ADDISS ABABA UNIVERSITY

MEDICAL SCHOOL

DEPARTMENT OF EMERGENCY MEDICINE

ASSESSMENT OF KNOWLEDGE, ATTITTUD & PRACTICE TOWARDS SAFETY MEASURES AMONG WORKERS IN FDRE METAL & ENGINEERING CORPORATION / METEC/

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A THESIS SUBMITTED TO THE DEPARTMENT OF EMERGENCY MEDICINE, SCHOOL OF MEDICINE, ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EMERGENCY MEDICINE & CRITICAL CARE.

ACADAMIC YEAR 2014

ADDIS ABABA, ETHIOPIA

DECLARATION

I hereby declare that this thesis is my own work and that to the best of my knowledge it contains no materials previously published by other person and that all sources of materials used for this thesis has been properly acknowledged.

Name: _____

Signature: _____

Place: Addis Ababa, Ethiopia

Date of submission: _____

This thesis has been submitted for examination with my approval as a university advisor.

Name: _____

Signature: _____

Date: _____

Acknowledgement

After all I would like to thank the almighty God. It is through him I am living, walking and enjoying life.

This thesis would not have been possible without the help and support of many people who directly and indirectly contributed their effort to my study.

I want to express my sincere gratitude and deep appreciation to my advisors Dr. Aklilu Azazh and Mr. Yonas Abebe for their untiring and invaluable efforts throughout their guidance with all their heart from the beginning to the completion of this work.

My heartfelt thanks also go to Addis Ababa University Faculty of Medicine Department of Emergency medicine for the provision of full financial support for the accomplishment of the study.

I also extend my gratitude to Defense health science college directorate for generous financial support for all expenses of my graduate education and stationary materials for implementation and completion of my thesis.

In fact, I cannot fail to extend my gratitude to the management and staff of the METEC, for offering themselves in spite of their busy schedules to provide much information to enhance the study.

I want also to acknowledge the data collectors and the participants for their genuine dedication and effort shown during the data collection.

Table of Contents

List of tables **Page**

Abbreviations

FDRE _ Federal Democratic Republic of Ethiopia

METEC – Metal and Engineering Corporation

OHS – Occupational Health and Safety

KAP- Knowledge, Attitude and Practice

PPE - Personal Protective Equipments

WHO- world health organization

ABSTRACT

Background: Accidents occurring in most industries in Ethiopia are a source of worry to everyone. Most employers fail to use adequate health and safety measures in place at their workplace to safeguard not only the employees and management but also clients and other stakeholders who might have some kind of interest in the company or institution.(3) The metal & engineering corporation is a labor intensive task. As these workers perform repetitive tasks throughout the work day, they may face several work related problems.

Objective: The main objective of this study was to assess the level of knowledge, their attitudes & practices among the workers towards safety measures to prevent the above mentioned problems.

Methods: A descriptive cross-sectional study was conducted in METEC in March 2014. A total of 422 study populations were randomly selected from the eight industries according to their worker number proportion. The data was collected using the structured interview questionnaires. The questionnaire was pre-tested for their accuracy and validation prior to the actual study and the necessary adjustments were done accordingly. The data were entered after being encoded and analyzed using SPSS.

Results: The mean (standard deviation) age of the respondents was 33.526 (1.04) of the respondents recognized at least one safety sign. 84 (19.9%) respondents got information from health facility and 79.16% of the respondents had "High knowledge" of used PPE and 13.27% showed "Moderate knowledge" and 7.58% had "Low knowledge. The distribution of attitudes on using PPE is 76.5% of respondents had "Positive attitude". 6.13% of them had "Neutral attitude" While 17.37% of respondents had "Negative attitude". Among the respondents, 89.6% had ever been using at least one kind of PPE, while 10.4% had never used any PPE.

Conclusion and recommendation: The workers have high knowledge level compared to other studies. Health and safety recommendations have positive effects on both knowledge levels and safe practices. Health and safety training has positive effects on safe practice but did not impact knowledge. Health and safety recommendation should be given to the workers. Safety signs should posted at a reasonable work sites.

Keywords: Safety knowledge, attitude, practice and PPE

1. INTRODUCTION

1.1 Back ground information

Safety is the condition of a "steady state" of an organization or place doing what it is supposed to do. "What it is supposed to do" is defined in terms of public codes and standards, associated architectural and engineering designs, corporate vision and mission statements, and operational plans and personnel policies. For any organization, place, or function, large or small, safety is a normative concept. It complies with situation-specific definitions of what is expected and acceptable. This can take the form of being protected from the event or from exposure to something that causes health or economical losses. It can include protection of people or of possessions. (1).

Development and industrialization in particular, have made immense positive contributions, to health, social wealth and improved education service. However, industrialization has also had adverse health consequences on work places. These effects have been caused either directly by exposure to safety hazards and harmful agents or indirectly through environmental degradation (2).

Many countries are moving from manual labor to service mechanization in the main productive sectors, such as manufacturing, mining and agriculture, hence the potential occupational safety consequence should be anticipated. Also the insatiable desire of these countries for technical advancement has brought about the importation of sophisticated machinery and pieces of equipment not only into the industrial production sector, but also to services and commerce. As to be expected the health problems would also change. For example, more emphasis on ergonomics and occupational psychosocial factors would be needed in the services industry. This obviously would be a new challenge for occupational health and safety practice in most of the African countries because the tool to deal with such a problems and the expertise is not yet advanced when compared to the developed countries.(3)

There is no doubt that human resource in an organization is one of its versatile resources. Therefore, an effective and efficient use of the human resource will translate into the overall effectiveness and efficiency of the organization. Though many organizations accept this to be true, they fail to realize that as part of their human resource management practices, there is the

need for management to ensure that personnel in the organization environment that will promote their optimum utilization. It should be emphasized that accidents are costly both to the affected worker and the organization. Therefore, every effort should be made by management and employees in order to avoid them from happening at the work place. As an industry the employees are exposed to varied kinds of hazards. Therefore, failure to institute adequate health and safety measures in place by management to protect employees from these hazards and risks will lead to avoidable deaths and ultimately lead to loss of staff. Inadequate training on acceptance and compliance to safety and health measures also hinder its effectiveness. Infact, safety and health in the organization have to be everybody's concern. On the contrary, this is not the case in most organizations. (4)

Workers, employers, governments, as well as the public at large have a curiosity to make working conditions healthy and safe. Although it seems simple and understandable, this idea has not yet gained meaningful universal recognition. Millions of people throughout the world are employed today in conditions that raise ill health and are unsafe. (3)

In case of FDRE metals & engineering corporation/METEC, since it is labour intensive with variety of industries & different employees having diverse educational preparation & socio economical status which predispose them to work related illness & injury due to lack of KAP towards using safety measures. This attracts my attention to assess the level and awareness of the workers and higher officials of METEC specially the eight industries namely:

1. Bishoftu Automotive Industry,
2. Hibret Manufacturing & Machine building Industry,
3. Metals fabrication Industry,
4. Akaki Basic Metals Industry,
5. Ethiopia's' Plastic Industry,
6. Ethiopia's Power Engineering Industry
7. Locomotive small Industry
8. Dejen aviation industry, where my research was conducted.

2. LITERATURE REVIEW

Different scholars define safety differently, for example Cascio,Wayne(1986) defines safety hazards as those aspects of the work environment that have the potential of immediate and sometimes violent harm to an employee; for example, loss of hearing, eye sight, or body parts, cuts, sprains, bruises, broken bones, burns and electric shock.(4)

Many people are at serious risk of ill-health and accidents because of the condition they encounter in their workplaces. Combating these dangers requires a multidisciplinary approach and special attention to the elimination of hazards from the work environment. This is a long-standing concern of World Health Organization. (7)

The effect of hazard is not as less as some layman individuals estimated it. For example Seaton A.et & others stated, worldwide about 90,000 industrial accidents and about 400 lives are lost daily through occupational hazards. (8)

Hazard OR injuries can be caused due to lack of different factors, among these factors that can aggravate hazard are:

1. Knowledge
2. Skill
3. Attitude

A. The effect of knowledge on wide spread of injury due to hazard

Lack of knowledge in any industry causes different types of reversible & irreversible health problems for example trauma to different part of body, noise induce hearing loss, neurological problems, cardio respiratory, musculoskeletal, reproductive& eye disorders, etc. (3) In line with the above stated problems, Study result done by Paramasivam Parimalam, Narayani Kamalamma & Anind Kumar Ganguli showed that, 93% of garment workers had experienced health problems due to lack of knowledge. (10) Similar study done at Vietnam by Mr. Cong Dat Truong showed that 78.16% of respondents had low knowledge, 18.11% had moderate knowledge & 3.72% had high knowledge on using PPE.(6)

Study done in Jimma by Kebede Faris showed that the majority of the workers in small scale enterprises have no health and safety education (15). In addition to this, study done at Kality Metal Product and Ethiopian Iron and Steel Factories, 69.5% knew the presence of different kinds of occupational health and safety information where as the rest 30.5% of the respondents never heard about it. Among who have knowledge about occupational health and safety

information, 63.5% knew about danger sign, 41.0% knew warning sign, and 1.9% knew about corrosive sign. 97.4% participants knew the presence of workers right and obligation in working areas where as the rest 2.6% of the study subjects did not know about it. 51.3% respondents explained that different kinds of health and safety recommendations were encountered in their working areas by their immediate supervisors or written labeled. (2)

In generalized facts of the above stated research results can be summarizes as, majority of workers among different industries of India, Vietnam as well as Ethiopia has lack of knowledge about how & when to use safety measure/PPE.

B. The effect of Attitude on wide spread of injury due to hazard

The same with the above the effect of attitude towards using safety measures can lead to different health hazards as stated in the effect of knowledge.

Study done by Ignatius Tak-Sun Yu, Nga Lan Lee & Tze Wai Wong, among printing Workers in Hong Kong: the reasons for not using personal protective equipment were interference with work that accounts 58.3%, and 20% believing that chemicals were not harmful and 13.9% is due to discomfort.(9)

Another study done by Mr. Cong Dat Truong among rattan craftsmen in trade village at Kienxuong district, Vietnam showed that 4.22% respondents had positive attitude, 68.98% had neutral attitude & 26.8% had negative attitude towards using PPE.(6)

C. The effect of Practice on wide spread of injury due to hazard

Similarly to the effect of Knowledge & attitude, practice has also an impact on health of workers due to different malpractice in their work place. Study done by Mr. Cong Dat Truong among rattan craftsmen in trade village at Kienxuong district, Vietnam showed that 29% of workers used at least one kind of PPE & 71% had never used any PPE.(6)

Study carried out by Achenafi Motbainor at Kality Metal Product and Ethiopian Iron and Steel factories in March 2007, among the safe practices of the workers, 71.5% used a glove. Type of factory, health and safety training and safety recommendation showed significant association in the first step and resist their association until the final step with glove usage practice of workers. (2) A study done in Tendaho Agricultural Development, Afar region, showed that78.3% workers were injured in relation to their work. Working more than 48 hours per week, absence of health and safety training, and absence of Personal protective equipments were the significant factor to the occupational injury (14). Another study done at Jimma showed that only 40.2%

used Personal protective equipments. (15) Similarly another study done in Akaki textile factory showed that 86.1% of the workers had no health and safety training and 87.4% of workers had not used Personal protective equipments. (13)

Finally we can say that lack of KAP towards using safety measures can cause different type of injuries, illnesses & even lead to death.

Therefore, to design intervention method and alleviate this work related problems, it is worth to assess the knowledge, attitude and practice of FDRE METEC workers on safety measures information.

3. OBJECTIVES

3.1 General objective

- The general objective of the study was to assess knowledge, Attitude and practice of industry workers on occupational safety measures among FDRE metal & Engineering Corporation.

3.2 Specific objectives

1. To assess the knowledge of workers on safety measures.
2. To determine the attitude toward using safety measures
3. To assess the practice of workers on safety guidelines and personal protective device.
4. To describe determinants affecting knowledge and practice on safety measures.
5. To assess types and severity of accidents happening.

4. Methods and materials

4.1 Study area

The study was conducted in eight industries of FDRE METEC namely

1. Bishoftu Automotive Industry,
2. Hibret Manufacturing & Machine building Industry,
3. Metals fabrication Industry,
4. Akaki Basic Metals Industry,
5. Ethiopia's' Plastic Industry,
6. Ethiopia's Power Engineering Industry,
7. Locomotive small Industry and
8. Dejen aviation Industry located at Addis Ababa and Bishoftu Town. Each factory had its own work characteristics. METEC was established in 2002 E.C in line with the FDRE ministry of defense policy to modernize the armament and industrial products that can play pivotal role in the county's development. FDRE metal & Engineering Corporation, the Corporation have more than 15 thousand workers and 15 different industries that mainly produced new products of train body, automobiles, cables & military equipments, electrical cables, fuel production, locomotion, agricultural equipments& etc . With this fact all of the industries are hazardous & need intensive follow up and care. Till now different hazards have been encountered in METEC and most of them are estimated to be preventable.

4.2 Study period

The study was conducted in March 2014.

4.3 Study design

A descriptive cross-sectional study was conducted to assess the knowledge level, attitude and practice of the workers on using safety measures.

4.4 Population

4.4.1 Source population

All the workers in the selected corporation was considered as a source population and the required sample size were drown from this population

4.4.2 Study population

The selected samples in the eight industries were considered as the study population and all the require information were collected from these population

4.5 Sample size and sampling techniques

4.5.1 Sample size: Minimum sample sizes were determined using a single proportion formula:

$$n = \frac{Z^2 p (1-p)}{d^2}$$

Where, n= the sample size required

p= an estimate of workers knowledge, attitude & practice proportion (0.5)

d = margin of sampling error

Z = the standard normal confidence internal = 1.96

by taking prevalence rate (p) = 50 %, confidence interval of 95% to obtain a large sample size and margin of error 5% of the sample size between the sample and the underline population, therefore, the minimum sample size

$$(n) = \frac{(1.96)^2 (0.5) (1-0.5)}{(0.05)^2} = 384$$

With 10% contingency of the non-response rate, the total sample size was 422.

4.5.2 Sampling technique:

Among the fifteen industries, eight were purposely selected in the assumption of time and financial constraints to account the whole industries in the cities and no other descriptive studies that showed any variation in their working characteristics. In addition, most safety information throughout the world in work areas is identical and the work related accidents are assumed to be higher in these factories since there are difficult work activities.

A stratified sampling technique was used to determine the sample size from the source population. To select the study subject, the total number of workers in the industry were categorized in to administrative and technical workers and further the technical workers were grouped in to sections or industries and the study subjects were drown according to their number proportions.

To determine sampling interval and select the first subject, the total number of workers were divided to the total sample size and the first person was selected by lottery method and followed by already determined sequences.

4.6 Variables

4.6.1 Dependent variables

- Knowledge of PPE
- Attitude towards using PPE
- Safe Practice of workers

4.6.2 Independent variables

- Age
- sex
- Educational status
- Work experience

4.6.3 Work environment variables:

- Health and safety information
- Workers right and obligation
- Availability of personal protective equipments
- Presence of supervision

4.7 Operational Definitions

Knowledge means assessment of what the individual/worker knows about safety information (labels, symbols, signs, pictograms, guidelines, manuals) used as indication to describe the safe activity in the work place. There were seven questions in this part and we asked to know about the knowledge of using PPE which includes sources of safety information, types of PPE used. A correct answer was given one score and zero score for wrong answer. The score varied from 0-7 points and was classified into three levels based on Bloom's Cut off point as follows.

- High Knowledge (80-100%) = 5-7 scores
- Moderate Knowledge (60-79%) = 2-4 scores
- Low Knowledge (less than 59%) = 0-1 scores

Attitude is perceived susceptibility, severity, benefit and barrier of using PPE in METEC. It was assessed using Likert's scale. There were five questions towards attitude. The rating scale was measured as follows

Positive statement		**negative statement**	
Agree	3	Agree	1
Neutral	2	Neutral	2
Disagree	1	Disagree	3

Practice means assessment of respondents what they are actually practicing prior to the study.

Safety means the state for which the risks are judged to be acceptable.

Incidents mean all hazard related events that have been referred to as accidents, mishaps, near misses, occupational illnesses, environmental spills, loses, fires, explosions.

Safety and/or health at work signs means signs referring to a specific object, activity or situation and providing information or instructions about safety and/or health at work by means of a signboard, a color, an illuminated or acoustic signal, a verbal communication or a hand signal, as the case may be.

Warning sign means a sign giving warning of a hazard or danger.

Emergency escape or first-aid sign means a sign giving information on emergency exits or first-aid or rescue facilities.

Information sign means a sign providing information to any person in the work area to perform any activity or movement safely.

Hand signal means a movement or position of the arms or hands, in coded form, for guiding persons who are carrying out maneuvers, which constitute a hazard.

4.8 Data collection technique

Structured self administered questionnaire were used to collect the required quantitative information. The questionnaire was first developed in English and then translated in to Amharic and back to English by different persons to check its reliability and validity. Five percent of the questionnaires were tested in other factory workers for the accuracy and validity and the necessary adjustments were done prior to the actual study time. The English version questionnaire, which was translated to Amharic version, has four parts: the socio demographic character, the knowledge, attitude and the practice of the workers. The data was collected by

diploma graduates after have been given a thorough training. The questionnaire was enclosed in an unmarked envelope. A brief explanation was given to respondents before the data collection by the trained data collector.

Four data collectors and two supervisors were participating to conduct the interview. A day to day supervision was under taken during the whole period of data collection. At the end of each day, the questionnaire were revised and checked for completeness and consistency.

4.9 Data analysis:

The data collected from the field was entered after being encoded and analyzed using Statistical Package for Social Science Studies (SPSS) version 16. Any logical and consistency error identified during data entry were corrected after revision of the original completed questionnaire. The cleaned and edited data was ready for appropriate statistical analysis. The mean, standard deviation and the proportion of the variables were done. The result of the analysis was presented using tables, charts and graphs.

4.10 Data quality control:

At the beginning emphasis was given in designing data collection tool, the questionnaire. The principal investigator and supervisors were making a day to day on site supervision on the data collection how to handle the questionnaire. At the end of each day, the questionnaires were checked for completeness and consistency and were submitted to the investigator, and corrective discussion was undertaken through mini meetings with all the data collectors, supervisors, and the investigator.

Pre test was conducted in other similar military industries/garage/to check the accuracy and validity of the questionnaire prior to the actual study period. Five percent (5%) of the questionnaire were tested for their accuracy and the necessary correction was made accordingly.

4.11 Ethical consideration:

A Letter of permission was obtained from AAU faculty of Emergency Medicine (of research office) and given to FDRE METEC office. Verbal consent was obtained from the respondents and brief explanation of the aim of study was provided with the questionnaire. Confidentiality was maintained by omitting their names and personal identification or privacy.

4.12. Dissemination and utilization of result

The result of the study will be disseminated or communicated to:

- Addis Ababa University Faculty of Medicine, Department of Emergency Medicine,
- Defense University Health Science College and
- METEC

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5. Results

5.1. Socio-demographic characteristics

A total 422(100%) respondents were interviewed. The majority of the respondents 335 (79.3%) were male. Respondents' age ranged from 18 to 65 with the median of 29. The mean age of the respondents was 33.53 with standard deviation 1.04. The majority 269(63.7%) were in 18- 30 age group.

From the total respondents majority 396 (93.8%) were production workers while 25(5.9%) were technical administrative staffs. In addition 259 (61.4%) were permanent workers, 156 (37.0%) were temporary or contractual workers, 7 (1.7%) were others/ Daily laborer.

The majority of the respondents' work experience were found in 1 to 5 service year group 253 (60.0%), followed by greater than 10 service year group which accounts 119(28.2%), and 50 (11.8%) were in 5 to 10 service year groups.

Among the total respondents 223 (58.1%) of them worked for less than or equal to eight hours and one hundred sixty (41.7%) worked for more than eight hours per day.

Table 1:- Selected socio-demographic, academic characteristics & work experience of the respondents, METEC, March 2007, (n=422).

Variable	Frequency	Percentage (%)
Age		
18-30	269	63.7
31-43	59	14.0
44-56	76	18.0
57 & above	18	4.3
Total	422	100.0
Sex		
Male	335	79.38
Female	87	20.62

Total	422	100
Marital status		
Married	272	64.5
Single	137	32.5
Divorced	3	.7
Widowed	6	1.4
Religion		
Orthodox	333	78.9
Muslim	27	6.4
Protestant	49	11.6
Catholic	7	1.7
Other (specify)	6	1.4
Total	422	100.0
Level of education		
Msc	1	.2
Bsc	35	8.3
Diploma/TVET	269	63.7
certificate	47	11.1
10-12 class	28	6.6
< 10 class	42	10.0
Total	422	100.0
Work experience		
<5 years	253	60.0
5-10 years	50	11.8
> 10 years	119	28.2
Total	422	100.0

5.2. Knowledge on occupational health and safety Measures

From the total study 411 (97.4%) knew the presence of different kinds of occupational health and safety information where as the rest 11 (2.6%) of the respondents never heard about it.

The distribution of the knowledge on using PPE of the respondents showed that 79.16% had “High knowledge” 13.27% of them had “Moderate knowledge” while only 7.58% of the respondents had “Low knowledge”

Sources of information mentioned were obtained from health facility (84 (19.9%)), friends (77 (18.2%)) and radio and television 46 (10.9%). Among 393 respondents, who were aware of pictures, signs and labels of occupational health and safety information 89(21.1%) expressed that they knew danger sign 36 (8.5%) for warning sign and 18(4.3%) for high voltage sign. Of all respondents 238 (56.4%) answered as having awareness for all of the safety signs.

Table 2:-Distribution of Knowledge level of workers towards different safety signs and source of information of their knowledge, METEC, March 2014, (n=422).

Knowledge	Frequency (n=422)	Percentage/%
Knowledge level		
High (5-7 score)	334	79.16
Moderate (2-4 score)	56	13.27
Low (0-1 score)	32	7.58
Total	422	100
Source		
Friends	77	18.2
Radio	25	5.9
Television	21	5.0
News paper	5	1.2
Health Facility	84	19.9
All	96	22.7
Total	410	97.2
Safety signs		
Danger signs	89	21.1
warning signs	36	8.5
Exit signs	3	.7
Flammable signs	3	.7
Harmful signs	7	1.7
Explosive signs	5	1.2
high voltage signs	18	4.3
All & Others	238	56.4
Total	399	94.5

5.3 Attitudes towards Personal Protective Equipments (PPE).

The distribution of attitudes on using PPE of respondents were shown in table 3, From the total study respondents 404 (95.7%) agree on using of different kinds of PPE at work place, where as the rest 7 (1.7%) of the respondents disagree on it (Some of the reasons that they didn't use PPE were due to feeling discomfort and thought as using PPE were predisposing them to injury) and 11(2.6%) were neutral. 399 (94.5%) of the respondents agree on giving advice about using PPE for their friends if he or she forgotten using it. only 5 (1.2%) disagree and 18(4.3%) were neutral

400 (94.8%) of the respondents agree in that using PPE in work area promotes health 7 (1.7%) disagree and 13 (3.1%) said nothing.

406 (96.2%) respondents believed that different kinds of occupational health and safety signs or symbols should present and labeled at the different area of the working environment, whereas 13 (3.1%) disagree on. In general among the respondents towards the questions of attitude 334 (76.5%) had "Positive attitude" 26 (6.13%) remains neutral and 73 (17.37%) had "Negative attitude".

Table 3:- Distribution of attitude levels towards using PPE of the respondents, METEC, March 2014, (n=422).

Attitude level	Frequency	Percentage/%
Positive(3-5 score)	323	76.5
Neutral (2-1 score)	26	6.13
Negative (0 score)	73	17.37

5.4. Personal protective device usage practice of workers

Among the respondents 201 (47.6%) used different type of PPEs (combinations of PPE) followed by gloves 95 (22.5%), boots 36 (8.5%), earplug 14 (3.3%), and 12 (2.8%) used face shields.

From the total study subjects 381 (90.3%) respondents expressed that they knew the advantage of using PPE 19 (4.5%) responded as/ that they only used it when they have been

forced by their supervisor. From the workers who do not use PPE 43 (10.2%) responded that they are not using because of lack of protective equipments 29 (6.9%) responded as using PPE is not comfortable at work area and 24 (5.7%) not use it because of their fear of creating safety hazards.

From the respondents 114 (27.0%) were faced injury or accident in the past 12 months whereas 303 (71.8%) were not. Among the respondents who faced the accident 57 (13.5%) were abrasion 13(3.1%) cut and 6(1.4%) were eye injury.

Out of 114 injuries recorded by respondents 64(15.3%) occurred due to machine accident which is followed by Falling objects 22 (5.2) and Electricity 11(2.6%). In addition 43(10.2%) responded the causes of the injuries were because of the combination of listed reasons (splitting objects, hand tools, fire, falling etc).

In the past one year 136 (32.2%) of loss of limb were reported due to sever injury in the institution followed by coma 24(5.7%), disfigurement 14(3.3%) and death 11(2.6%).

Table 4:- Distribution of selected types of PPE in work area, types, severity and common causes of injuries, METEC, March 2014, (n=422).

	Frequency	Percentage/%
Types of PPE used		
Gloves	95	22.5
ear plugs	14	3.3
Respirator	9	2.1
Helmets	7	1.7
Face shields	12	2.8
Boots	36	8.5
Injury faced by the respondent		
Abrasion	57	13.5
Cut	13	3.1
Eye injury	6	1.4
Fracture	5	1.2
Cause of injury		
Machine	64	15.2
Falling objects	22	5.2
Electricity	11	2.6
Splitting objects	6	1.4
Sever injury occurred in the institution		
loss of limb	136	32.2
Coma	24	5.7
Disfigurement	14	3.3
Death	11	2.6
paralysis of limb	8	1.9

5.5. Work environments or safety measure features

Out of 421 study participants 248 (58.8%) have been at their work site for less than or equal to 40 hours per week and 173 (41%) workers spent more than 40 hours per week. 361 (85.5%) participants knew the presence of workers right and obligation in working areas where as the rest 59(14%) of the study subjects did not know about it. From the total respondents 230(54.5%) answered that there were supervision in their factory by different bodies and 190(45%) responded as they did not seen such activity. The respondents explained that different

kinds of health and safety recommendations were encountered in their working areas by their immediate supervisors or written label.

Table 5:- Work environment related to working hours, presence of supervision and regulation that concerns the workers & their responsibilities, METEC, March 2014, (n=422).

	Frequency	Percent (%)
Working hours per day		
< or equal 8 hrs	248	58.8
> 8 hrs	173	41.0
Total	421	99.8
Regular supervision		
Yes	230	54.5
No	190	45.0
Total	420	99.5
Workers regulation & responsibility		
Yes	335	79.4
No	85	20.1
Total	420	99.5

5.6. Association among demographic characteristics and level of KAP

To compare the knowledge level of using PPE between the different groups (sex, age groups, educational levels, and work experience), chi- square was used. Statistically significant difference was found between all of the groups. Knowledge was highly statistically significant association with age group ($p<0.01$), mean while knowledge was statistically significant association with sex, level of education and work experience (chi-square test $p<0.05$) (see table6)

Table 6: Association among knowledge levels and socio-demographic of the respondents, METEC, March 2007, (n=422).

	Knowledge				
Characteristics	**Low No. (%)**	**Moderate No. (%)**	**High No. (%)**	**X^2**	**P-value**
				6.9	**0.036***
Sex					
Male	14 (4.3%)	34(8%)	287(68%)		
Female	18 (9%)	22 (5.3%)	47 (11.2%)		
Age group				30.9	**<0.001****
18-30	9(3.1%)	39(9.2%)	217(51.4%)		
31-43	4 (.9%)	15(3.6%)	40 (9.5%)		
44- 56	6 (1.4%)	20 (4.7%)	50 (11.8%)		
>5	3 (.7%)	9 (2.2%)	6 (1.4%)		
Level of education				16.7	**0.011***
Msc			1 (.2%)		
Bsc	0	15 (3.6%)	20 (4.9%)		
Diploma/TVET	0	79 (18.7%)	190 (45%)		
certificate	10 (2.3%)	19 (4.5%)	18 (4.3%)		
10-12 class	12 (2.8%)	16 (3.8%)	0		
< 10 class	10 (2.4%)	26 (6.2%)	6 (1.4%)		
Work experience				10.97	**0.028***
<5 years	26 (6.2%)	20(4.7%)	205 (48.6)		
5-10 years	4 (.9%)	26 (6.2)	20 (4.7%)		
>10 years	2 (.4%)	10 (2.4%)	107(25.4%)		

To compare the attitude level on using PPE between the different groups (sex, age groups, educational levels, and work experience), chi- square was used. Attitude was highly statistically significant association with level of education (Chi-square test, $p<0.01$), mean while attitude was statistically significant association with work experience (Chi-square test, $p=0.02$), but was not association with sex (Chi-square test $p=0.483$), age group (Chi-square test, $p=0.258$)

Table 7: Association among attitude levels and socio-demographic of the respondents, METEC, March 2007, (n=422).

	Attitude				
Characteristics	**Negative No.(%)**	**Neutral No. (%)**	**Positive No. (%)**	**X^2**	**P-value**
				1.46	0.483
Sex					
Male	46 (11%)	11(2.6%)	278 (65.8%)		
Female	27 (7.4%)	15 (3.5%)	45 (10.7%)		
Age group				5.30	0.258
18-30	33(7.9%)	9(2.1%)	201(47.6%)		
31-43	15 (3.6%)	10(2.4%)	44 (10.4%)		
44- 56	16 (3.8%)	7 (1.7%)	42 (10%)		
>5	9 (2.2%)	0	36 (8.5%)		
Level of education				16.7	**0.001****
Msc			1 (.2%)		
Bsc	11(2.6%)	3 (.7%)	20 (4.7%)		
Diploma/TVET	30 (7.1%)	11 (2.6%)	220 (52.1%)		
certificate	10 (2.4%)	4 (.9%)	49 (11.5%)		
10-12 class	12 (2.8%)	5 (1.8%)	10 (2.4)		
< 10 class	10 (2.4%)	3 (.7%)	23 (5.5%)		
Work experience				18.17	**0.020***
<5 years	52 (12.4%)	14(3.3%)	30 (7.1%)		
5-10 years	14 (3.3%)	9 (2.1)	103 (24.4%)		
>10 years	7 (1.7%)	3 (.7%)	190(45%)		

To compare the practice level among those who used glove and did not was made for socio-demographic characteristics (sex, age group, educational level and work experience), Chi-square was used. The practice of using glove was not statistically significant association among gender, age group, and education level (Chi-square test, $p>0.05$). However the work experience was highly statistically significant association with practice on using glove (Chi-square, $p<0.01$)

Table 8: Association among practice levels on gloves usage (PPE) and socio-demographic of the respondents, METEC, March 2007, (n=422).

	Practice on Glove usage			
Characteristics	**Yes No.(%)**	**No No. (%)**	**X^2**	**P-value**
			0.09	0.766
Sex				
Male	48 (60.8%)	31(39.2%)		
Female	47 (65.3%)	25 (34.7%)		
Age group			7.79	0.099
18-30	2(25%)	6(75%)		
31-43	15 (51.7%)	14(48.3%)		
44- 56	27 (62.8%)	16 (37.2%)		
>5	9 (50%)	9 (50%)		
Level of education			3.42	0.364
Bsc	6(66.7%)	3 (33.3%)		
Diploma/TVET	30 (73.2%)	11 (26.8%)		
certificate	10 (71.4%)	4 (28.6%)		
10-12 class	12 (70.6%)	5 (29.4%)		
< 10 class	10 (76.9%)	3 (23.1%)		
Work experience			9.86	**0.007****
<5 years	10 (18.5%)	44(81.5%)		
5-10 years	24 (72.7%)	9 (27.3)		
>10 years	52 (74.3%)	18(25.7%)		

6. Discussion

In this chapter, a brief description of the major findings and their significance to practice will be discussed with its limitations.

A survey was conducted to investigate the KAP towards safety measures among METEC. This is the first study of its kind ever conducted in the industry.

6.1. Socio-demographic

It is generally established that, there is significantly accepted difference in the gender in occupations. (Paramasivam, Narayani, and Anind, 2007). Similarly the result showed male predominance with 79.3% compared with 40.2% of earlier mentioned report working on textile industry. The reason for this difference is that METEC is a hard and labour intensive work that required much of time so men usually accounts for this risk work.

Other different study showed that the working group in rattan craftsmen industry is in average of 43 years (Vietnam. Academic year 2008, Mr. Cong Dat Truong). Our study also revealed a range of 18-65 years which may lead to fact that the workers had longer exposure to different injuries or work related problems from the industry

Besides, in this study, most of the workers 63.7% had secondary education mainly diploma/TVET. This is because of the fact that producing different metal products and engines is the main work of the industry that needs higher education training.

6.2. Knowledge on safety measures

In this study, from the total respondents 94.5% knew the presence of at least one safety sign. It also showed that 89 (21.1%) of the respondents knew about danger sign and this was the highest figure of all the other signs recognized by the respondents. It indicates that the respondents knew about danger sign which was considerably lower as compared to the study conducted in Kality Metal Product and Ethiopian Iron and Steel Factories, where 63.5% of the total respondents recognized the sign (2). This might be due to the absence of training towards safety measures as confirmed during data collection time.

In the study only 8.5% of the respondents were aware about warning sign which was very minimal compared to the study conducted in the same company above, where their knowledge status on the mentioned sign was 41%. Respondents had also less knowledge status on other safety signs such as high voltage sign (4.3%), harmful sign (1.7%), explosive sign (1.2%), and flammable and exit signs .7%, each. When compared to the above study, knowledge levels of corrosive sign is (1.9%), in this study the value for this is 0%.

This discrepancy might be explained by the fact as confirmed by the questioner result there was a minimal or absence of health and safety training on safety information during their first time employment and in service training as a refreshment during work process or might not be periodically. Other possible explanation could be limitation and even absence of safety symbols which were displayed or posted in the industry.

It can be observed that the danger and warning signs knowledge level of the respondents was 29..6%, followed by high voltage signs, which is 4.3%. These were better when compared with the rest of exit, flammable and explosive as well as harmful signs. It was due to the fact that the high voltage signs were found in METEC at every machine of the manufacturing room.

6.3. Attitude on using PPE

This study has revealed that the attitude level of the respondents in the industry showed that 76.5% had positive, 6.13% remains neutral and 17.37% were against the use of PPE when comparing with the study of Mr. Cong Dat Truong (2008) assessed the attitude regarding the use of PPE, 26.8% were against and majority (68.98%) remained neutral. (6) Some of the reasons mentioned were due to the effect of discomfort during working time while using PPE and few respondents said that using PPE at work place might not prevent problems or an injury that's why they didn't use PPE all the time.

6.4. Practice on using PPE

The uses of PPEs are different depending on type of industries; KAP study in rattan craftsmen industry (Vietnam. Academic year 2008, Mr. Cong Dat Truong) revealed that workers assessed 100% of workers used respirator, 27.4% gloves, 11.1% used eye protector, only 2.6% foot protection and 1.7% of them used protecting clothes. Another study done in Kality workers that 71.5% used gloves. When comparing with this study; 22.5% used gloves, 8.5% boots, 2.1% respirator and 3.3% used ear plugs still its less than of the above two studies.

There were many reasons identified why not to use PPE, the majority of workers in this study was not using because they believe that use of PPE are uncomfortable similar to the result conducted in Vietnam (2008)

It is similar from other study conducted in India that being informed of safety precautions supervisor and being supplied with information by a supervisor were the significant factors to safe practice (10).

Such association emphasized the importance role played by frontline workers who gave health and safety training at the work place or those who gave recommendation by means of labeling or direct instruction to the workers at the work place. Specific safety information given as recommendation related directly to workers' job and work place would likely be more relevant in improving safe practice than general work supervision.

In this study, occupational health and safety recommendation that have been supplied to the workers by different means might be by labeling or direct instruction by immediate supervisors has with both the knowledge level and safe practice of the workers. This emphasized that direct health and safety instructions at the work site would be more effective in insuring safe practice and mean while it might be minimize occurrence of work related injuries and death.

7. Strengths and limitations of the study

7.1. Strength of the study

1. Some of the safety signs and symbols already posted in the industries were used during data collection in order to make clear each questions in the questionnaire.
2. Cooperation of all of the administrative as well as technical workers of METEC beside of their tight program in fulfilling the questionnaire on time facilitates this study.

7.2. Limitations

1. Limitation of similar studies especially in Ethiopia made difficult in comparing results.
2. Time and financial constraint of the study confines to select eight factories from the total of 15 industries of METEC by using 50+ 1 rule of sampling technique.

. 8. Conclusion and Recommendation

8.1. Conclusion

- The workers have high knowledge level compared to other studies although they have less practices on safety measures or personal protective equipment usages.
- Health and safety training have been identified as important factor to safe practice, but it did not work for knowledge.
- Workers who employed in work places in which different safety signs posted were more likely to know safety signs as well as have safe practice characteristics.
- There were occupational health and safety section in the factories that could join with administrative bodies to ask about periodic health and safety training programs, accessibility of PPEs, supervise the work environment and inform the employer for the adjustments.

8.2. Recommendations

Based on the study findings and the above conclusions the following recommendations are forwarded.

1. The industry should give different periodic health and safety training for workers that helps to have impact on knowledge; during first employment, change working departments, when new machines or working tools are brought and give safety instructions by immediate supervisors or front line workers or by labeling on work sites.
2. Safety signs should be posted at reasonable working sites and labeled at different materials and equipments to improve the knowledge level and safe practice of the workers.
3. Main points that explain why they use PPE, how they select the appropriate equipments, how they practicing the safety procedures or the guidelines could be included in the safety training topics.
4. Occupational health and safety committee should be established in all the factories.
5. Further studies should be done to assess the needs of the workers and the employers to develop the appropriate method for health and safety training and to identify the relationship between knowledge, attitude and practice as well as their health impacts.

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ANNEX II

QUESTIONNAIRE

AAU DEPARTEMENT OF EMERGENCY MEDICINE, MEDICAL SCHOOL

The purpose of the questionnaire is to assess the level of knowledge, attitude and practice on safety measures.

Safety measures are procedures used to prevent accidental injuries during working in an industry.

You are kindly requested to make genuine effort in filling the questionnaire.

There is no need of writing your name. Multiple answers is possible.

Put "√" marks in the space provided or fill in the space provided.

Part I. Background Information

1. Age _____

2. Marital status

A. Single ☐ C. Divorced ☐ E. others ☐

B. Married ☐ D. Widowed ☐

3. Religion

A. Orthodox ☐ C. Protestant ☐

B. Muslim ☐ D. Catholic ☐

E. other (Specify) _____

4. Educational label

A. 10th not completed ☐

B. 10-12 class completed ☐

C. Certificate ☐

D. Diploma/TVET ☐

E. Bsc ☐

F. Msc ☐

G. PhD ☐

5. Employment pattern

A. Permanent ☐

B. Temporary/contract ☐

C. others, specify _____

6. Residence area

A. Rural ☐

B. Urban ☐

7. Job category or responsibility:

A. technical worker ☐

B. administrative worker ☐

8. Work experience in years in the industrial setting

A. 1-5 yrs ☐

B. 5-10 yrs ☐

C. >10 yrs ☐

9. Working hours

A. < or = 8 hour ☐

C. > 8 hours ☐

Part II. Knowledge about safety measures

10. Have you ever heard about safety measures?

A. Yes ☐ B. No ☐

11. If your answer for question No 10 is yes,

From what source did you get the information?

A. Friends ☐

B. Radio ☐

C. Television ☐

D. News paper ☐

E. Health facility ☐

F. Other (specify) _____

12. Do you know any occupational health and safety information that can be described in pictures, signs, labels or other else?

A. yes ☐

B. No ☐

13. If yes in Q12, what type of information?

A. Danger signs ☐
B. Warning signs ☐
C. Corrosive ☐
D. Exit signs ☐
E. Flammable ☐
F. Harmful ☐
G. Irritant ☐
H. Explosive ☐
I. Oxidizing ☐
J. Toxic ☐
K. High voltage ☐
L. Others (specify) -------

14. In what ways the Occupational Health & Safety information described?

A. Symbol ☐
B. Safety color ☐
C. Labeling ☐
D. Guide lines ☐
E Hand signal ☐
F. Others (specify) ----------

15. What types of signs are available in your organization?

A. Symbol ☐ C. Labeling ☐
B. Safety colour ☐ D. Guide lines ☐
E. Hand signal ☐
F. Others (specify) ----------

16. How did you get the information you mentioned?

A. Training in the organization ☐
B. Training in higher education ☐
C. Work experience. ☐
D. Others (specify) ---------

Part II. Questions about attitude towards Personal Protective Equipments (PPE).

17. Are you using PPE if you are at work?

A. Agree ☐ B. Neutral ☐ C. Disagree ☐

18. If no, why or what is your reason for not using PPE?

---

19. Could you advice your friend or person work with you, if he/she forgotten using PPE?

A. Agree ☐ B. Neutral ☐ C. Disagree ☐

20. Do you think that using safety measures in work area promotes health?

A. Agree ☐

B. Neutral ☐

C. disagree ☐

21. Do you believe that occupational health and safety should present in work places?

A. Yes ☐

B. No ☐

Part III. Practice of using PPE

22. Have you ever used PPE?

A. Yes ☐ B. No ☐

23. If yes to question No 23 what type of PPE do you used then?

A. Gloves ☐ E. Face shields ☐

B. Ear plugs ☐ F. Boots ☐

C. Respirators ☐ G. Others (specify) ----------

D. Helmets ☐

24. Why did you use the personal protective equipments?

A. I knew the advantages ☐

B. Supervisors forced us to do so ☐

C. Others (specify) ---------- ☐

25. What are your reasons for not using personal protective equipment? If your answer for question number 23 is no.

A. Lack of protective equipment ☐

B. Lack of safety education ☐

C. Not comfortable to use them ☐

D. Decrease work performance ☐

E. They are creating safety and health hazards ☐

F. Others (specify) ----------

26. Have you ever faced any injury or accident in the past 12 months related to your works?

A. Yes ☐

B. No ☐

27. If yes in Q26, what kind of injuries or accidents?

1. Abrasion	A. Yes	☐	B. No	☐
2. Cut	A. Yes	☐	B. No	☐
3. Burn	A. Yes	☐	B. No	☐
4. Piercing	A. Yes	☐	B. No	☐
5. Fracture	A. Yes	☐	B. No	☐
6. Dislocation	A. Yes	☐	B. No	☐
7. Eye injury	A. Yes	☐	B. No	☐
8. Ear injury	A. Yes	☐	B. No	☐
9. Suffocation	A. Yes	☐	B. No	☐
10. Electricity	A. Yes	☐	B. No	☐
11. Amputation	A. Yes	☐	B. No	☐
12. Poisoning	A. Yes	☐	B. No	☐

13. Others (specify) ----------

28. What are the causes of the injury or the accident?

1. Machine	A. Yes	☐	B. No	☐
2. Falling objects	A. Yes	☐	B. No	☐
3. Electricity	A. Yes	☐	B. No	☐
4. Splitting objects	A. Yes	☐	B. No	☐
5. Hand tools	A. Yes	☐	B. No	☐
6. Fire	A. Yes	☐	B. No	☐
7. Acid and hot objects	A. Yes	☐	B. No	☐
8. Falling	A. Yes	☐	B. No	☐
9. Collision	A. Yes	☐	B. No	☐
10. Lifting heavy objects	A. Yes	☐	B. No	☐

11. Others (specify) ----------

29. In the past one year do you know any sever injury in your institute? If yes what was the consequence?

A. death	☐	E. disfigurement	☐
B. loss of limb	☐	F. loss of sight	☐
C. coma	☐	G. loss of hearing	☐
D. paralysis of limb	☐	H. others _____	

N.B the following questions will be for higher officials only

30. Is there a regular supervision& feedback undertaken?

A. Yes ☐
B. No ☐

31. If yes in Q31, who did it?

_____

32. Do you know the presence of the regulation that concerns the workers and their responsibilities?

A. Yes ☐
B. No ☐

33. Do you know that workers have the right and obligation concerning work regulation?

A. Yes ☐
B. No ☐

THANK YOU FOR YOUR KIND HELP!

ዕዝል II

የቃለ መጠይቅ ጥያቄዎች

በአዲስ አበባ ዩኒቨርሲቲ የድንገተኛ ህክምና የትምህርት ክፍል

የቃለ መጠይቁ ዓላማ፡- በሥራ ቦታዎች ሊወሰዱ ስለሚገባቸዉ የጥንቃቄ ሂደቶች ዕዉቀት፣ አመለካከት እና ልምድ መረጃ ማሰባሰብ ነዉ፡፡

በሥራ ቦታዎች የሚደረጉ ጥንቃቄዎች በሰራተኞች ላይ ሊከሰቱ/ሊደርሱ የሚችሉ ጉዳቶችን በከፍተኛ ደረጃ ለመከላከል የሚያስችሉ ናቸዉ፡፡

ከዚህ አንጻር ይህንን ቃለመጠይቅ ሲሞሉ በጥንቃቄ አይተዉ እንዲሞሉ እየጠየቅን ስለ ቀና ትብብርዎ ምስጋናችን የላቀ ነዉ፡፡

ማንነትዎን ለመግለጽ ስምዎን መጻፍ አይጠበቅብዎትም፡፡

ከአንድ በላይ መልስ መስጠት ይቻላል፡፡

ለቀረቡት ጥያቄዎች የ "√" ምልክት በማድረግ ወይም በዕሁፍ መልስ ይስጡ፡፡

ክፍል I
መሰረታዊ ሁኔታዎች

1. ዕድሜ ……..
2. የጋብቻ ሁኔታ

   ያላገባ ☐ ያገባ ☐ የተፋታ ☐ የሞተበት/ባት ☐ ሌሎች ☐
3. ሐይማኖት

   ኦርቶዶክስ ☐ ሞስሊም ☐ ፕሮቴስታንት ☐ ካቶሊክ ☐
   ሌላ (ይገለፅ) _____--
4. የትምህርት ደረጃ

   A. ከ 10ኛ ክፍል በታች ☐

   B. ከ10-12 ክፍል ያጠናቀቀ ☐

   C. ሰርተፊኬት ☐

   D. ዲፕሎማ/ቴክኒክና ሙያ ምሩቅ ☐

   E. ድግሪ ☐

   F. ማስትሬት ድግሪ ☐

   G. ዶክትሬት ድግሪ ☐

5. **የቅጥር ሁኔታ**

A. **ቋሚ** ☐

B. **ጊዜያዊ/ኮንትራት** ☐

C.**ሌላካለ(ይገለፅ)**……

6. **የመኖሪያ አድራሻ**

A. **ገጠር** ☐

B. **ከተማ** ☐

7. **የሥራ ኃላፊነት**

A. **የቴክኒክ ሰራተኛ** ☐

B. **የአስተዳደር ሰራተኛ** ☐

8. **በፋብሪካ ዉስጥ ያለ የሥራ ልምድ**

A. **ከ** 1-5 **ዓመት** ☐

B. **ከ** 6-10 **ዓመት** ☐

C. **ከ** 10 **ዓመት በላይ** ☐

9. **የሥራ ሰዓት**

A. 8 **ወይም ከ** 8 **ሰዓት ያነሰ** ☐

B. **ከ** 8 **ሰዓት የበለጠ** ☐

ክፍል 2

ስለ ሥራ ቦታ ጥንቃቄ ያለዎትን ዕዉቀት የሚመለከት

10. **ስለ ሥራ ቦታ አስፈላጊ ጥንቃቄዎች ሰምተዉ ያዉቃሉ**?

A. **አዉቃለሁ** ☐ B. **አላዉቅም** ☐

11. **ለተ.ቁ** 10 **የሰጡት መልስ አዉቃለሁ ከሆነ መረጃዉን ከየት አገኙ**?

A. **ከጓደኞች** ☐

B. **ከሬዲዮ** ☐

C. **ከቴሌቪዥን** ☐

D. **ከጋዜጦች** ☐

E. **ከጤና ተቋም** ☐

F. **ከሌላ ካለ (ይገለፅ)** _____

12. **ስለ ጤናና ጥንቃቄ መረጃዎች ሊገልጹ የሚችሉ ስዕሎች፣ ምልክቶች እና ሌሎች ማሳያዎች ያዉቃሉ**?

A. **አዉቃለሁ** ☐ B. **አላዉቅም** ☐

13. **በተራ ቁጥር** 12 **ላለዉ ጥያቄ መልስዎ አዉ,ቃለሁ ከሆነ ምን ዓይነት ምልክቶች ያዉ,ቃሉ**?

A. **የአደጋ ምልክቶች** ☐

B. **የማስጠንቀቂያ ምልክቶች** ☐

C. **የዝገት ምልክት** ☐

D. **የማምለጫ ምልክቶች** ☐

E. **የተቀጣጣይ ምልክቶች** ☐

F. **የአደገኛነት ምልክቶች** ☐

G. **የሚቆጠቁጥ ምልክት** ☐

H. **የፍንዳታ ምልክት** ☐

I. **የኦክሲዳይዚንግ ምልክት** ☐

J. **የመርዛማነት ምልክት** ☐

K. **የከፍተኛ ቮልቴጅ ምልክት** ☐

L. **ሌሎች ካሉ** (ይገለጽ) ----------

14. **የጥንቃቄ ማሳያዎቹ በምን መልክ የተገለጹ ነበር**?

A. **በምልክት** ☐
B. **በጥንቃቄ ቀለሞች** ☐
C. **በመለያ** ☐
D. **በቅደም ተከተል ምልክቶች** ☐
E. **በእጅ ምልክቶች** ☐
F. **የሌሎች ካሉ ይገለጽ** ☐

……

15. **በሚሰሩበት ተቋም ምን ዓይነት ማሳያዎች/ምልክቶች አሉ**?

A. **ምልክት** ☐ C. **ማሳያዎች** ☐

B. **የጥንቃቄ ቀለም** ☐ D. **በቅደም ተከተል** ☐

E. **የእጅ ምልክቶች** ☐

F. **ሌላ ካለ** (ይገለጽ) ----------

16. **ከላይ የተገለጹትን መረጃዎች እንዴት አገኙ**?

A. **በተቋሙ የዉስጥ ስልጠና** ☐

B. **በከፍተኛ ት/ት ተቋም ስልጠና** ☐

C. **ከሥራ ልምድ** ☐

D. **ሌሎች ካሉ** (ይገለፅ) ---------

ክፍል 3

በግል ስለአደጋ መከላከያ መሳሪያዎች ያሎትን አመለካከት የሚመለከቱ ጥያቄዎች

17. በስራ ላይ ሆነዉ የአደጋ መከላከያ መሳሪያዎች መጠቀምን ይስማማሉ?

A. እስማማለሁ ☐ B. መልስ የለም ☐ C. አልስማም ☐

18. የማይጠቀሙ ከሆነ ምክንያቱ ምንድነዉ?

……..

19. አብረዉ የሚሰሩትን የሥራ ባልደረባ የአደጋ ጊዜ ጥንቃቄ መሳሪያዎች እንዲጠቀሙ ይመክራሉ?

A. አዎ እመክራለሁ ☐ B. መልስ የለም ☐ C. አልመክርም ☐

20. የአደጋ ጊዜ ጥንቃቄ መሳሪያዎችን በሥራ ቦታዎች መጠቀም ጤናማነትን ይጨምራል ብለዉ ያስባሉ?

A. እስማማለሁ ☐ B. መልስ የለም ☐ C. አልስማም ☐

21. የአደጋ ጊዜ ጥንቃቄ መሳሪያዎች በሥራ ቦታዎች መቅረብ አለባቸዉ ብለዉ ያምናሉ?

A. አዎ አምናለሁ ☐ B. አላምንም ☐

ክፍል 4

የአደጋ ጊዜ ጥንቃቄ መሳሪያዎች መጠቀም ልምድ

22. የአደጋ መከላከያ መሳሪያዎች ተጠቅመዉ ያዉቃሉ?

A. አዎ አዉቃለሁ ☐ B. አላዉቅም ☐

23. ተጠቅመዉ የሚያዉቁ ከሆነ የትኞቹን መከላከያ መሳሪያዎች ናቸዉ?

A. ግሎቭ/ጋንት ☐ E. የፊት መከላከያ/መሸፈኛ ☐

B. የጆሮ መከላከያ ☐ F. ቡትስ (ረዥም ጫማ) ☐

C. የትንፋሽ መከላከያ ☐ G. ሌሎች ካሉ ----------

D. ሄልሜት (የራስ ቅል መከላከያ) ☐

24. የአደጋ መከላከያ መሳሪያዎቹን መጠቀም ለምን አስፈለገዎት?

A. ጠቀሜታዉን ስለማዉቅ/ ስለተረዳሁ ☐

B. የሥራ ኃላፊዬ ስላዘዘኝ ☐

C. ሌላ ካለ ይገለጽ ……..

25. በተ.ቁ 22 ላይ ላለዉ ጥያቄ መልስዎ ተጠቅሜ አላዉቅም ከሆነ ምክንያትዎ ምንድነዉ

A. የመከላከያ መሳሪያ ስለሌለ ☐

B. የጥንቃቄ ማድረግ ስልጠና ስለሌለ ☐

C. መጠቀሙ በስራ ላይ ምቾት ስለማይሰጠኝ ☐

D. የሥራ ዉጤታማነትን ስለሚቀንስ ☐

E. ለአደጋ የመጋለጥ ዕድል ስለሚኖር ☐

F. ሌላ ካለ (ይገለፅ).....

26. ከሥራዎት ጋር ተያይዞ ባለፉት 12 ወራት የገጠመዎት አደጋ ነበረ?

A. አጋጥሞኝ ነበር ☐

B. አላጋጠመኝም ☐

27. ለተ.ቁ 26 የሰጡት መልስ አጋጥሞኝ ነበር ከሆነ ምን ዓይነት አደጋ ነበር?

1. መቁሰል	A. አዎ	☐	B. አይደለም	☐
2. መቆረጥ	A. አዎ	☐	B. አይደለም	☐
3. ቃጠሎ	A. አዎ	☐	B. አይደለም	☐
4. መዉጋት	A. አዎ	☐	B. አይደለም	☐
5. ስብራት	A. አዎ	☐	B. አይደለም	☐
6. ዉልቃት	A. አዎ	☐	B. አይደለም	☐
7. የአይን መቁሰል	A. አዎ	☐	B. አይደለም	☐
8. የጆሮ መቁሰል	A. አዎ	☐	B. አይደለም	☐
9. መታፈን	A. አዎ	☐	B. አይደለም	☐
10. የኤሌክትሪክ አደጋ	A. አዎ	☐	B. አይደለም	☐
11. የአካል መጉደል	A. አዎ	☐	B. አይደለም	☐
12. የመመረዝ አደጋ	A. አዎ	☐	B. አይደለም	☐

13. ሌላ ካለ (ይገለፅ) ----------

28. የአደጋዉ መንስዔዎች ምንድናቸዉ?

1. የመሳሪያ/ማሽን	A. አዎ	☐	B. አይደለም	☐
2. የዕቃዎች መዉደቅ	A. አዎ	☐	B. አይደለም	☐
3. በኤሌክትሪክ ምክንያት	A. አዎ	☐	B. አይደለም	☐
4. በዕቃዎች መሰነጣጠቅ	A. አዎ	☐	B. አይደለም	☐
5. በእጅ መሳሪያዎች ምክ/ት	A. አዎ	☐	B. አይደለም	☐

6. **በእሳት ምክ/ት** A. **አዎ** ☐ B. **አይደለም** ☐

7. **አሲድ እና ሙቀት** A. **አዎ** ☐ B. **አይደለም** ☐

8. **በመዉደቅ ምክ/ት** A. **አዎ** ☐ B. **አይደለም** ☐

9. **በግጭት ምክ/ት** A. **አዎ** ☐ B. **አይደለም** ☐

10. **ከባድ ዕቃዎችን ማንሳት** A. **አዎ** ☐ B. **አይደለም** ☐

11. **ሌላ ካለ (ይገለፅ)** ----------

29. **ባለፈዉ አንድ ዓመት ዉስጥ በድርጅትዎ ዉስጥ የተከሰተ አደጋ ያዉቃሉ? ከነበረ የአደጋዉ ደረጃ ምን ነበር?**

A. **ሞት** ☐ E. **የገፅታ ብልሽት** ☐

B. **አካል መጉደል** ☐ F. **የዕይታ ማጣት** ☐

C. **ራስን መሳት** ☐ G. **የመስማት ችግር** ☐

D. **የአካል መዛል** ☐ H. **ሌሎች** _____

ማስ፥ **ቀጥሎ ያሉት ጥያቄዎች የተቋሙን ከፍተኛ የሥራ ኃላፊዎች የሚመለከቱ ናቸዉ**

30. **በሥራ ቦታ የአደጋ ጥንቃቄን አስመልክቶ ወቅታዊ ክትትል እና ግብረ መልስ ይከናወናል?**

A. **አዎ ይከናወናል** ☐ B. **አይከናወንም** ☐

31. **ለተ.ቁ 30 የሰጡት መልስ ይከናወናል ከሆነ፤ በማን ይከናወናል?**

_____

32. **ስለ ሰራተኛ መብት የሚመለከት ደንብ መኖሩን ያውቃሉ?**

A. **አዎ** ☐

B. **አላውቅም** ☐

33. **ሰራተኞች ስለ ስራ ሃላፊነታቸው የሚደነግግ ደንብ የማወቅ መብትና ግዴታ እንዳላቸው ያዉቃሉ?**

A. **አዎ** ☐

B. **አላውቅም** ☐

ስለተባበራችሁን እናመሰግናለን!