

Knowledge, Attitude and factors affecting Practice of the housekeeping staff of the five hospitals under the Addis Ababa Regional Health Bureau toward the utilization of personal protective equipments.

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A research project submitted to faculty of public health school of health care administration Jimma University in partial fulfillment for the requirement of master in health care administration (MHA).

December, 2009

**Jimma,
Ethiopia**

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Summary

Back ground

The Addis Ababa Regional Health bureau, under its jurisdiction, runs a number of health facilities; clinics, health centers, and hospitals. The hospitals under the bureau are five in number namely, Menelik II, Yekatit 12, Zewditu, Ras Desta, and Gandhi Memorial hospitals. Menelik II hospital being the first ever built in the country.

All are general referral hospitals, except, Gandhi Memorial, specialized in obstetric service. Generally, these hospitals are staffed with 2006 technical and support staff of which 197 are housekeeping staff whom are vulnerable group to contract HAIs. Determining the level of KAP is crucial in preventing the group from facility based infections like HIV/AIDS, HBV, and HCV...etc.

Objective: The objective of this study is to assess the level of knowledge and attitude of the study subjects toward PPE. Also to assess the socio-demographic and availability factors affecting practice of housekeeping staff of hospitals under the AARHB in utilization of personal protective equipments and determine methods of improvements of utilization of personal protective equipment and enhance the proper utilization of PPEs.

Methods: A cross sectional quantitative study was carried out from October through December 2009. The entire house-keeping staff (N=197) of these hospitals were identified and surveyed with a structured questionnaire to measure knowledge and attitudes regarding the use of PPEs. One third of the study subjects were selected through simple random statistical method (lottery) and observed over a two-week period with a structured checklist to measure practice of using PPEs. The association of KAP with level of formal education and their age analyzed. The association of practices with facility (hospital) daily availability of needed supplies of PPEs was assessed. The questionnaire and observation check-list was pilot-tested prior to the commencement of the actual data collection in another similar setting.

Results

The overall response rate was 87.8%. The distribution of respondents revealed that 34%, 23%, 17%, 16%, and 9.8% were from Menelik II, yekatit 12, Gandhi, Ras Desta, and Zewditu memorial hospitals.

Female respondents accounted for 77.5% and the rest 22.5% are male respondents. Their educational status ranges from illiterate (8.1%) to college graduates (6.4%).

Respondents between the age group 18-49 years of age, 89% of them scored more than 70% of the knowledge items.

From the total respondents aging 50 years and above, 100% of them scored more than 70% of the knowledge items. The $\chi^2 = (n=171, df=1 \text{ and } p=0.443)$ 0.589 at 95% CI. This showed that age is not significantly associated with knowledge of PPE.

Of the total illiterate group 2 (1.12%) scored less than 70% of the knowledge item $\chi^2 = (n=173, df=4 \text{ and } p < 0.05)$ 22.98 at 95% CI. This showed that educational level is not significantly associated with knowledge of PPE.

More than 70% of both age groups (18-49 and 50 and above), scored 70% of the attitudinal items.

The relation between attitude of the respondent to PPE and their age was not statistically significant with the calculated chi square test result equals $(n=173, df=1, \text{ and } p=0.270)$ 1.217.

From all the eleven respondents who scored $< 70\%$ of the attitudinal item 50% were from secondary level of education.

None, (0.00%) of respondents from illiterate group scored $< 70\%$ of the attitudinal items. The unavailability of goggles was more acute than other PPEs followed by gumboots and apron with their respective rate 88.4%, 62.4%, and 46.8% of unavailability which has contributed to the less utilization of these items.

Conclusions

All respondents regardless of their age and educational level have good knowledge and attitude both data on the survey and observations confirmed the finding. Though it is not statistically significant, there is a trend that the attitude of respondents was better at the lower level of education.

Of all PPEs, the scarcity of goggle was more serious in almost all hospitals followed by gumboots and apron. Gloves and gowns are the most abundant PPE material of all.

The problem of not using certain PPEs like goggles, apron and gumboots has very much to do with the scarcity of these materials.

Recommendation

Effort should be exerted by the respective hospital management to give due attention since housekeeping staffs are a vulnerable group. The hospital management should give more attention in providing scarce PPEs. A continuous training program should be designed to strengthen the already existing level of awareness of the housekeeping staffs.

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ABBREVIATIONS AND ACCRONYMS

BBV – Blood born virus

ENT – ear, nose and throat

EPHA-Ethiopian Public Health Association

FDG – focus group discussion

FMOH-Federal Ministry of Health

GMJ – Ghana medical journal

HIV/AIDS – human immune virus/acquired immune deficiency syndrome

HBV – hepatitis B virus

HCV – hepatitis C virus

HAI – hospital acquired infection

HCW – health care worker

IP – infection prevention

JU – Jimma University

KAP – knowledge, attitude and practice

OSHA – occupational safety and health administration

PPE – personal protective equipment

RHB – regional health bureau

UBP – universal basic precaution

WHO- world health organization

Housekeeping staff – janitor/cleaner

1. Background

1.1. Introduction

Personal protective equipment (PPE) being one of the best methods of protection from acquiring different types of health facility based infection, their use is over looked and neglected by many physician and nurses as evidenced in studies cited in this research (Hesse AAJ et al 2006)

It is observed that some of the group of housekeeping staff use their bare hands when collecting wastes, transporting linens and use their private dressings in carrying out their assigned duties and ignore precautionary advices and methods.

One can assume that improper use of PPE may expose employees to various ranges of hospital acquired infections (HAI) including HIV/AIDS, HBV and HCV through needle stick and sharp injuries and splashes of blood and body fluids in to eyes.

Housekeeping staffs, because of their limited knowledge of transmission of infectious disease, they may easily be exposed to infectious disease. Most of the housekeeping staffs of the hospitals of Ethiopia, as evidenced from their requirement of level of education to be employed as janitor, are required to be able to read and write and some of them are required to be junior high – school level. It was only recently, that hospitals are having janitors to high school level.

Because of their low level of education and their nature of job, they are the most vulnerable group to acquire HAI like, HIV/AIDS, HBV, and HCV ...due to improper and under use of PPE.

One can assume that due to the housekeeping staffs' historical responsibility of handling, transporting, and disposing medical and bio-hazardous wastes, (soaked linens and gauze with body fluid and blood, used sharps & needles) they can be encountered to splashes and skin cuts.

Globally, WHO estimated that every year unsafe injection and disposal of used needles and sharps expose to needle stick injuries and causes at least 8 – 16 million HBV infection, 2.3 – 4.7

million hepatitis C infection and 160,000 HIV/AIDS among hospital workers, (HCW and house keeping staffs) (Mesele Damete sept.2006).

It is clear that most studies carried out in hospital environments are related to HAI and methods of prevention and protections, concentrate mainly on health care workers and professionals, but it is believed that these results, in one way or another, relate to the house keeping staffs of the hospital since they are extremely involved in handling and managing contaminated hospital wastes.

“...In some countries, with the exception of operating room personnel, housekeeping staff have the highest rate of needles stick injuries caused by used needles being incorrectly discarded in waste baskets.” (Linda T, et al 2004)

1.2. Scope of the Study

This study was more focused on the use of glove, gown, mask, apron heavy duty glove, and gumboots by housekeeping staff .These groups of staff were evaluated for their knowledge, attitude and practice in the utilization of the mentioned PPEs in their respective duties. The contributing socio–demographic and facility factors for the under use of PPEs were also assessed.

1.3. statement of the problem

People who provide or receive health care services-whether in a hospital, clinic, or any other healthcare setting-are at risk of acquiring and transmitting potentially life-threatening infections through accidental exposure to blood and body fluids or contaminated objects. Over the past two decades, considerable progress has been made globally in understanding the basic principles of preventing such infections, but they continue to be a significant cause of mortality and morbidity throughout the world. Occupational exposure to blood and body fluids puts healthcare providers and support staff at risk of infection with blood-borne pathogens, such as hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV.(Kesetebirhan Admasu 2008)

Of the 35 million health workers worldwide, about three million are exposed to such pathogens each year through per-cutaneous injuries (from syringes and other sharp instruments). And more than 90% of these infections occur in developing countries, where health workers often lack the

knowledge, skills and resources necessary to protect themselves and their clients from becoming infected.(Kesetebirhan Admasu 2008)

Each year unsafe injection practices are responsible for 2.3 to 4.7 million people contracting HCV worldwide.(Mesele Damte 2007)

Nosocomial infections are a significant problem throughout the world and are increasing. For example, nosocomial infection rates range from as low as 1% in a few countries in Europe and the Americas to more than 40% in parts of Asia, Latin America and sub Saharan Africa. Altogether, illnesses due to HBV, HCV, and HIV infections account for 1.3 million deaths and to a loss of 26 million life years.(Kesetebirhan Admassu 2008)

Hospital-acquired infections are often related to inappropriate patient care practices. This may be due largely to non-compliance with infection control policies, which in turn is attributed to poor knowledge, a lack of motivation and low awareness of the need for infection control.

When the situation of housekeeping staff of hospitals in Ethiopia is investigated, they lack the necessary knowledge about the nature of communicable disease, their mode of transmission and prevention. The rates of HAI might probably be magnified among these group as a result of lack of knowledge and scarce supply of the needed PPE materials.

If housekeeping staffs have up-to-date information on the risk of medical transmission, training in safe handling of wastes and other infection prevention practices and adequate supplies to support these practices, they could have decreased the risk of medical transmission of HIV and other life threatening diseases that pose a threat to themselves, the patients and surrounding.

1.5. Research question

What is the current level of knowledge and prevalent attitudes and practices related to PPE use and how are age and education related to housekeepers' knowledge, attitudes, and practices regarding PPE?

1.6. Expected outcome

I hypothesize that individuals with less formal education and older age may have less knowledge, poorer attitudes, and worse practices related to PPE than those with higher education and at younger ages. I also I hypothesize that insufficient supply of PPE materials contributes to the less use of PPE.

2. LITERATURE REVIEW

Local as well as international journals could not reveal any research of KAP of housekeeping staff toward the use of PPEs in hospital settings. All most all local and international similar studies so far referred, focused and carried out their studies on health care workers – physicians and nurses. Since housekeeping staffs handle medical wastes and often come in contact with patients and patient belongings or with clinical staff. Understanding, their KAP regarding the use of PPEs is important for patient and staff safety.

One can relate the results of such studies as an implication to what possibly the results be among house keeping staff of the hospital.(Hesse AAJ et al (2006)

A survey conducted between March and May 2001, in three Birmingham teaching hospitals, to assess the doctor's and nurse's knowledge, attitudes and compliance with infection control guideline, found a result that, out of 75 doctors and 143 nurses, the overall knowledge of the respondent's to risks of blood-born virus (BBV) transmission from an infected patient from needle stick injury was low (44% for HBV, 38.1% for HCV, 54.6% for HIV/AIDS). The study also reported on the compliance of hand washing before and after patient contact, doctors consistently de-emphasize the importance of and reported poor compliance with hand washing procedures (Stein AD et al 2003).

The study conducted in Ghana, department of surgery, in 2006 to assess the knowledge, Attitude and practice of universal basic precaution (UBP) among fifty doctors, revealed that, 16% of the respondents did not wore gloves routinely when performing invasive surgery for the reasons that;

- They are careful when performing invasive procedures.
- There is no time to look for gloves in emergency situations.
- Sometimes gloves are not available.
- They have better control over the IV cannula without gloves and
- They can set IV lines without soiling themselves.

....sometime materials like goggles also were not always used because they were not available, and the available ones did not fit or the respondents were not used to wearing goggles (Hess AAJ et al. 2006).

In another similar study on KAP of health care workers in relation to the use of PPE conducted between March and May 2004 in Benin – city Nigeria revealed that there was poor adherence to universal precaution which was attributed to lack of knowledge and lack of availability of material in 48% and 60% respectively. (Aisien AO and Shobowale MO (2005).

The purpose of the proper utilization of PPE in health settings by health workers and housekeeping staff cannot be over emphasized because these protective equipments give maximum protection to health care providers and support staffs from HIV/AIDS, HBV and HCV as evidenced by the decline of needle stick injury in the USA, which was estimated to be 1 million per year in 1996 to 385,000 per year in 2000. This decline has resulted in part from the protection afforded by the occupational safety and health administration's (OSHA) blood – borne pathogens standard (Wilburn SO 2004).

In similar study conducted in Thailand to assess the KAP of government hospital physicians and nurses in relation to universal precaution, about 94.9% of physicians and 85.5% of nurses were knowledgeable of universal precaution, but only 47.1% of the doctors and 27.9% of nurses reported that they would take precaution with all patients. The rest would apply universal precaution with patients known to be infected with HIV; 71.9% doctors and 81.6% of Nurses know that sharp injuries are the main cause of HIV transmission to health care personnel (Danchaivijitr et al 1995).

As it has been tried to be explained earlier, because of similar studies worldwide and local, focused on assessing the knowledge and practice of health care workers (physicians and nurses) excluding the housekeeping staff of health facilities, there were no important data to estimate the level of KAP of the housekeeping staff in their utilization of PPE. So, this particular survey faced a methodological challenge to compare its finding with other previous studies.

Most studies cited here, as they assess the KAP of health care workers, used cross – sectional quantitative survey collecting data using questionnaire and observation check-list to assess the respondent's level of KAP about the use of PPEs. Similarly, the survey of this thesis also used self-administered and assisted questionnaire and observation check–list in collecting data.

2.1 Ethical Problem in Conducting the Research

Because people may change their behavior and practice if they knew that they are being observed, the collection of data of practice, using observation check–list covertly, may raise ethical issues. On the other hand, it is proved that even if people knew that they will be observed while doing things, tend to forget the situation of being observed, and attain their traditional way of doing things in a week or two (Hawthorns effect) So, the study subjects have been informed the situation of observation.

2.2 Focus of the Study

This study has focused on the mentioned group of hospital staff particularly those cleaners and laundry workers on their use of PPE while they are on their duty. Great proportion of health care workers, as evidenced in the already cited studies, lack knowledge or ignore universal precautions for infection prevention. These results may be worsened among the housekeeping staff because of their less level of knowledge in basics of communicable diseases and methods of prevention.

2.3 Summary of Literature Review

The literature revealed that many health care workers lack knowledge about the intensity of contribution of needle stick injuries to various blood born viruses including HBV, HCV and HIV/AIDS and ignore standard universal precautions. Out of 75 doctors and 143 Nurses studied in three Birmingham teaching hospitals, only 44%, 38.1% and 54.6% of them have knowledge about the transmission risk of HBV, HCV and HIV/AIDS respectively from infected patient via needle stick injury (Stein AD et al 2003).

Some studies have shown that health care providers do not appreciate the importance of using PPEs like gloves, goggles. In the study conducted in Ghana, among 50 doctors 16% of them did not wore gloves routinely when performing invasive surgery because they think they were careful, they have no time to look for gloves and because gloves were not available (Hesse AAJ 2006).

Based on these studies, there remains a substantial gap in understanding about the knowledge, attitudes and practices related to PPE among housekeepers’.

3. Significance of the Study

Housekeeping staff of the hospitals in Ethiopia, are group of staff of hospitals who are relatively less paid and compensated less educated and above all exposed to many life threatening HAIs because of inappropriate hospital wastes disposal especially used needles and sharps, are group of staff who need support and their problem be solved and the area also need to be investigated.

Housekeeping staffs are exposed to various hospital acquired infections due to their close interactions with contaminated (used) needles, sharps, linens and hospital utensils. Nevertheless, this group of hospital staff may lack awareness of the basics nature of disease causing organism, the nature of growth and multiplication, modes of transmission, and importance of PPE for prevention. Apart from their lack of knowledge in the prevention and protection of themselves and others, the groups may be omitted from needed educational programs intended to raise the awareness of hospital staff toward the use of personal protective equipment and other health related trainings, as most of these trainings frequently directed to physicians and nurses. In order to address these gaps the baseline knowledge, attitude and practice of the group need to be assessed.

Analyzing the group's educational level, age group and availability of the mentioned PPEs and determining which factor(s) contribute most in acquiring HAI is crucial to understand the root causes and to addressing persisting threats to the health of the group. In addition to this, the educational requirement to be hired as a janitor and the retirement age can be revised based on the recommendations following the results of the survey. Henceforth, improve the situation of hospital acquired infection in the facilities.

4. Objective of the Study

4.1. General Objective

To assess the level of knowledge, attitude and factors affecting practice of housekeeping staff of the hospitals under the AARHB toward the utilization of PPEs and determine ways of improvements of use of personal protective equipments and enhance the proper utilization of PPEs and reduce HAIs.

4.2. Specific Objective

1. To evaluate the knowledge, attitude and practices (KAP) of all housekeeping staff of the hospitals under the AARHB regarding the use of PPE (Glove, Gown, Apron, Gumboot, mask and Goggle ... etc).
2. To assess the factors why the study subjects do not use PPEs regularly.
3. To determine the association between socio demographic factors (i.e. age, job type and educational level) and KAP regarding the use of PPEs.
4. To explore whether availability of PPEs may be a source of poor practices regarding PPEs.
5. To formulate ways to increase the proper use of PPEs by housekeeping staff at each hospital.

4.3. Hypothesis

Older age, low level of formal education and insufficient supply of PPEs are factors contributing to less utilization of PPE.

5. Method

The entire housekeeping staffs in these hospitals were identified and surveyed with a structured questionnaire. To measure the level of understanding the respondents have to personal protective equipments, nine related items were prepared and respondents were asked to give the right response. The maximum score for each item was 100 to those who chose the right answer. Those who correctly answered all the 9 items got 100 out of 100. But there were respondents whose response varied between 0 and 100. In this case their average score for 9 items varied between 0 and 100. the study has been carried out through October to December.

The association of KAP with level of formal education, their age and job type was analyzed using bivariate statistics chi-square and logistic regression model. Daily observations over a two-week period with a structured check-list had been conducted to measure practice of using PPEs. Availability of PPEs was also measured; One third (N=66) of the study subjects from all hospitals (N=197) were selected through simple random statistical method (lottery method) and were observed for their utilization of PPEs while they were on duty. The association of practices with facilities (hospitals) daily availability of needed supplies of PPEs has been also assessed using chi-square statistics.

5.1. Study Area and Period

Menelik II referral hospital is one of the first ever built hospitals nearly 100 years ago in Ethiopia found north east of Addis Ababa. The hospital was staffed with over 480 employees out of whom 62 were housekeeping staff. The other area of this study was Yekatit 12 hospital found in the capital, Addis Ababa comprising 545 staff and 55 of them were housekeeping staffs. Ras Desta hospital was also the focus area of this study, having 28 housekeeping staff. Zewditu and Gandhi Memorial hospitals also operate under the city's regional health bureau, found in the heart of the city having 32 and 20 housekeeping staffs respectively. The study was conducted through October to December 2009.

5.2. Study Design

Facility based quantitative cross-sectional survey and observational study designs has been used to evaluate the knowledge, attitude and practice (KAP) of the house keeping staff and the contributing factors to improper utilization of PPEs has been assessed.

5.3. Sample Size

The entire population, 197 in number (census type), of the housekeeping staff of these hospitals were the study subject.

5.4. Data Collection Procedure

Self-administered and assisted structured questionnaire was used to meet to assess the knowledge and attitude and observation check-list used to evaluate their practice. The questionnaire was designed to assess the KAP of the group mainly on the use of glove, gown, mask, apron, goggle and gumboots by cleaners and laundry workers because these types of PPEs are the kind of PPEs frequently used by these groups.

Checklists were used to collect data through observation by data collectors.

A questionnaire were distributed to all study subjects after it is translated into the local language (Amharic) and was collected personally by the data collectors. The data collection practice through observation check-list was carried out during pick-hours- morning, late in the afternoon and at noon.

Both the questionnaire and observation check-list were pilot-tested prior to the commencement of the actual data collection procedure in another similar setting (St Paul hospital) and the necessary correction done on ambiguous item. Personnel, for data collection both for written questionnaire and observation were recruited and trained and used to collect data. Data collectors were graduate nurses and sanitarian. Questionnaires and observation check-lists were translated in to local languages (Amharic) for the purpose of easy completion of items by the participants.

Data collection through observation was done prior to data collection through questionnaire. The utilization of PPE by each study subject was observed separately and data recorded. During data collection through the questionnaire, the data collectors were expected to assist the study subjects during completion of items.

5.5 Operational Definition

Knowledge: - is information stored in memory. Knowledge is assessed in terms of what the respondents know about personal protective equipments whether this knowledge is true or false.

Attitude: - is the predisposition to respond in favorable or unfavorable manner toward a target PPEs. Attitude was assessed using likert scale items

Practice:-is the overt behavior, habit or customs of an individual. The practice refers to health behavior with respect to PPEs.

Housekeeping staffs: - hospital employees engaged in cleaning hospital environments and items (floors, walls, instruments clothing's, beddings and so forth).

Personal protective equipment (PPEs): specialized clothing or equipment (e.g. gloves, face mask, plastic apron, goggles and so forth) worn by an employee for protection against blood and body fluids or other hazard. (Linda et al 2004)

5.6. Variables

Dependent variables:-knowledge, attitude, and practice of the respondents.

Independent variables: - level of formal education, age (equal or greater than 50 years of age versus younger), and insufficient supplies of PPEs.

5.7.Data analysis

Data was coded and entered into SPSS version 17. Was analyzed for the average mean of knowledge, attitude and the associated factors for improper/under use of PPEs. Data has been analyzed with chi-squared and logistic regression statistical test. To measure the level of understanding and attitude the respondents have to PPE, nine and ten related questions/items were prepared respectively and respondents were asked to give the right responses. Those scored equal and above 70% and those scored less, categorized into two groups. From their responses the average mean of knowledge and attitude and the association of socio-demographic factors have been analyzed using chi-square and logistic regression model.

Scoring:- The respondent was considered to be knowledgeable when scored equal or more than 70% of items and questions prepared for assessing the knowledge correctly.

The respondent is considered as having a positive attitude regarding PPE if he/she responded to equal or more than 70% of attitudinal items positively.

The practice is assessed as correct if the study participant fully utilizes the necessary PPEs at all times when indicated.

5.8. Data Quality Management

Data has been cleaned through examining the responses for their completeness and clarity. Incomplete and ambiguous and unlikely responses were disregarded.

5.9. Ethical Consideration

Ethical clearance has been obtained from Jimma University and the AARHB prior to the commencement of the study

The hospitals' board and management committee has been approached through formal communication written from Jimma University.

The objective and purpose of the research was explained and discussed to the study subject.

The house keeping staffs were requested for their willingness to participate in the study and written consent has been obtained. Participants were informed that they have the right not to be part of the study and those who were participating, the information they provided, will be kept confidential and they are free to drop out of the study at any stage.

5.10.Rational of the Study

No data was available on KAP of housekeeping staff in Ethiopia toward the utilization of PPE. Therefore, this study designed to determine the level of KAP among this group in relation to the utilization of the mentioned PPEs.

As clearly indicated above, the reason why this study is needed is that these groups of hospital staff are extremely exposed to contracting hospital acquired infection (HAI) because of their limited formal educational level, less knowledge to the nature and transmission and prevention methods of facility based infections. Evaluating the group's level of knowledge, attitude and practice toward the use of PPE, would give ways in developing methods to increase the utilization of PPE by the group and at the same time, prevent them and their family members from acquiring HAI and reduce the spread of infection in the hospital environment and enhance sanitation.

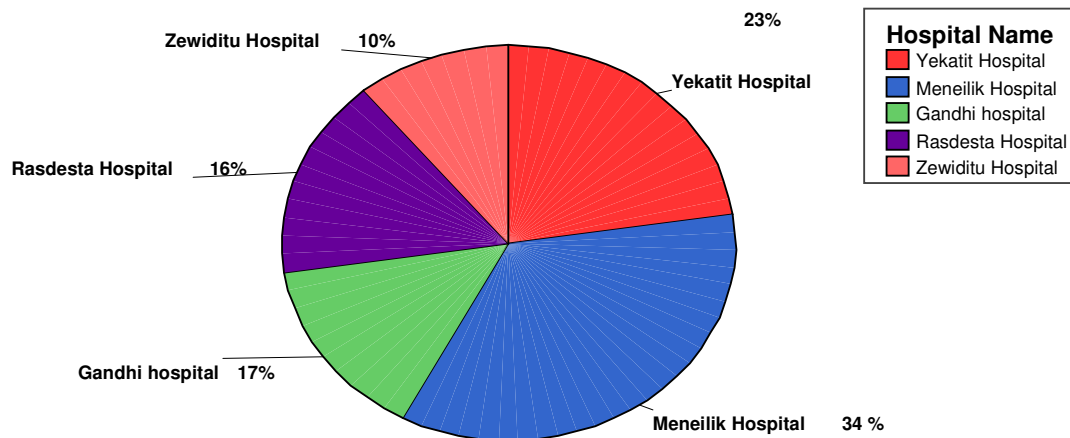
5.11. Dissemination

The findings of the study will be submitted to the Jimma University research board, all the five hospitals under the study for their decision on the hospital's policy and procedure change, to the AARHB, to FMOH (Federal Ministry of Health), EPHA (Ethiopian Public Health Association) for publication.

6. Result

From the total of 197 questionnaires distributed to the respondents, 173 (87.8%) were completed and returned. When the distribution of the study group working in different hospitals examined, 59 (34%) were from Meneilik II, 40 (23%) from Yekatit12, 30(17%) from Gandhi and the remaining ones were working in Ras Desta and Zewditu Hospitals (Fig 1). With regard to their age, one hundred thirty-four (77%) of the respondents belong to the age group between 18 and 49 and the rest of them were to equal and above the age of 50 (table2). The mean and median age is 38 and 40 respectively.

Figure: 1 the distribution of respondents in different hospitals



Female respondents accounted 165(95%).Regarding the type of job they were assigned, 148(85%) were cleaners and the rest were laundry workers. From the total of 173 respondents, those who were illiterate, read and write, between grade1-8, between grade 9-12 and college & above comprises 14(8.1%), 16(9.2%), 66(38.2), 66(38.2) and 11(6.4%) respectively. The socio-demographic characteristics of the study group are depicted on table 2.

Table: 2. Socio-demographic characteristics of the housekeeping staff of hospitals under the Addis Ababa Regional Health Bureau, December, 2009.

Characteristics of Respondents	Frequency (n=173)	Percent
<u>Place of work</u>		
Yekatit	40	23
Menelik	59	34
Gandhi	30	17
Ras Desta	27	16
Zewditu	17	10
<u>Age group</u>		
Between 18-49 years of age	134	77.5
50 years and above	39	22.5
(Mean=58.5, median=40,SD=11.46)		
<u>Gender</u>		
F	165	95.4
M	8	4.6
<u>Type of job</u>		
Cleaner	148	85.5
Laundry	23	14.5
<u>Education</u>		
Illiterate	14	8.1
Read& write	16	9.2
Between grade1-8	66	38.2
Between grade9-12	66	38.2
College and above	11	6.4

6.1. Knowledge of Respondents towards Personal Protective Equipments (PPE)

Respondents were asked to identify the one which should be used as PPE. From the total respondents, 23(13.3%) preferred mask, 18(10%) gown and the remaining group 128(74%) selected all (mask, gown and apron) as a personal protective equipment (table 3). The average score for this response was 81.6 with SD of 31.1.

Again, the respondents were asked to indicate the PPE for carrying used surgical materials. Those who preferred cape, utility gloves and mask were 6(3.5%), 31(17.9) and 7(4%) respectively. 129 (75%) of the study group preferred both utility gloves and mask. The average score for this item was 86 with SD of 25. With regard to the PPE that protect from drop let infection, those who preferred gumboot, apron and mask were 8(4.6%), 9(5.2%) and 156(90%) respectively. This showed that most of the respondents have selected 'mask' as the right PPE for droplet infection.

With regard to the type of equipment to be used during cleaning of spills of blood and body fluids, utility gloves, gumboots and goggles were selected by 11(6.4%), 4(2.3%) and 1(6%) of the respondents respectively. Those who preferred all the mentioned PPEs contribute 90% of the respondents. The study groups were also asked to explain the importance of goggle and 162 (93.6%) of them said that it is used for protecting splash from entering into the eyes. The rest replied that goggle can be used for reading, grooming or has no use at all.

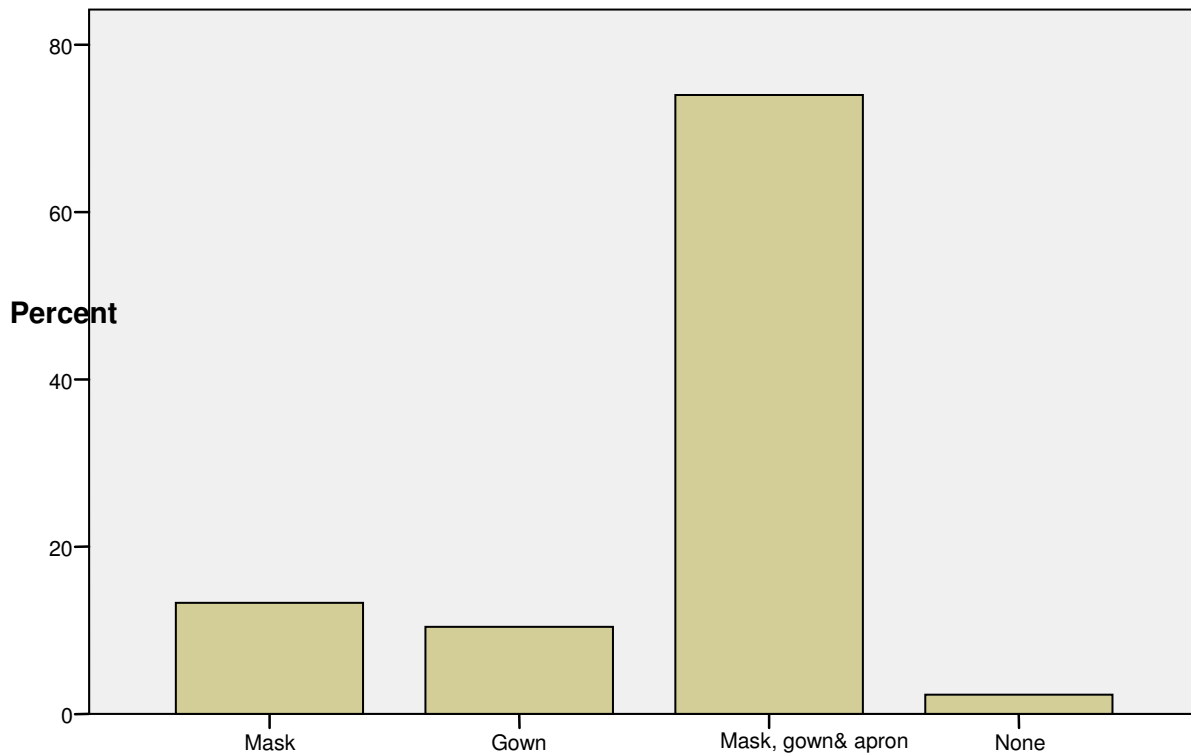


figure2: Knowledge of respondents of hospitals under the AARHB about Which should be used as PPE? December 2009

For the item asking which kind of PPE to be used in sorting out soiled hospital linen from non-soiled one, respondents indicated different responses. Both utility glove and apron was preferred by 150(86.7%) of the respondents and the rest selected either utility glove or apron. The average score for this response was 91.6 with the SD of 22.9. From the total respondents, 171(98)% of them agreed that glove can be used for protecting us from hospital acquired infection. The purpose of wearing gown in hospital while cleaning was also indicated by the study group, protecting from accidental blood and body fluid, as a norm of the hospital and both as a norm and protecting from accidental splashes from blood and body fluid with their respective response rate 68(39.3%), 54(31.2%), and 49(28.3%). Finally, respondents were asked to differentiate the correct statement about apron. From the total response rate, 155(89.6%) emphasized the importance of apron to protect oneself from splashes of blood and body fluid when they are on duty.

Table3: Knowledge of respondents of hospitals under the AARHB to PPE December, 2009

Knowledge variable	Occupational status of respondents					
	Cleaner(N=148)		Laundry worker(N=23)		Total	
	No	%	No	%	No	%
Which should be used as PPE?						
Mask	22	15	1	4	23	13.3
Gown	18	12	-	-	18	10.4
Apron	-	-	-	-	-	-
Mask, gown and apron	104	70.3	24	96	128	74
None	4	2.7	-	-	4	2.3
Which one should be used as a PPE for carrying used surgical material?						
Cape	6	4.1	-	-	6	3.5
Utility glove	28	18.9	3	12	31	17.9
Mask	6	4.1	1	4	7	4
Option 2 & 3	108	73	21	84	129	74.6
Which PPE should be used when sorting out soiled linen from non- soiled?						
Utility glove	5	3.4	-	-	5	2.9
Apron	12	8.1	1	4	13	7.5
Both	128	86.5	22	88	150	86.7
None	3	2	2	8	5	2.9

Table 4: The relation between socio-demographic variables and knowledge of housekeeping staffs of hospitals under the AARHB to PPE December, 2009

Respondents(N=173) Socio-demographic variables	Knowledge score				X ²	P
	≥70 Correct		< 70 correct			
	No	%	No	%	.589	.443
Age Category						
≥ 50 years of age	39	22.8	0	-		
18 – 49	132	77.2	2	100		
Education						
Illiterate	12	7	2	100	22.98	0.0
Read and write only	16	9.4	-	-		
Grade 1 – 8	66	38	-	-		
Grade 9 -12	66	38	-	-		
≥ college diploma	11	6.4	-	-		
Job type						
Cleaner	147	86	1	50		
Laundry	24	14	1	50	2.06	.150

From the respondents who belong to the 18-49 age group, more than 89 % of them have scored 70% and above. All respondents whose age, 50 years and older scored above 70%. The relation between age of respondents and their knowledge to PPE was compared. The result with X² value (n=171, df, 1 and P=0.443) was 0.589. This showed that age was not significantly associated with PPE knowledge.

When their educational level compared, it was only among the illiterate group that a very insignificant number of respondents 2(1.12%) had scored below 70% .The chi square test (n=173, df=4,) was 22.98 and P<0.05 at 95% CI. This showed that the educational level is significantly associated with PPE knowledge, with the high educated respondents having more/accurate knowledge of PPE. The type of work the study group were assigned was also selected for further scrutiny. When the knowledge score of cleaners examined, 147(99%) have scored 70% and above and only 1(1%) have scored below70%. The same trend was true for laundry workers (table 4).

The X^2 value for comparing cleaners and laundry workers knowledge (n=173, df=1 and P=0.150) was 2.06. Indicating that worker type is not significantly associated with PPE knowledge.

6.2. Attitudes of Respondents to PPE

The study subjects were asked their level of agreement about the extent to which they may be exposed to hospital acquired infection if there is contact with body fluid and blood from patient. From the total of 173 respondents, 136(78.6%) of them have agreed while 34(20%) disagreed. They were also asked to express their level of agreement to not to use plastic apron at work even if splash is expected to happen. Most of the respondents 144(83%) disagreed and only 27(16%) agreed. With regard to the importance of gown as a barrier to infection, 109(63%) of them agreed on the role of gown in protecting from infection and the remaining ones disagreed. The respondents were also requested to express their view whether they must use goggle while cleaning used surgical items. Most of the respondents 162 (93%), expressed their consent (agreed). The average score for this response was 93.6 with the SD of 24.4.

Their opinion about the role of glove in protecting oneself from acquiring HIV/AIDS was almost similar. From the total study group 149(86%) agreed and 22(13%) disagree. The average score for this response was 86.1 with a SD of 34.6. The significance of goggle in protecting splash of blood, body fluid and chemicals from entering in to the eyes was confirmed (agreed) by almost all of the respondents.

Respondents were also asked to give their level of acceptance by choosing from very excellent to fair about the use of certain PPEs. From the total study group, 138 (80%) of them preferred the level from excellent to very excellent for the use of glove in protecting oneself from acquiring HAIs and the rest 35(20%) responded from fair to very good. The importance of mask in protecting them from infection has got most respondents consent. About 133(77%) of them have given an excellent or very excellent level. The use of boots in protecting oneself from having direct contact with blood and body fluid has got either excellent or very excellent level by 155(88.6%) of the study group. The remaining 16(10.6) respondents reported between fair, good and very good.

Table 5: Attitude of housekeeping staffs of hospitals under the AARHB to PPE December, 2009

Attitudinal Variables	Respondent, (N=173)	No	%
After blood and body fluid contact, I may be exposed to Hospital acquired infection			
Agree		136	79
Disagree		37	21
No need to wear plastic at work even if splash is expected			
Agree		27	16
Disagree		146	84
Gown can be used as barrier to infection			
Agree		109	63
Disagree		64	37
When splash is expected in carrying surgical material, I have to use goggle			
Agree		162	93.6
Disagree		11	6.4
Wearing glove protect oneself from acquiring HIV			
Agree		149	86
Disagree		24	14
Goggles give maximum protection from splashes in to the eyes			
Agree		172	99.4
Disagree		1	.6

Table 6: the relation between different socio-demographic variables and attitude of housekeeping staffs of hospitals under the AARHB to PPE December, 2009

Variable	Attitude score				Total	X ²	P	
	≥ 70%		< 70%					
	No	%	No	%	No	%		
Age								
18-49 years of age	124	76.5	10	90.9	134	77.5	1.217	.270 DF=1
50+ years of age	38	23.5	1	9.1	39	22.5		
Total	162	100.0	11	100.0	173	100.0		
Sex								
F	156	96.3	9	81.8	165	95.4	4.896	0.027 DF=1
M	6	3.7	2	18.2	8	4.6		
Total	162	100.0	11	100.0	173	100		
Education								
Illiterate	14	8.6	0	14	14	8.1	5.589	0.232 DF=4
Read and write	15	9.3	1	16	16	9.2		
1-8	64	39.5	2	66	66	38.2		
9-12	60	37.0	6	66	66	38.2		
college and above	9	5.6	2	11	11	6.4		
Total	162	100.0	11	173	173	100		
Job								
Cleaner	139	85.8	9	81.8	148	85.5	0.132	0.71 DF=1
Laundry	23	14.2	2	18.2	25	14.5		
Total	162	100.0	11	100.0	173	100.0		

As we can see from the above table, most of the respondents (77%) were between the age group of 18 and 49. When the attitude score compared between the two age groups, in both cases, more than 70% of the respondents have scored more than 70%. The relation between attitude of respondents to PPE and their age was statistically significant with χ^2 (N=173, DF =1 and P=0.270) value of 1.217.

When the response rate examined in terms of gender, out of 162 respondents who scored more than 70%, 156(96.3%) were female and 6(3.7%) were male respondents. Out of the eleven

respondents who scored less than 70% 9(81.8%) were female and 2(18.2%) were male. The relation between attitudes towards PPE in male and female respondents was not statistically significant with a chi-square value (n=173, df, 1 and p=0.027) of 4.896 at 95% CI.

With regard to the educational status of the study group, 14(8.6%) were illiterate, 15(9.3%) of the respondents can read and write, and 124(76.5%) from grade 1-12, and 9(5.6%) with college and above education level had an average score above 70%. The remaining 11(6.7%) of them had a score less than 70. From those who scored less than 70%, respondents with a secondary level of education contribute 6(54.6%) and from those who are illiterate no one has got a score below 70. There is no difference between education status and attitude to PPE at 95% C. I with a chi-square value of (n=173, df =4, P=0.232) 5.589.

From the total study group, cleaners accounted 148(85.5%) and laundry workers were 25 (14.5%). When the response rate compared, out of the 162 respondents who scored 70% and above, 139(85.8%) were cleaners and 23(14.2) were laundry workers (table 6). Out of the eleven respondents who scored less than 70% 9(81.8%) were cleaners and 2(18.2%) were laundry workers. There is no significant difference between cleaners and laundry works about their attitude toward PPE at 95% C.I with a chi-square value of (n=173,df=1 and p=0.71) 0.123.

6.3.Result of Logistic Regression Analysis

Though it was not statistically significant, the attitude of illiterate respondents was better by 70% than respondents between grade 1-8 (with an OR=0.30).

Comparing the age group, the exponential beta value of 3.06 showed that respondent between the age group of 18-49 have better attitude than the reference group. However the result is not statistically significant.

With regard to the type of profession, cleaners have, a 26% better attitude to PPE as compared with the reference (OR=0.74) group. This finding is not significant either at 95 or 99% C.I.(table 7)

Table -7: Results of Logistic Regression Analysis: the relation between socio-demographic factors and attitude to PPE

Variables	Parameters			
	B	S.E	wald	Exp (B)
Education				
Illiterate				1.00
Read&write	-19.69	10742.02	0 .00	0.00
Grade 1-8	-1.20	1.29	0.86	0.30
Grade 9-12	-1.96	1.06	3.41	0.14
College and Above	-0.79	0.89	0.80	0.45
Age group				
>50				1.00
18-49	1.12	1.06	1.10	3.06
Others	-.129	.193	.108	0.88
Type of job				
Cleaner				1.00
Laundry worker	-0.29	0.81	0.13	0.74

Table – 8: Results of Logistic Regression Analysis: the relation between socio-demographic factors and knowledge to PPE

Variables	Parameters			
	B	S.E	wald	Exp (B)
Education				
Illiterate				1.00
Read & write	19.41	12118.6	0.00	2.7E+08
Grade 1-8	0.00	15742.5	0.00	1.00
Grade 9-12	0.00	13089.6	3.00	1.00
College and Above	0.00	13089.6	0.00	1.00
Age group				
18-49				1.00
>50	17.013	6436.03	0.00	2.4E+07
Type of job				
Cleaner				1.00
Laundry worker	-1.81	1.43	1.60	0.163

As we can see from the table, compared with the reference group, respondents in grade1-8, 9-12 and college and above have equal effect in explaining the dependent variable(OR=1.00). However, the result is not statistically significant. With regard to the age group, respondents belonging to the age between 18 and 49 are 60% better than those who are above 50years of age with regard to their knowledge to PPE. Moreover, cleaners have better knowledge (84%)) than laundry workers (OR=0.16). However the result is not statistically significant.(table 8)

6.3. Availability of Personal Protective Equipments

To assess the availability of personal protective equipments, different items were forwarded to the study groups working in five hospitals. Overall respondents indicated that gowns were available always (87.9%), rarely (10.4%) or not available (1.7%). More than three-fourth of the respondents expressed the availability of gown. The availability of glove was rated as 150(86.7%) for always available, 22(12.7%) for rarely available and 1(0.6%) for not available. The rate of response for the availability of mask is 101(58.4%) for always available, 60(34.7%) for rarely available and 12(6.9%) for not available respectively. Those who said “always available” for both gown and glove are almost the same in number.

When the availability of apron examined, 45 (26%), 47 (27.2) and 81 (46.8%) of the respondents said always, rarely and not available respectively. For gumboots, the response was 36(20.8%), 29(16.8) and 108(62.4%) for always available, rarely available and not available respectively. Regarding goggle availability, 5(2.9%) said goggle were always available, 15(8.7%) said rarely available and 153(88.4%) said goggles were not available. The response for the availability of PPE is presented in table 9.

Table 9: Response of housekeeping staffs of hospitals under the AARHB on availability of PPEs December 2009

Items	(N=173)	Response rate	
		No	%
Gown			
Always available		152	87.9
Rarely available		18	10.4
Not available		3	1.7
Glove			
Always available		150	86.7
Rarely available		22	12.7
Not available		1	0.6
Apron			
Always available		45	26.0
Rarely available		47	27.2
Not available		81	46.8
Gumboots			
Always available		36	20.8
Rarely available		29	16.8
Not available		108	62.4
Total		173	100
Goggles			
Always available		5	2.9
Rarely available		15	8.7
Not available		153	88.4
Mask			
Always available		101	58.4
Rarely available		60	34.7
Not available		12	6.9
Total		173	100

To assess the availability of PPE in the hospitals covered by this study, a cross tabulation was carried out for gown, glove, apron, gumboots, goggle and mask.

Table: 10 the frequency of Availability of gown in hospitals under the AARHB December, 2009

When the availability of gown compared, from the total study group, 152(87.9%) said “always

Name of hospitals	Response		Total	X ²	P			
	Always Available	Rarely/not available						
	No	%	No	%	No	%	6.374 DF=4	0.173
Yekatit	33	82.5	7	17.5	40	100		
Menelik	56	94.9	3	5.1	59	100		
Gandhi	24	80.0	6	20.0	30	100		
Ras Desta	23	85.2	4	14.8	27	100		
Zewditu	16	94.1	1	5.9	17	100		
Total	152	87.9	21	12.1	173	100		

available” and the remaining 12.1% mentioned the absence of gown. In Menelik hospital, 56 (94.9. %) said available and 7(17.5) not available. The response for the presence of gown for other four hospitals varies between 80 and 94%. The availability of gown among hospitals is not statistically significant at 95% C.I and the X² value of (n=173, df=4 and p=0.173) 6.374.

Table: 11 the frequency of Availability of glove in hospitals under the AARHB December, 2009

Name of hospitals	Response				Total	X ²	P
	Always Available		Rarely/not available				
	No	%	No	%	No	%	
Yekatit	27	67.5	13	32.5	40	100.0	
Menelik	50	84.7	9	15.3	59	100	DF=4
Gandhi	29	96.7	1	3.3	30	100	
Ras Desta	27	100.0	0	0	27	100	
Zewditu	17	100.0	0	0	17	100	
Total	150	86.7	23	13.3	173	100	

The response rate for the availability of glove was 150(86.7) for always available and 23(13.3%) for rarely or not available respectively. From the total respondents who confirm the availability of glove 50(84.7) of them are form Minelik hospital. The other response for “always available” of glove varies between 67.5% in Yekatit to 100% in Ras Desta and Zewditu hospitals. From those who said “not/rarely available” the response rate varies from 13(32.5%) in Yekatit to 0% in Ras Desta and Zewditu Hospitals. The availability of glove among hospitals was not statistically significant at 95% C.I with the X² value of (n=173, df=4, p=0.00)22.2.This shows the difference from one hospital to the other.

Table: 12 the frequency of the availability of apron in hospitals under the AARHB December, 2009

Name of hospitals	Always Available		Rarely/not available		Total		X ²	p
	No	%	No	%	No	%		
Yekatit	4	10.0	36	90.0	40	100.0	39.21 DF=4	0.00
Menelik	11	18.6	48	81.4	59	100		
Gandi	12	40.0	18	60.0	30	100		
Ras Desta	18	66.7	9	33.3	27	100		
Zewditu	0	0	17	100	17	100		
Total	45	26.00	128	74.0	173	100		

From the total responses those who confirmed the availability of apron consists 45(26.0%) and the others who mentioned the scarcity or not availability of apron accounts 128 (74.0). The response for (with the exception of Ras Desta) ‘not /rarely available’ exceeds that of ‘always available’ among most respondents. The variation in the availability of apron among hospitals is statistically significant at 95% CI. The P-value is <0.05 and the calculated chi-square is 39.21.

Table: 13 the frequency of the availability of gumboots in hospitals under the AARHB December, 2009

Name of hospitals	Response						X ²	p
	Always Available		Rarely/not available		Total			
	No	%	N	%	N	%		
Yekatit	9	22.5	31	77.5	40	100.0	5.47	0.242
Menelik	11	18.6	48	81.4	59	100		DF=4
Gandhi	10	33.3	20	66.7	30	100		
Ras Desta	5	18.5	22	81.5	27	100		
Zewditu	1	5.9	16	94.1	17	100		
Total	36	20.8	137	79.2	173	100		

Similarly, the scarcity of gumboots was also indicated by 137(79.2%) of the respondents. When we examined the availability response among hospitals, from those who said “scarcely/not available, 48(81.4%), 31(77.5), 22(81.5), 20(66.7%) and 16(94.1%) were responses from Menilik, Yekatit, Ras Desta, Gandhi and Zewditu hospitals respectively. The availability of gumboots among hospitals was not statistically significant at 95%C.I with $p > 0.05$ and X² value of (n=173, df=4) 5.47.

Table: 14 the frequency of the availability of goggles in hospitals under the AARHB December, 2009

Name of hospitals	Response						X ²	p
	Always Available		Rarely/not available		Total			
	No	%	No	%	No	%		
yekatit	3	7.5	37	92.5	40	100.0	4.66	0.324
Menelik	1	1.7	58	98.3	59	100		
Gandi	1	3.3	29	96.7	30	100		
Ras Desta	0	0	27	100.0	27	100		
Zewditu	0	0	17	100.0	17	100		
Total	5	2.9	168	97.1	173	100		

DF=4

The availability of goggle was assessed in relation to the hospitals covered under this study. From the total study population, it was only 5(2.9%) of the respondents reported that goggle is always available as compared with 168 (97.1%) who confirmed the scarcity of goggle in their respective hospitals. The availability of goggle among hospitals was not statistically significant at 95% CI and $p > 0.05$ and the X^2 value($n=173$, $df=4$) is 4.6.

Table: 15 the frequency of the availability of masks in hospitals under the AARHB December, 2009

Name of hospitals	Response		Rarely/not available		Total		X ²	p
	Always Available		No	%	No	%		
Yekatit	17	42.5	23	57.5	40	100	6.374	0.173
Menelik	37	62.7	22	37.3	59	100	DF=4	
Gandhi	20	66.7	10	33.3	30	100		
Ras Desta	22	81.5	5	18.5	27	100		
Zewditu	5	29.4	12	70.6	17	100		
Total	101	58.4	72	41.6	173	100		

Those who reported for the presence of mask were 101(58.4) and the remaining 72(41.6) had indicated the scarcity in their respective hospitals. The response rate for the presence of mask exceeds that of the scarcity among respondents in Menelik, Gandi and Ras Desta. The opposite is true for respondents in Yekatit and Zewditu. The availability of mask among different hospitals is not statistically significant at 95% C.I . the x2 value(n=173, df= 4, 0.002) is 17.26

7. Results of Observation

Observation was carried out in all hospitals covered by the study. The utilization of personal protective equipments discussed before were also selected for further scrutiny. The observation was conducted in both cleaners and laundry workers. The result is as follows;

7.1. The utilization of glove

From the total of 12 housekeeping staff of Yekatit hospital that have been observed during the study period, all of them (100%) have used glove when they were cleaning. The same was true for Zewditu hospital. But in Ras Desta hospital from 8 cleaners who has been observed, 2 of them (25%) did not use glove. In Gandhi hospital from 13 cleaners, 12 of them (92.3%) used glove.

When we look at the situation among laundry workers, from 12 laundry workers who were working in Gandhi, 9(75%) of them used their heavy duty glove. The difference is wider in Menilik hospital. From the total 11 laundry workers who has been observed, not more than half of them (45.5%) has used heavy duty glove. In Yekatit 12 hospital 10(76.9%) out of 13 laundry workers used their glove. Comparing the utilization of glove, it seems that the practice was better among cleaners.

7.2. The Utilization of Gown

The utilization of gown was in a very good condition in all hospitals. From the total of 50 cleaners who has been observed, 12, 15, 15 and 8 are working in Yekatit, Gandi, Zewditu and Ras Desta hospitals. All of them used gown while they were on duty.

7.3. The Utilization of Goggle

As compared with other personal protective equipments, the utilization of goggle seemed to be reversed. Except 4 laundry workers in Yekatit 12 Hospital, the other cleaners and laundry workers in different hospitals did not use goggle as a PPE.

7.4. The Utilization of Apron

The utilization of apron varies from hospital to hospital and from cleaners to laundry workers. Cleaners who have been observed in Gandhi and Zewditu hospital did not use apron when indicated. From 8 cleaners in Ras Desta hospital, only 2(25%) of them used apron and 4(33.3%) out of 12 in Yekatit used apron.

When we see the figure among laundry workers, 9(69.2%) out of 13 used apron when they were doing their duty. The same is true for laundry workers in Gandhi hospital. However, in Menilik Hospital, only 3(27.2%) out of 11 laundry workers were using apron.

7.5. The Utilization of cape

The practice of using cape was observed among cleaners in four hospitals. In Gandhi hospital all (100%) 15 cleaners used cape as compared with cleaners in Ras Desta where no one(0.00%) out of 8 observed cleaners has been using cape. The situation in Zewditu was also good. From the total 15 observed cleaners, 11(73.33%) of them have been using cape and only 1(8.3%) out of 12 cleaners in Yekatit 12 Hospital used cape when he/she was cleaning.

7.6 .The Utilization of Mask

The utilization of mask was also observed among cleaners working in four hospitals. From the total 15 cleaners observed in Gandhi hospitals, 14(93.3%) of them have been using mask when they were cleaning as compared with 2(13.3%) out of 15 and 3(25%) out of 12 cleaners who were using mask in Zewditu and Yekatit hospitals respectively. In Ras Desta hospital 6(75%) out of 8 cleaners used mask.

7.7. The Utilization of Gumboots

The observation was carried out among 32 laundry workers in Yekatit 12, Gandhi and Minelik Hospitals. The utilization of gumboots was better in Gandhi hospital where by 9(75%) out of 12 laundry workers were using gumboots while at work. In Menilik hospital, 4(57.1%) out of 7 and 2(15.3%) out of 13 in Yekatit 12 Hospital have been using gumboots.

8. Discussion

Different researches have been conducted on the utilization of personal protective equipments among nurses and physicians. However, no study had been done among cleaners and laundry workers who are very much exposed to hospital associated infection as discussed previously. The absence of relevant studies in this area made it difficult to compare the findings of this thesis with others. However, effort has been exerted to compare the quantitative data with the observation result. The

The majority of the study participants were from Minelik II hospital and the minority ones were from Zewditu. The number of patients the hospitals serving, the size and number of the rooms they have and the area could contribute for the variation in number of cleaners in these hospitals.

Since the cleaner's job by its nature requires physical fitness and strength, the majority of the study group belongs to the age group between 18 and 49 years of age. This showed that most of them are either youth or adult. Hence, it would not be difficult for them to carry out their duty. The sex composition of respondents is also much more skewed towards female respondents. The variation may probably be attributable to the traditional role given by the society, influenced males not to be involved in this kind of duty.

Most of the respondents as indicated on the result, were engaged on cleaning duty except very few assigned as laundry workers. The variation may possibly be because of the fact that cleaning is labor intensive and laundry workers can be supported by washing machines.

The simple requirement given to hire cleaners may contribute to the increased number of housekeeping staff with low educational level.

Gown is one of the most frequently used personal protective equipment that distinguish cleaners from patients and other hospital staff and used to protect workers from hospital acquired infection. When study participants were requested to select the one that should be used as PPE, gown was selected by 18(10.4%), gown, mask and apron was selected by 124(74%) of the study population. Again to assess their knowledge about the importance of gown, they were requested to indicate the purpose of gown. From the total response rate, 68(39.3%) indicated that it protect from accidental blood and body fluid and 54 (31.2%) wear gown to respect the norm of the

hospital and 49(28%) selected both. It is only 2(1.2%) said it has no use at all. The availability of gown has also got a positive response by most of the respondents. Those who said “always available” were 152(87.9%) and rarely available’ 18(10.4%).

When the observation result examined, all (100%) of cleaners in the five hospitals covered in this study, used gown.

As it has been indicated on the result, most of the respondents have better knowledge and attitude to gown and their practice also was consistent to the findings of observation and availability. This could be attributable to the abundance, availability and accessibility of gown in each facility (table 8) and the norm of each hospital which enforced the utilization of gown by the cleaners. This implication could be the result of the infection prevention effort of the management of the hospitals which strengthens the infection prevention within and outside the hospital environment. For the question “which should be used as PPE for carrying used surgical materials?” 31 (17.9%) preferred utility glove and 129(74.6) selected both glove and mask. Again respondents were asked to identify the one that should be used during cleaning of blood and body spills. From the total study population 157 (90.8%) preferred utility glove, goggle and gumboots and 11(6.4%) indicated glove as their preference. For the question raised to identify correct statement about glove, 171(98.8%) of the respondents stated that it will help them to protect from hospital acquired infection.

To assess their attitude to glove, they were asked to express their opinion whether glove protects them from HIV/AIDS or not. From the total study group, 149(86.1%) agreed and 22(13%) disagreed. Concerning the availability of glove, 150(86.7%) of the study group rated as ‘always available’ and 22 (12.7%) said ‘rarely available’.

The observation result also showed that almost all cleaners (except 2 cleaners in Ras Desta and 1 cleaner in Gandi) used utility glove when they were on duty. The observation result is also consistent with the survey result in which most respondents confirm the availability of glove. From these data we can safely say that cleaners and laundry workers have better knowledge, attitude as well as practice of utility glove. This might be an indication that effort has been made

to raise the awareness of housekeeping staff in each hospitals and the fight against hospital acquired infection would be successful.

Those who preferred mask as PPE accounts 23(13.3%), mask, gown and apron comprises 128(74%) of the respondents. For carrying used surgical material, 129(74.6%) preferred both mask and utility gloves. Again they were requested to identify PPE that protect them from drop-let infection, 156(90.2%) of them selected mask which is a correct response. The attitude of the study group about the importance of mask in protecting the user from direct contact infection was rated from fair to vary excellent. Those who rate the level 'excellent' and 'very excellent' comprise 133 (76.8%).The availability of mask was also rated by respondents. Those who said 'always available' are 101(58.4%) and 'rarely available contributes 72(41.6) of the response rate.

The utilization of mask varies from hospital to hospital. In Gandhi hospital 14 out of 15 used mask as compared with 2 out of 15 in Zewditu and 3 out of 12 in Yekatit 12 Hospitals. From this we can say that the knowledge and attitude of cleaners and laundry workers toward mask was good but in some Hospitals (Zewditu and Gandi) the number of respondents using mask is very smaller. As indicated on the survey result (41% said rarely/not available) it may probably be due to the scarcity of mask and due attention was not given by hospital administration to provide the materials. As most of the time cleaners spend their time in wards where patients with respiratory infection admitted, the study participant's good utilization of mask greatly assist in prevention of hospital acquired respiratory infection.

To assess their level of understanding, the study groups were asked to demonstrate the PPE used to sort-out the soiled linen from the non soiled one. Accordingly, 150(86.7%) preferred both apron and utility glove. Again they were asked to identify the correct statement about apron. Surprisingly, 155(89.6%) of them said 'it will be used when splash of blood and body fluid is expected' which was the correct response. To know their attitude they were requested to give their opinion about the insignificance of apron even if splash is expected; those who disagree with the statement were 144(83.2%). This clearly showed that the study groups have good understanding and attitude to apron.

The availability of apron was also rated by cleaners and laundry workers. Those who said 'rarely/not available' were 127(74%) as compared with 'always available' which is 45(26%). The observation result also showed that cleaners in Gandhi and Zewditu hospital did not use apron during the observation time. Only 2 out of 8 and 4 out of 12 cleaners in Ras Desta and Yekatit 12 hospital have used apron. The figure is much better among laundry workers in which 9 out of 12 laundry workers used apron in Gandhi hospital. But in Menilik hospital only 3 out of 11 laundry workers used apron. Generally, the scarcity of apron indicated by both the survey and observation was compatible. The general knowledge and attitude of respondents to apron was magnificent despite to the scarcity of the material. This could be the low emphasis given to supply of apron to cleaners that might compromise the effort of infection prevention and expose the workers to various hospital acquired infections.

To assess the level of understanding of the respondents, they were asked to identify the right PPE used during cleaning spills of blood and body fluid. From the total response rate, 157(90.8%) was given for goggle, utility glove and gumboots. Again they were asked to identify the correct statement about goggle, and 162(93.6%) of them said that it protects splashes from entering in to the eyes which is the precise answer. Again the response for the question whether they use goggle when expecting splash when cleaning used surgical items, 162(93.6%) expressed their consent. Moreover, they were asked their opinion about the maximum protection goggle gives from splash, body fluid and chemical and 172(99%) of them expressed their agreement. This clearly showed that there is also good awareness and attitude among all respondents about goggles as PPE.

Of all personal protective equipments, the scarcity of goggle seems to be much more pronounced among the hospitals covered by this study. The availability of goggle in their respective hospitals was also forwarded to the study group. From the total responses, 168 (97.1%) said "not/rarely available". The observation result also showed that with the exception of 4 laundry workers in Yekatit 12 Hospital, all the remaining cleaners and laundry workers did not use goggle as PPE. The scarcity of the material pinpointed by the survey may attribute for not using goggle by almost the entire study group. The unavailability of goggle was very serious among all PPEs which indicated that during handling contaminated hospital items, cleaners could be forced to do their

duties without sufficient protection and the implication of this practice could lead to in acquiring grave diseases including HIV/AIDS.

The question raised for gumboots was similar to other PPE materials discussed before. They were requested to identify the right material used to protect from spill of blood and body fluid. From the total study group, 157(90.8%) of them selected gumboots, goggle and utility gloves. For the question whether they know after contact with blood and body fluid may result in exposure of hospital acquired infection, 136 (78.6%) of them expressed their agreement. They were also asked to rate the importance of boots in protecting oneself from having direct contact with blood and body fluid and those who rate between excellent and very excellent accounted 155(89%) of the total response rate. This figure also showed that both cleaners and laundry workers have good knowledge to the use of boots.

With regard to the availability of gumboots, from the total study group, 137(79.2%) responses was ‘rarely/not available’ and only 36(20.8%) of them said ‘always available’. The finding from observation seems to be a little bit better than the survey result. The observation was carried out among 32 laundry workers in Yekatit 12, Gandhi and MinelikII hospitals. In Gandhi, 9 out of 12 laundry workers used gumboots which showed a better utilization. Moreover, 4 out of 7 and 2 out of 13 laundry workers used gumboots in Minelik and Yekatit 12 hospitals respectively. Out of the total laundry works observed, 19 of them confirmed the availability of gumboots and again from the total respondents observed, those who used gumboots were 15 out of 32. This showed that though there is a shortage of gumboots among all study groups the situation was much better for laundry workers as compared with cleaners.

9. The relation between socio-demographic factors and KAP

The major socio-demographic factors taken for further investigation were age, education and type of job. To determine the relation between these variables and the outcome variable the response rate was converted into score for both knowledge and attitude score. The score has divided the respondents in to two. Those who got an average score of 70% and above as one group, and the others were below 70%.

From the total study group those who scored 70% and above for the knowledge items were 171(98.8%). When we look at the relation between knowledge to PPE and age, the difference

between the levels of understanding among respondent in the two age group was not statistically significant. This showed that regardless of their age level 98% of the study groups have better understanding about personal protective equipments they were using.

When we looked at the relation between educational level and knowledge of the study group, with the exception of illiterate group, all respondents in the other education levels, have scored above 70%. Only 2 (1.2%) of the illiterate group has score less than 70%. The relation between education and knowledge to PPE is not statistically significant. This showed that there is a difference in the level of understanding among different education group.

The level of understanding of respondents in relation to their job was also assessed. From the total respondents only 1(.7%) of cleaner and 1(.7%) laundry workers have an average score less than 70%. The relation between job category and knowledge to PPE is statistically significant. This showed that there is no difference among cleaners and laundry workers.

The relation between socio-demographic variables and attitude of the study group was also discussed. Respondents in age group between 18 and 49 were 134(77.5) and those equal and above 50 years of age were 39(22.5%). From those who were between 18-49 age group, 10 (7.5%) of them have scored below 70% and only 1(9.1%) of the respondent scored below 70% in the above 50 years age group.

With regard to education level, from the total 173 respondents, 162(93.6%) of the study group in all education category have scored above 70% of the attitudinal items. The number of study group who scored below 70% increases as we go from the lower to the upper level of education. Those who scored below 70% were none, 1(.6%), 2(1.2%) and 6(3.6%) for illiterate, read and write grade 1-8 and grade 9-12 respectively. The number of respondents who scored below 70% in the college and above is 2(1.2%). This showed that the attitude of respondents to PPE was better among respondents in the lower education group. This may probably because of the fact that respondents with better education are younger and with less experience and it may affect their attitude. Moreover, those groups of respondents with relatively higher formal educational level might not accept their job and their attitude affected as a result. However, the difference in

attitude among respondents with different education group is not statistically significant at 95% CI.

When we compared the relation between attitude and job type from the total respondents, among cleaners, 139(94%) of them have scored above 70% and for laundry workers those who scored above 70% were (92%).This clearly showed that regardless of their job type almost all respondents have better attitude to PPE. The difference between job type and attitude to PPE is not also statistically significant.

10. Strength and Limitation of the study:

10.1. Strength of the study;

- It assessed the entire housekeeping staff of the hospitals under the study area.
- Graduate sanitarian and nurses used as data collectors.
- Direct applied, problem solving and has public health importance.

10.2. Limitation of the study

- As the investigator's effort is concerned, lack of similar studies locally as well as internationally to make comparative discussion.
- Social desirability bias.
- Observer bias.

11. Conclusion

1. Respondents have relatively good knowledge to all personal protective equipments (gown, glove, apron, mask, gumboots and goggle) discussed in this study. Both data in the survey and observation confirmed the finding.
2. The attitude of the study group was also good towards personal protective equipment. Though it is not statistically significant, there is a trend that the attitude of respondents was better at the lower level of education.
3. Of all personal protective equipments, the scarcity of goggle was more serious in almost all hospitals. There was also shortage of gumboots and apron in which affected the utilization as a result.
4. Compared with other PPEs, gown and gloves were the most abundant materials. The utilization of these materials was better than apron, gumboots and goggles.
5. Since most respondents have good knowledge and attitude to PPE, the problem of not using certain PPE (Such as goggle and gumboots) has very much to do with the scarcity of the materials.
6. All respondents in the two age groups (18-49 and above50) have no difference with regard to their knowledge and attitude to PPE.
7. The difference between education level and knowledge to PPE is statistically significant.
8. However, relation between education level and attitude of respondents has not shown significant difference
9. Since most respondents have better knowledge and understanding to PPE, age and education status of the study group has no effect on the proper utilization of materials.
10. There is uneven distribution of certain PPE (glove, apron, and mask) among different hospitals

12. Recommendations

1. Though cleaners and laundry workers have good understanding to PPE, efforts should be exerted by hospital management to give more attention since cleaners are vulnerable group
2. The problem of certain personal protective equipments (apron, gumboots and goggle) was more acute. The hospital administration should give due attention in providing these materials.
3. There is uneven distribution of certain PPE between cleaners and laundry workers. The hospital administration and IP committee of the respective hospitals should make sure that all PPEs are evenly distributed according to the need of the duty.
4. The distribution of glove, apron and mask varies from hospital to hospitals. The administration of the respective hospitals should mobilize the resource to balance the scarcity.
5. A continuous training programs should be designed to strengthen the level of awareness of cleaners at the lower level of education. This need to be carried out by the hospital management and the disease prevention and health promotion sub-process.
6. To bring a better attitude to PPE among younger age group an experience sharing forum should be designed.

ASSURANCE OF PRINCIPAL INVESTIGATOR

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

Name of the student: **Tezera Kifle Desta**

Date _____ Signature _____

APPROVAL OF THE FIRST ADVISOR

Name of the first advisor -----

Date ----- Signature -----

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ANNEXES

Annex 1 Survey questionnaire

A survey questionnaire to evaluate the knowledge Attitude & Practice of housekeeping staff in using personal protective equipment, at the five hospital under the AARHB.

Definition

Personal protective equipment;

Specialized clothing or equipment (ex. Gloves, face mask, plastic apron) worn by an employee for protection against to blood & body fluids or other hazard. (Tietjen – L et al 2003)

Aim of the survey

This questionnaire is designed to collect data on the knowledge, Attitude and Practice of the house keeping staff in using PPE at the five hospitals under the AARHB. It also identifies the gap and suggests feasible recommendations on how to enhance the utilization of these materials by the study group and ultimately decrease chance of acquiring nosocomial infections.

Confidentiality

The response to this survey, in no way will be used for other purpose except stated on the objectives of the survey and it is strictly confidential and response is completed anonymously.

Reminder

Since the primary objective of this study is to identify problems in using PPE, and directed to suggest feasible solutions which will be potentially useful to the study group in particular and to care giver in general, the respondent is kindly advised to answer each question genuinely and truthfully.

Consent

I the undersigned accepted and agreed to be study participant in this survey by my own decision without any influence.

Name of the participant-----Title-----

Date-----

Thank you for being part of the study!

Socio demographic characteristics

- i. Name of the hospital-----
- ii. Age of the respondents (in years) -----
- iii. Sex 1) male 2) female
- iv. Level of education-- 1) Illiterate 2)reading & writing 3) grade 1-8 4)grade 9-12 5)
5) College diploma & above

I. Item / questions of knowledge of personal protective equipments

Instruction: - please circle the correct answer /s/ only.

ii.i. Do you currently use personal protective equipment in hospital setting?

- 1) Yes I use (go to question II)
- 2) No I don't use (please do not proceed to the other items)

ii.ii. Which of the following item/s/ should be used as personal protective equipment?

(please circle more than one if needed)

- 1) Mask
- 2) Gown
- 3) Apron
- 4) All of the above
- 5) None of the above

ii.iii. Which of the following should be used when carrying used surgical materials?

- 1) Capes
- 2) Utility gloves
- 3) Bare-hand
- 4) Mask

Ii.iv. Which of the following items should be used to protect you from acquiring droplet infection? (infection transmitted from person to person through airway)

- 1) Gumboot
- 2) Apron
- 3) Glove
- 4) Mask
- 5) All of the above

Ii.v. which of the following items should be used during cleaning and moping of spills of blood and body fluids from walls and floors?

- 1) Goggles
- 2) Utility gloves
- 3) Apron
- 4) Gumboot

5) All of the above

ii.vi. Which of the following is a correct statement about goggles?

- 1) Goggles are used for reading,
- 2) Goggles are used for grooming purpose
- 3) They are used to protect us from accidental splashes of blood and body fluids into our eyes.
- 4) This item has no use for protection.

ii.vii. Which of the following items should be used when sorting-out soiled hospital linen from non-soiled ones?

- 1) Utility gloves
- 2) Apron
- 3) Option 1&2 are correct
- 4) None of the above are used

ii.viii. Which of the following is correct about protective gloves in the hospital?(circle all correct statements)

- 1) Gloves should be used when we hand shake with people
- 2) Gloves should be used when eating food
- 3) Gloves should be used to protect us from contact based hospital acquired infection
- 4) Gloves should be used during cold season.

ii.ix. Which of the following is the purpose of wearing gown in hospital when you carrying – out your cleaning duty? (please circle all that apply)

- 1) It is used to protect us from accidental contact of blood and body fluid
- 2) It is worn because of the norm of the hospital as uniform
- 3) There is no as such use from wearing gown

ii.x. Which of the following is correct? (circle all that apply)

- 1) Apron should be used when talking with people
- 2) Apron should be used when carrying children
- 3) Apron should be used when splashes of blood and body fluids are expected
- 4) Apron should be used when cooking foods

III Attitude questions

Instruction: - Please circle one of your choices for the following items.

iii.i. If I come in contact with body fluid and blood, from patient, I know I may get hospital acquired infection

- 1) Agree
- 2) No idea
- 3) Disagree

iii.ii. There is no need to wear plastic aprons at work even splash is expected

- 1) Agree
- 2) No idea
- 3) Disagree

iii.iii. One can consider her/himself 100% all the time protected from HAI by wearing PPEs

- 1) Agree
- 2) No idea
- 3) Disagree

iii.iv. Gown can be used as barrier to infections

- 1) Agree
- 2) No idea
- 3) Disagree

iii.v. If I expect splash when cleaning used surgical items, I have to use goggles

- 1) Agree
- 2) No idea
- 3) Disagree

iii.vi. Wearing gloves protect one-self from acquiring HIV.

- 1) Agree
- 2) No idea
- 3) Disagree

iii.vii. Goggle gives maximum protection from splashes of blood, body fluids and chemicals in to eyes

- 1) Agree
- 2) No idea
- 3) Disagree

Instruction: - Rate the following items 1-5.

Circle one that fits to your rating (1=fair, 2= good, 3=very good, 4=excellent, 5=very excellent)

	Rates				
III-VIII The use of gloves in protecting the user from acquiring HAIs	5	4	3	2	1
III-IX the use of boots in protecting oneself from having direct contact with blood and body fluid	5	4	3	2	1
III-X the use of mask in protecting the user from direct contact infections	5	4	3	2	1

IV-Availability assessment Items/questions

IV-I Out of the following PPEs which one is/are always available (AA), Rarely available (RA), Not available (NA)?

Please circle your choice

- 1) Gown
1) AA 2) RA 3) NA
- 2) Glove
1) AA 2) RA 3) NA
- 3) Apron
1) AA 2) RA 3) NA
- 4) Gumboots
1)AA 2) RA 3) NA
- 5) Goggles
1) AA 2) RA 3) NA
- 6) Masks
1) AA 2) RA 3) NA

Key; **AA**= PPEs always available for use

RA= PPEs sometimes missing

NA= PPEs not found at all

Annex 2

Amharic version of the questionnaire

ጥናታዊ መጠይቅ

- በአዲስ አበባ አስተዳደር ጤና ቢሮ ስር ባሉ አምስት ሆስፒታሎች በጽዳት ሠራተኝነት የተሰማሩ ሠራተኞች ስለ የግል መከላከያ መሣሪያዎች ያላቸውን ዕውቀት፣ አመለካከትና አጠቃቀምን ለማጥናት ወይም ለመለካት የተዘጋጀ መጠይቅ

- ትርጉም

የግል መከላከያ መሣሪያ፡- ማለት ማንኛውም በልዩ ሁኔታ የተዘጋጁና የሆስፒታል ሠራተኞችን ከደምና ከሰውነት ፈሳሽ ንክኪ መከላከል የሚችሉ አልባሳት ወይም ዕቃዎች ማለት ነው። (Tietjen – Letal 2003)

- የጥናቱ ዓላማ

በአምስቱም ሆስፒታሎች የሚገኙ የጽዳት ሠራተኞችን የሚል መከላከያ መሣሪያዎች አጠቃቀምን በተመለከተ ስላላቸው ዕውቀት፣ አመለካከትና አጠቃቀምን በተመለከተና ያለውን ጉድለት በመረዳት ያለውን ክፍተት በማስተካከል እነዚህን ሠራተኞች፣ ቤተሰቦቻቸውን፣ ሙሉ የሆስፒታሉን ሠራተኞችና ሕመምተኞችና ጎብኝዎችን ሆስፒታል ወለድ ከሆኑ ተላላፊ በሽታዎች መከላከል ነው።

- የጥናቱ ምሥጢር አጠባበቅ

- በዚህ መጠይቅ መሠረት የተገኙ ምላሾች የሚያገለግሉት የጥናቱ ዓላማ ብቻ እንጂ ከጥናቱ ዓላማ ውጭ ለሆኑ ጉዳይ አይውልም። ከዚህ ጥናት የተገኙ ምላሾች በምስጢር ይያዛሉ።

- ማሳሰቢያ

ይህንን መጠይቅ በጥሞና በማንበብና በመረዳት እውነተኛ መልክ እንዲሰጡ በአክብሮት እንጠይቃለን።

- ስምምነት

እኔ ከዚህ በታች ፊርማዬን ያኖርኩ በጥናቱ ውስጥ በሙሉ ፈቃደኝነት የተሳተፍኩት በራሴ ፍላጎትና ያለማንም ተፅዕኖ ነው።

ስም _____ ሥራ _____ ቀን _____

- ምሥጋና

- በታማኝነት፣ በግልፅነትና በፍላጎት የዚህ ጥናት ተሳታፊ በመሆን ላበረከቱት አስተዋፅኦ ከልብ እናመሰግናለን።

I. የተሳታፊዎች የግል መግለጫ

ዕድሜ _____ ያታ _____

የትምህርት ደረጃ

1. ማንበብና መጻፍ የማይችል
2. ማንበብና መጻፍ የሚችል
3. 1 — 8 ክፍል
4. 9 — 12 ክፍል
5. የኮሌጅ ዲፕሎማና ከዚያ በላይ

II. የዕውቀት መለኪያ ጥያቄዎች

ትክክለኛ የሆነውን መልስ ይክበቡ (አንድ ወይም ከዚያ በላይ ይቻላል)

ii-i. በሆስፒታል ውስጥ ሥራዎን ሲሰሩ የግል መከላከያ መሣሪያዎችን ይጠቀማሉ?

- 1) አዎ እጠቀማለሁ (ወደ ሁለተኛው ጥያቄ ይለፉ)
- 2) አይ አልጠቀምም (ቀጣይ ጥያቄዎችን መመለስ አይጠበቅም)

ii-ii. ከሚከተሉት ውስጥ የትኛው ወይም የትኞቹ እንደ የግል መከላከያ መሣሪያዎች ልንጠቀምባቸው እንችላለን?

- 1) የአፍና አፍንጫ መሽፈኛ (ጭንብል) (ማስክ)
- 2) ሽርጥ /የጨርቅ ካፖርት/
- 3) ከፕላስቲክ የተሠራ ሽርጥ /ኤፕረን/
- 4) ሁሉም
- 5) መልስ የለውም

ii-iii. አገልግሎት የሰጡ የሕክምና መሣሪያዎችን ስናፀዳ ወይንም ስናጓጉዝ ከሚከተሉት

የመከላከያ መሣሪያዎች የትኞቹን /የትኛውን መጠቀም አለብን? (አንድ ብቻ ይምረጡ)

- 1) ኮፍያ
- 2) ጓንት (ግላቭ)
- 3) በባዶ እጅ
- 4) የአፍና አፍንጫ መሽፈኛ (ጭንብል)

ii-iv. ከሚከተሉት የግል መከላከያ መሣሪያዎች ውስጥ በትንፋሽ የሚተላለፉ በሽታዎች የሚከላከልልን የትኛው ነው? (አንድ ብቻ ይምረጡ)

- 1) ቦት ጫማ
- 2) ከላስቲክ የተሠራ ሽርጥ (ኤፕረን)
- 3) የአፍና አፍንጫ መሸፈኛ (ማስክ)
- 4) ሁሉም

ii-v. በወለልና በግድግዳ ላይ የተፈነጣጠቁ ደምና የሰውነት ፈሳሽ በምንጠርግበት ወቅት ከዚህ በታች ከተዘረዘሩት የግል መከላከያ መሣሪያዎች ውስጥ የትኛውን (የትኞቹን) መጠቀም አለብን?

- 1) የዓይን መከላከያ መነጽር (ጎግል)
- 2) ጓንት (ግላቭ)
- 3) ከላስቲክ የተሠራ ሽርጥ
- 4) ቦት ጫማ
- 5) ሁሉም

ii-vi. ስለ ዓይን መከላከያ መነጽር የትኛው አማራጭ ትክክል ይመስሎታል?

- 1) የዓይን መከላከያ መነጽር ግልጋሎቱ ለማንበቢያ ነው
- 2) አገልግሎቱ ለመዋቢያ ነው
- 3) በዓይኖች ደምና የሰውነት ፈሳሽ እንዳይገባ ይከላከልልናል
- 4) ምንም የመከላከል ጥቅም የለውም

ii-vii. በደምና በሰውነት ፈሳሽ የተነካኩ አንሶላዎችን /አልባሳትን/ ካልተነካኩት ስንለይ ከሚከተሉት ውስጥ የትኛውን /የትኞቹን/ መከላከያ መጠቀም አለብን?

- 1) ጓንት (ግላቭ)
- 2) ከፕላስቲክ የተሠራ ሽርጥ
- 3) ምርጫ አንድ ሁለት ልክ ናቸው
- 4) ሁሉም አያገለግሉም /መጠቀም የለብንም/
- 5)

ii-viii. ከሚከተሉት አስተያየቶች ውስጥ ስለ ጓንት ትክክለኛውን ይምረጡ (ከአንድ በላይ መምረጥ ይቻላል)

- 1) ጓንት ከሰው ጋር ለመጨባበጥ ያገለግላል
- 2) ምግብ ለመመገቢያ ያገልግላል
- 3) ሆስፒታል ወለድ በሆኑ ተላላፊ በሽታዎችን ይከላከልልናል
- 4) ለብርድ መከላከያ ይጠቅመናል

ii-ix. በሆስፒታል ውስጥ ሥራችንን ስንሠራ ሽርጥ የምንለብሰው ለምን ይመስሎታል (ትክክል ነው ብለው ያሰቡትን አንድና ከአንድ በላይ መመለስ ይቻላል)

- 1) በድንገት ከደምና ከሰውነት ፈሳሽ ጋር ንክኪ እንዲኖረን ይረዳናል
- 2) የሆስፒታል የአለባበስ ደንብ ስለሆነ
- 3) ሽርጥ መልበስ ምንም ጥቅም የለውም

ii-x. ከሚከተሉት ውስጥ የትኛው ትክክል ነው ከአንድ በላይ መመለስ ይቻላል)

- 1) ከላስቲክ የተሠራ ሽርጥ ከሰዎች ጋር ስናወራ መልበስ አለብን
- 2) ልጆችን ስናቅፍ የላስቲክ ሽርጥ መልበስ አግባብ ነው
- 3) ደምና የሰውነት ፈሳሽ ሊፈናጠቅ ይችላል ብለን ካሰብን ከላስቲክ የተሠራ ሽርጥ መልበስ ትክክል ነው
- 4) ምግብ ስናበስል መልበስ ትክክል ነው

III. የአመለካከት መለኪያ ጥያቄዎች

ከተሰጡት ምርጫዎች አንደኛውን ብቻ ይክበቡ

iii-i. የሕመምተኛ ደም ወይንም የሰውነት ፈሳሽ ከነካኝ ሆስፒታል ወለድ በሽታ ሊይዘኝ ይችላል

- 1) እስማማለሁ
- 2) አልስማማም
- 3) አላውቅም

iii-ii. ደምና የሰውነት ፈሳሽ የሚፈናጠቅ ቢሆንም እንኳ ከላስቲክ የተሠራ ሽርጥ መልበስ አያስፈልግልኝ

- 1) እስማማለሁ
- 2) አልስማማም
- 3) አላውቅም

iii-iii. የግል መከላከያ መጠቀም ከሆስፒታል ወለድ በሽታዎች መቶ በመቶ ሊከላከልልኝ ይችላል

- 1) እስማማለሁ
- 2) አልስማማም
- 3) አላውቅም

iii-iv. ሽርጥ መልበስ ኢንፌክሽንን ይከላከልልኝ

- 1) እስማማለሁ
- 2) አልስማማም
- 3) አላውቅም

iii-v. በምሠራበት ወቅት ደምና የሰውነት ፈሳሽ ሊፈናጠቅ ይችላል ተብሎ ከተገመቱ

- 1) እስማማለሁ
- 2) አልስማማም
- 3) አላውቅም

iii-vi. የአጅ ቅንት ማድረግ በኤች.አይ.ቪ. ከመያዝ ሊከላከልልን ይችላል

- 1) እስማማለሁ
- 2) አልስማማም
- 3) አላውቅም

iii-vii. የዓይን መከላከያ መነጽር በድንገት ወደ ዓይን የሚረጭ ደምና የሰውነት ፈሳሽ እንዳይደርስብን ይከላከልልናል

- 1) እስማማለሁ
- 2) አልስማማም
- 3) አላውቅም

የሚከተሉትን ሐሳቦች ከተሰጡት አማራጭ ቁጥሮች በመስጠት ይመልሱ

5 - በጣም ከፍተኛ 1 - በጣም አነስተኛ

iii-viii. የዕጅ ጓንት መጠቀም ከ ኤች.አይ.ቪ. የመከላከል ጠቀሜታው

- 1) 5 2) 4 3) 3 4) 2 5) 1

iii-ix. በሥራ ወቅት የቦት ጫማ ማድረግ ከደምና ከሰውነት ፈሳሽ የመከላከል ጠቀሜታው

- 1) 5 2) 4 3) 3 4) 2 5) 1

iii-x. የአፍና የአፍንጫ መሸፈኛ (ማስክ) መጠቀም ከተላላፊ በሽታ ሊከላከልልን የመቻሉ ጠቀሜታ

- 1) 5 2) 4 3) 3 4) 2 5) 1

IV. የአቅርቦት መለኪያ መጠይቆች

IV- I. ከሚከተሉት የግል መከላከያ መሣሪያዎች ውስጥ የትኛው ምንግዜም (ሁልጊዜም) ይገኛል፣ የትኛው አልፎ ፣ አልፎ ብቻ ይገኛል፣ የጥኛው ፍጹም አይገኝም

- ከተሰጡት አማራጮች ትክክለኛ ብለው የሚያስቡትን ምርጫ ያክብቡ፣

i. 1) ጋውን

- 1) ሁልጊዜ /ምንጊዜም/ ይገኛል
- 2) አልፎ፣ አልፎ ብቻ ይገኛል
- 3) በፍጹም አይገኝም

ii. 2) ጓንት

- 1) ሁልጊዜ /ምንጊዜም/ ይገኛል
- 2) አልፎ፣ አልፎ ብቻ ይገኛል
- 3) በፍጹም አይገኝም

iii. 3) ከፕላስቲክ የተሠራ ሽርጥ /ኤፕራን/

- 1) ሁልጊዜ /ምንጊዜም/ ይገኛል
- 2) አልፎ፣ አልፎ ብቻ ይገኛል
- 3) በፍጹም አይገኝም

iv. 4) ቦት ጫማ

- 1) ሁልጊዜ /ምንጊዜም/ ይገኛል
- 2) አልፎ፣ አልፎ ብቻ ይገኛል
- 3) በፍጹም አይገኝም

v. 5) የዓይን መከላከያ መነጽር

- 1) ሁልጊዜ /ምንጊዜም/ ይገኛል
- 2) አልፎ፣ አልፎ ብቻ ይገኛል
- 3) በፍጹም አይገኝም

vi. 6) ማስክ /ጭምብል/

- 1) ሁልጊዜ /ምንጊዜም/ ይገኛል
- 2) አልፎ፣ አልፎ ብቻ ይገኛል
- 3) በፍጹም አይገኝም

Annex 3 observation checklist 1

Observation checklist to assess the practice of the housekeeping staff of the five hospitals under AARHB in their use of personal protective equipment (PPEs) (gown, glove (elbow length and exam gloves) goggles and apron ...etc)

Name of the hospital-----

-Date of observation (European calendar) -----

-OPD/Ward/other department-----

-Number of housekeeping staff observed-----Time of observation (pick hour) -----

NB please note that, you should check the use of the mentioned items in terms of:-

Gown by the housekeeping staff before the commencement of their assigned duty.

Gloves, when cleaning and moping of spills from floors and walls and handling soiled instruments, utensils and similarly contaminated objects.

Goggles, the use of this, by the staff when doing things that splashes into the eye is expected.

Apron, when carrying soiled materials like, hospital linens, blankets and so forth.

Percentage can be calculated from the total housekeeping staffs observed

Please complete the following table

Use of the following PPEs	yes	In number	%	no	In number	%
	tally			tally)		
Glove						
Gown						
Goggles						
Apron						
Cape						
Mask						

Annex 4 observation checklist 2

Observation checklist to assess the practice of laundry workers of the five hospitals under the AARHB in their use of personal protective equipments intended to their use (Apron, goggles, utility gloves and gumboots).

Name of the hospital-----

Date of observation-----

Number of laundry staff observed-----

NB please note that the laundry workers supposed to wear the mentioned PPEs, whenever the time they carrying out their duties, like sorting out of soiled linen from non-soiled, preparing detergents, chemicals, spreading of washed items into the sun to dry and so forth. Percentage is calculated from the total laundry workers observed in the hospital.

Please complete the following table

	yes	In	%	no	In	%
Use of the following PPEs	tally	number		tally	number	
Apron						
Goggles						
Heavy duty glove						
Gumboots						

