at job that resulted in physical injury to you during the last 12 months?	1. Yes 2. No	If no to Q201 jump to Q301
202	Which Body Parts were affected (injured)	1.Head 2.Face 3.Hand 4.Leg 5. Others specify	More than one answer is possible
203	Type of injury	1. Needle stick injury 2. Blade/sharp injury 3. Chemical injury 4. Physical injury 5. Others specify	More than one answer is possible
204	Causes of injury	1. Patient movement during injection 2. During recapping 3. Others specify	
205	Total numbers of work related injuries occurred in the past 12 months.	_____	
206	Have you reported the injury to your immediate supervisor?	1. Yes 2. No	
207	If no to Q no 206 why not reported to your boss	1. the injury is not severe 2. no change even if i reported 3. I fear my supervisors 4. others specify	
208	Number of days lost due to injury at work in the previous 12 months (in days)	_____in day	

Number	Question	Response	Remarks
301	Do you use any personal protective equipment during your work?	1. Yes 2. No	If no jump to Q304.
302	If yes to Q301, how frequently did you use the following equipments during the last 12 months? a. Gloves  b. Plastic apron  c. Goggles  d. Shoes designed for this purpose	1. Always 2. Sometimes 3. Rarely 4. none  1. Always 2. Sometimes 3. Rarely 4. none  1. Always 2. Sometimes 3. Rarely 4. None  1. Always 2. Sometimes 3. Rarely 4. none	
303	If yes to Q301, are all the necessary equipments provided?	1. Yes 2. No	
304	If no to Q301 you do not use personal protective equipment, what are you reason?	1. Lack of protective equipments. 2. Others, specify	

### Question on training given related to occupational health and safety

Number	Question	Response	Remarks
305	Have you ever received any training on occupational health and safety?	1. yes 2. no	If no jump to Q307
306	If yes to Q305, which of the subjects were covered in any of the trainings?	1. Infection prevention 2. Prevention of back injury 3. Prevention of chemical injury 4. Prevention of radiation injury 5. Other specify	more than one answer is possible
307	Are training needs considered in connection with new employment?	1. Yes 2. No 3. I do not know	
308	If no to Q307 why explain?		
309	Are training needs considered in connection with new equipment?	1. Yes 2. no 3. I do not know	
310	If no to Q309 why explain?		
311	Have you had history of personal violence within the past 12 months?	1. Yes 2. No	
312	If yes to Q311 by whom	1. Boss/supervisors 2. Patients 3. Others specify	
313	Have you vaccinated for hepatitis B virus?	1. Yes 2. No	

**Questions use to assess knowledge about occupational health and safety measures.**

Number	Question	Response
314	Do you think that your work lead to Psychological stress?	a) Agree b) Neutral c) Disagree
315	Do you think that your work is highly physical?	1. Agree 2. Neutral 3. Disagree
316	Do you know that proper use of personal protective equipment can reduce work related injuries?	1. Yes I know 2. Not sure 3. I don't know
317	Do you know that training on occupational health and safety can reduce work related injuries?	1. Yes I know 2. Not sure 3. I don't know
318	Do you know that good communication with your staff and supervisors can reduce work related injuries?	1. Yes I know 2. Not sure 3. I don't know
319	Do you know that having proper universal precaution on work site can reduce work related injuries?	1. Yes I know 2. Not sure 3. I don't know
320	Do you know that reporting accidents and risks to your supervisors can reduce work related injuries?	1. Yes I know 2. Not sure 3. I don't know
321	Do you know that getting occupational health and safety on your work is your right?	1. Yes I know 2. Not sure 3. I don't know

Thank you for your cooperation



## In-depth interview guide

Hello! There is a study to be conducted here in Wolaita zone public health facilities and if you are willing, you may participate. You will not have any risk in participating except losing part of your time. Moreover, you can get the chance to know more on occupational health and safety. I would like to ask you some questions about occupational health safety practice. The main aim of this study is to assess the knowledge, attitude and practice of occupational health and safety in Wolaita zone of health workers. It would help in improving the knowledge, attitude and practice of occupational health and safety in the future. All the information you give will be kept confidential and we won't use your names. Moreover, you are not forced to answer to all questions and you can have some break time during the in-depth interview if you want. Can you proceed to the question?

Yes      No

### Socio demographic Information

Number	Question	Response	Remarks
101	Name of health centers or hospital	_____	
102	Sex:	3. female 4. male	
103	Age in year	_____in year	
104	Marital status	1.single 2.married 3. Divorced. 4.widowed	
105	Profession or field of study	_____	
106	Educational status	1. Medical doctor 2. Master 3. Degree 4.diploma 5. others	
107	Monthly Salary in birr	_____in birr	
109	Years of Service (in year)	_____ in year	
110	Hours worked per week in hours	1. less than 40 hrs 2. Above 40 hrs 3. 40 hrs	48

## Part II

1. Is there an occupational health and safety office or department?
2. Is there an occupational health and safety guideline in your health facilities?
3. Do you have a training manual on occupational health and safety in your health facilities?
4. Do you have records of injuries that occurred to health workers and the measures taken in your health facilities?
  - A. Type of injury from records
  - B. Cause of injury from records
5. Do health workers use protective equipment during working time?
6. Are there any precaution labels or signs?
7. Would you tell me what you know about occupational health and safety measures in your health facilities?
8. What does the practice of occupational health and safety in your health facilities look like? And what is your role in the implementation of OHS?
9. Are there any barriers or factors that affect OHS in your health facilities? What is your suggestion to improve it?

Thank you for your cooperation

# Amharic questionnaire

በራስ የሚሞ ላ ቃለ መጠይቅ

ሰላምታ ጤና ይስጥልኝ

የማኅ ገ/ማርያም እባላለሁ በጅም የኒቨርሰቲ የ2ኛ አመት MPH in health service management and health planning ማስተር ተመራቂ ተማሪ ነኝ።

በወላይታ ዞን ባሉ የመንግስት ጤና ተቋማት የሚደረግ ጥናት ነው። ዓላማውም በጤና ባለሙያዎች ላይ ስለ የሰራ ደህንነት እና ጥንቃቄ (occupational health and safety practice) የሚያቶክር ሲሆን እርስዎ አስፈላጊውን ትብብር እንዲያደርጉልን በአክብሮት እንጠይቃለን።

እርስዎ በዚህ ጥናት በመሳትፍዎ ማንኛውም ምስጢር ለሌላ አካል እንደማይሰጥ ላረጋግጥሎት እወዳለሁ። በዚህ ጥናት በመሳትፍዎ ምንም ጉዳት የማይደርስብዎት ሲሆን የሚሰጡን መረጃ ለጥናቱ እጅግ አስፈላጊ መሆኑን ልገልፀሎት እወዳለሁ። በዚህ መጠይቅ መሳተፍ ከጀመሩ በኋላ ማቀም መብቶ ሲሆን ያለ መሳተፍ መብቶም የተጠበቀ ነው። በዚህ መሰረት መጠይቁን ለመሙላት ፈቃደኛ ነዎት።

ሀ) አዎ                      ለ) አይደለሁም                      ፊርማ \_\_\_\_\_

## 1. ክፍል አንድ ማህበራዊና እኮኖሚያዊ መረጃ

ተራቁ	ጥያቄ	መልስ	ማስገንዘብያ
101	የጤና ጣብያው/ ሆስፒታሉ ስም		
102	ጾታ	ሀ. ሴት ለ. ወንድ	
103	ዕድሜ		
104	የጋብቻ ሁኔታ	ሀ. ያላገባ/ች ለ. ያገባ/ች ሐ. የተፋታ/ች መ. ባል/ሚስት የሞተበት	
105	የሙያ ዘርፍ		
106	የትምህርት ደረጃ	ሀ. ሜዲካል ዶክተር ለ. ማስተር ሐ. ዲግሪ መ. ዲፕሎማ ሠ. ሌላ ይገለጽ	
107	የወር ደመወዝ	_____ በብር	
108	የ አገልግሎት ጊዜ	_____ በአመት	
109	በሳምንት ምን ያህል ሰዓት ትሰራለህ/ሽ	ሀ. ከ40 ሰዓት ያነሰ ለ. ከ 40 ሰዓት በላይ ሐ. 40 ሰዓት	

II. ክፍል ሁለት የሰራተኛ የሰራ ደህንነት እና ጥንቃቄን የሚመለከት መረጃ (Workers Health and Safety information)

ተራ. ቁ	ጥያቄ	መልስ	ማስገንዘብያ
201	ባለፈው 12 ወር ውስጥ በሰራ ቦታ ላይ የአካል ጉዳት(አደጋ) ደርሶብት ያውቃል?	ሀ. አዎ ለ. አያውቅም	መልሶ አያውቅም ከሆነ ወደ ተራ.ቁ 301 ይሂዱ
202	የትኛው የሰውነት ክፍል ነው በአደጋው የተጎዳው?	_____	
203	ምን አይነት ጉዳት ነው የደረሰብት?	ሀ. የመርፌ መወጋት ለ. በምላጭ/በሰለት መወጋት ሐ. የኬሚካል ጉዳት መ. የአካል ጉዳት ሠ. ሌላ ከሆነ ይገለጽ	ከአንድ በላይ መምረጥ ይቻላል
204	የአደጋው ምክንያት ምን ነበር	ሀ. በታካሚ አንቅስቃሴ ለ. መርፌ ሰክድን ሐ. ሌላ ከሆነ ይገለጽ	
205	ባለፈው 12 ወር ውስጥ በሰራ ቦታ ላይ ምን ያህል የአካል ጉዳት(አደጋ) ደርሶብታል	_____ በቁጥር	
206	ለሚመለከተው የቅርብ አለቃ አመልክተሃል/ሻል?	ሀ. አዎ ለ. አላመለከትኩም	
207	ለተራ ቁጥር 206 መልስህ/ሽ አላመለከትኩም ከሆነ ለምን?	ሀ. አደጋው ትንሽ ስለሆነ ለ. ለውጥ የለውምአለቃዬን ሐ. ስለምፈራው መ. ሌላ ከሆነ ይገለጽ	
208	በአደጋው ምክንያት ምን ያህል ቀን ከሰራ ቀሩ	_____ በቀን	

በስራ ጊዜ የአደጋ መከላከያ መሳርያዎችን የሚመለከት መጠይቅ

ተራ.ቁ	ጥያቄ	መልስ	ማስገንዘብያ
301	በስራ ጊዜ የአደጋ መከላከያ መሳርያዎችን ይጠቀማሉ?	ሀ. አዎ ለ. አልጠቀምም	መልስ አልጠቀምም ከሆነ ወደ ተራ.ቁ 304 ይሂዱ
302	ለተራ ቁጥር 301 መልስ አዎ ከሆነ የሚከተሉትን መሳርያዎችን ምን ያህል ይጠቀማሉ ባለፈው 12 ወራት ውስጥ?  የእጅ ጓንት (gloves)  ፕላስቲክ አፕሮን (Plastic apron)  የአይን መከላከያ መነጻር (Goggles)  ጫማ ለዚህ ስራ የተዘጋጀ	ሀ. ሁልጊዜ ለ. አንድ አንድ ጊዜ ሐ. አልፎ አልፎ መ. የለም  ሀ. ሁልጊዜ ለ. አንድ አንድ ጊዜ ሐ. አልፎ አልፎ መ. የለም  ሀ. ሁልጊዜ ለ. አንድ አንድ ጊዜ ሐ. አልፎ አልፎ መ. የለም  ሀ. ሁልጊዜ ለ. አንድ አንድ ጊዜ ሐ. አልፎ አልፎ መ. የለም	
303	ለተራ ቁጥር 301 መልስ አዎ ከሆነ ሁሉም የተሟላ ነው	ሀ. አዎ ለ. አይደለም	
304	ለተራ ቁጥር 301 መልስ አልጠቀምም ከሆነ ለምንድነው አደጋ መከላከያ መሳርያዎችን የማይጠቀሙት?	ሀ. መሳርያዎች ስለሌሉ ለ. ሌላ ይጠቀስ	
305	ራስን ከአደጋ ለመጠበቅ ስልጠና ወስደው ያውቃሉ	ሀ. አዎ ለ. አላውቅም	አላውቅም ከሆነ ከሆነ ወደ ተራ.ቁ 307 ይሂዱ
306	ለተራ ቁጥር 305 መልስ አዎ ከሆነ ስልጠናው በየትኛው ርዕስ ላይ ያተኮረ ነበር? ከአንድ በላይ መምረጥ ይቻላል	ሀ. ተላላፊ በሽታን መከላከል ለ. የጀርባ ጉዳትን መከላከል ሐ. የኬሚካል ጉዳትን መከላከል	ከአንድ በላይ መምረጥ ይቻላል

		<p>መ. የጨረር ጉዳትን መከላከል</p> <p>ሠ. ሌላ ከሆነ ይገለጽ</p>	
307	አዲስ ሰራተኛ ሲቀጠር ራሱን ከአደጋ ለመጠበቅ ስልጠና ያስፈልገዋል ብለው ያምናሉ?	<p>ሀ. አዎ</p> <p>ለ. አላምንም</p> <p>ሐ. አላውቅም</p>	
308	ለተራ ቁጥር 307 መልሶ አይደለም ከሆነ ለምን ያብራሩ	_____	
309	አዲስ መሳርያዎች ሲመጣ ሰራተኛው ራሱን ከአደጋ ለመጠበቅ ስለ አጠቃቀሙ ስልጠና ያስፈልገዋል ብለው ያምናሉ?	<p>ሀ. አዎ</p> <p>ለ. አላምንም</p> <p>ሐ. አላውቅም</p>	
310	ለተራ ቁጥር 309 መልሶ አይደለም ከሆነ ለምን ያብራሩ	_____	
311	በስራዎ ምክንያት ባለፉት 12 ወር ውስጥ የግል ተጽእኖ ወይም ጥቃት ደርሶብት ያውቃል?	<p>ሀ. አዎ</p> <p>ለ. አያውቅም</p>	
312	ለተራ ቁጥር 311 መልሶ አዎ ከሆነ በማን ነው የ ተጠቁት?	<p>ሀ. በአለቃ/ በተቆጣጣሪ</p> <p>ለ. በታካሚ</p> <p>ሐ. ሌላ ከሆነ ይገለጽ</p>	
313	የ hepatitis B virus መከላከያ ክትባት ወስደሃል/ሻል?	<p>ሀ. አዎ</p> <p>ለ. አልወሰድኩም</p>	

ጤና ባለሙያዎች ስለ ስራ ደህንነት እና ጥንቃቄ ያላቸውን ዕውቀት የሚዳስስ መጠይቅ

ተራቁ	ጥያቄ	መልስ
314	ስራዎ የአዕምሮ ጭንቀት ያመጣል ብለው ያስባሉ?	ሀ. እስማማለሁ ለ. ምንም አይመስለኝም ሐ. አልስማማም
315	ስራዎ በጣም ይከብዳል ጉልበት ይጠይቃል ብለው ያስባሉ?	ሀ. እስማማለሁ ለ. ምንም አይመስለኝም ሐ. አልስማማም
316	የግል የአደጋ መከላከያ መሳሪያዎችን በአግባቡ በመጠቀም በስራ ላይ የሚያጋጥሙ አደጋዎች መቀነስ እንዲቻል ያውቃሉ?	ሀ. አዎ ለ. እርግጠኛ አይደለሁም ሐ. አላውቅም
317	ሰራተኞች የስራ ደህንነት እና ጥንቃቄ ስልጠና ቢሰጣቸው በስራ ላይ የሚያጋጥሙ አደጋዎች መቀነስ እንዲቻል ያውቃሉ?	ሀ. አዎ ለ. እርግጠኛ አይደለሁም ሐ. አላውቅም
318	ከስራ ባልደረቦች እና ከአለቃዎ ጋር መልካም መግባባት በመፍጠር በስራ ላይ የሚያጋጥሙ አደጋዎች መቀነስ እንዲቻል ያውቃሉ?	ሀ. አዎ ለ. እርግጠኛ አይደለሁም ሐ. አላውቅም
329	የተላዩ የአደጋ መከላከያ ምልክቶች በጤና ተቋም ውስጥ መኖራቸው በስራ ላይ የሚያጋጥሙ አደጋዎች መቀነስ እንዲቻል ያውቃሉ?	ሀ. አዎ ለ. እርግጠኛ አይደለሁም ሐ. አላውቅም
320	አደጋዎች ሲከሰቱና አደጋ ሲጠረጥሩ ለቅርብ አለቃ ማሳወቅ በስራ ላይ የሚያጋጥሙ አደጋዎች መቀነስ እንዲቻል ያውቃሉ?	ሀ. አዎ ለ. እርግጠኛ አይደለሁም ሐ. አላውቅም
321	በስራ ላይ የስራ ደህንነት እና ጥንቃቄ ማግኘት ህጋዊ መብት መሆኑን ያውቃሉ?	ሀ. አዎ ለ. እርግጠኛ አይደለሁም ሐ. አላውቅም/አላውቅም

አመስግናለሁ ከሰላምታ ጋር።

ጥልቅ ቃለ መጠየቅ

ሰላምታ ጤና ይስጥልኝ

የማኅ ገ/ማርያም እባላሉ በጅም ዩኒቨርሲቲ የ2ኛ አመት MPH in health service management and health planning ማስተር ተመራቂ ተማሪ ነኝ።

በወላይታ ዞን ባሉ የመንግስት ጤና ተቋማት የሚደረግ ጥናት ነው። ዓላማውም በጤና ባለሙያዎች ላይ ስለ የስራ ደህንነት እና ጥንቃቄ (occupational health and safety) የሚያቶክር ሲሆን እርስዎ አስፈላጊውን ትብብር እንዲያደርጉልን በአክብሮት እንጠይቃለን።

እርስዎ በዚህ ጥናት በመሳተፍዎ ማንኛውም ምስጢር ለሌላ አካል እንደማይሰጥ ላረጋግጥሎት እወዳለሁ። በዚህ ጥናት በመሳተፍዎ ምንም ጉዳት የማይደርስብዎት ሲሆን የሚሰጡን መረጃ ለጥናቱ እጅግ አስፈላጊ መሆኑን ልገልፀሎት እወዳለሁ። በዚህ መጠይቅ መሳተፍ ከጀመሩ በሃላ ማቀም መብቶ ሲሆን ያለ መሳተፍ መብቶም የተጠበቀ ነው። በዚህ መሰረት መጠይቁን ለመሙላት ፈቃደኛ ነዎት።

ሀ) አዎ                      ለ) አይደለሁም

ተራቁ	ጥያቄ	መልስ
101	የጤና ጣብያው/ ሆስፒታሉ ስም	
102	ጾታ	ሀ. ሴት ለ. ወንድ
103	ዕድሜ	
104	የጋብቻ ሁኔታ	ሀ. ያላገባ/ች    ለ. ያገባ/ች ሐ. የተፋታ/ች    መ. ባል/ሚስት የሞተበት
105	የሙያ ዘርፍ	
106	የትምህርት ደረጃ	ሀ. ሜዲካል ዶክተር ለ. ማስተር ሐ. ዲግሪ መ. ዲፕሎማ ሠ. ሌላ ይገለጽ
107	የወር ደመወዝ	_____ በብር
108	የ አገልግሎት ጊዜ	_____ በአመት
109	በሳምንት ምን ያህል ሰአት ትሰራለህ/ሽ	ሀ. ከ40 ሰአት ያነሰ ለ. ከ 40 ሰአት በላይ ሐ. 40 ሰአት



ክፍል ሁለት

1. የስራ ደህንነት እና ጥንቃቄ ቢሮ ወይም ክፍል በጤና ጣቢያዎች/ሆስፒታል አለ።
2. የስራ ደህንነት እና ጥንቃቄ መመሪያ አለ? ካለ ይታይ
3. የስራ ደህንነት እና ጥንቃቄ የስልጠና መመሪያ አለ? ካለ ይታይ
4. አደጋዎች ሲያጋጥሙ ይመዘጋባሉ? ካለ የ 12 ወር ውስጥ አደጋ ይቆጠሩ።
  - 4.1 የአደጋው ዓይነት ከመዝገቡ ይታይ
  - 4.2 የአደጋው ምክንያት ከመዝገቡ ይጻፍ።
5. የጤና ባላሞዎች የግል የአደጋ መከላከያ መሳርያዎችን ይጠቀማሉ? በስራ ጊዜ ይታይ
6. የተላዩዩ የአደጋ መከላከያ ምልክቶች በጤና ተቋም ውስጥ አለ ወይ?
7. ስለ የስራ ደህንነት እና ጥንቃቄ በእርሶ ጤና ተቋም የሚያውቁትን ያብራሩልን
8. በዚህ ጤና ተቋም የስራ ደህንነት እና ጥንቃቄ አፈፃፀሞቹ ምን ይመስላል የእርሶ አስታወፅኦ ምንድነው?
9. በዚህ ጤና ተቋም የስራ ደህንነት እና ጥንቃቄ ላለመተግበር ምክንያቶች የሚሉትን ያብራሩልን ይገን ለማሳሻሻል የእርሶ ሃሳብ ወይም አስተያየት ምንድነው?

አመስግናለሁ ከሰላምታ ጋር



## ASSURANCE OF PRINCIPAL INVESTIGATOR

### ASSURANCE OF PRINCIPAL INVESTIGATOR

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

Name of the student: \_\_\_\_\_

Date. \_\_\_\_\_ Signature \_\_\_\_\_

### APPROVAL OF THE FIRST ADVISOR

Name of the first advisor: \_\_\_\_\_

Date. \_\_\_\_\_ Signature \_\_\_\_\_