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COLLEGE OF HEALTH SCIENCES
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**ASSESSMENT OF OCCUPATIONAL HEALTH AND SAFETY
PRACTICES AND ITS ASSOCIATED FACTORS AMONG
STAR RATED HOTELS HOUSEKEEPING WORKERS IN
ADDIS ABABA, ETHIOPIA**

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Acronyms or Abbreviations

AAU: - Addis Ababa university

BoLSA: - Bureau of Labor and Social Affairs

CEO: -Chief Executive Officer

CSA: - Central Statistics Agency

FDRE: - Federal Democratic Republic of Ethiopia

GDP: - Gross Domestic Product

GTP: - Growth and Transformation Plan

HCT: - Hotels, Catering and Tourism

HRM: - Human Resource Management

ILO: - International Labor Organization

MoCT: - Ministry of Culture and Tourism

MoH: - Ministry of Health

MoLSA: - Ministry of Labor and Social Affairs

MSD: - Musculoskeletal Disorders

NIOSH: - National Institute of Occupational safety and Health

OSH: - Occupational Safety and Health

OSHA: -Occupational Safety and Health Administration

PPE: - personal Protective Equipment

SHE: - safety and Health Executive

SPSS: - Statistical Packages for Social Science

UNICEF: - United Nations Children's Fund

USA: - United States of America

USAID: -United States Agency for International Development

WHO: - World Health Organization

WTO: - World Tourism Organization

Abstract

Background: - Occupational health and safety (OHS) practice refers to behavior of workers to act safely. These includes any activity enabling the prevention and control of adverse work-related hazards. In this study, we measured OSH practice at individual level. Appropriate tool was developed and used after getting permissions from the institutional review board of school of public health, Addis Ababa University.

Objective: - To assess occupational health and safety practices and its associated factors among star rated hotels housekeeping workers in Addis Ababa, Ethiopia.

Methods: - Institution based cross-sectional study was conducted from march 01-May 28/2007, among 872 housekeeping workers sampled from 38 star hotels. The study used pretested, structured questionnaire, observational checklist and review of documents to collect data. Occupational characteristics based stratification sampling and analysis were also considered. Crude odds ratio with 95% C.I was computed to identify association of independent variables and the outcome. Multivariate logistic regression analysis were computed to determine relative effect of independent variables on the outcome. To maintain stability only variables with p-value < 0.2 in the binary logistic regression analysis were fitted into the subsequent models. Data entry was done by using Epi Info version 7.2.0.1 ; data analysis and quality were maintained by STATA 14 software's. Levels of statistical significance were set at $p < 0.05$.

Results: - Response rate of the study was 100%. Among 872 housekeeping workers 452 (51.83%) were room attendants and 420 (48.17%) cleansing workers. Females account for 641 (73.51%) and males account for 231 (26.49%). Based on the composite score of seven different indicators, the overall OSH practice of participants were; 57.22% good and 42.78% were poor OSH practices. Several factors were significantly associated with OSH practices among both cleansing workers and room attendants; Regarding cleansing workers educational status; college and above (AOR= 5.87, 95% C.I: 2.58, 13.35) or secondary (AOR= 5.04, 95% C.I: 2.11, 12.06) versus primary levels. Workers in higher star hotels had also higher odds of good OSH practices; three star hotels (AOR= 8.16, 95% C.I: 2.28, 29.23) or five star (AOR= 5.27, 95% C.I: 1.34, 20.80 or four star (AOR= 3.90, 95% C.I: 1.13, 13.40) versus cleansing workers in one star. Knowing how to use PPE (AOR= 2.43, 95% C.I: 1.17, 5.04) compared to lacking such knowledge. Cleansing workers who had OSH training (AOR= 2.24, 95% C.I: 1.15, 4.37) versus not trained. Among room attendants, the study showed that variables such as sex, educational status, hotels star grade, knowledge of workers right, workplace OSH training, knowledge of PPE uses and knowledges of safety signs had significant association with OSH practice.

Conclusion and recommendations: - The extent of poor OSH practices among star rated hotels housekeeping workers is currently at a level that needs immediate public health action. Implementations of basic OHS services such as trainings, ensuring strong supportive supervision systems and strengthening legal compliances, further medical checkups were few of urgently advisable interventions.

1 INTRODUCTION

1.1 Background

Both ILO and WHO reported that building effective occupational health and safety system is an investment that significantly supports hospitality industry by improving health, wellness of workers and enables the enhancement of productivity.(1) Know day's evidences indicates that food safety and hygiene is taking priority over occupational health and safety practices in hotel industry.(2, 3) Studies done among Ireland star rated hotels reported that 78% of hotel workers trained on food safety and hygiene as opposed to 33% of the hotel housekeeping workers, who were trained on occupational health, safety practices and welfares.(4) Traditionally the focus of occupational health and safety initiative has been on chemical, biological, and physical hazard exposures. Whilst risks of unsafe act, poor occupational health and safety practices at worksite has been given less attention and still largely neglected.(5) unlike physical or chemical hazards, health, safety practices and its associated factors has no tangible hazardous agents.(6)

According to the study of hotel records covering thousands of employees in USA, lass Vegas, the injury rates of housekeepers was 10.4% which is almost double compared to non-housekeepers (5.6%). Housekeepers were exposed to plenty of ill health while practicing their profession, such as cleansing shower walls and bathroom fixtures, dusting furniture's, pushing carts, dusting, vacuuming, changing linens and making beds, scrubbing bathrooms, cleaning mirrors, and disposing of trash. Unless health and wellbeing of this large workforce engaged in the Ethiopian tourism sector gets serious attention, it might end-up with massive economic losses due to uncertainties in health and safety related problems.(7, 8). Ethiopian service industry was one of the leading sector in terms of human workforce and also characterized as occupations with top fatality rates in the world. ILO report indicates that fatal occupational accidents and fatality rates per 100,000 among Ethiopian service sector was 18.7, which was very maximum as compared to other parts of the world.(9) In Ethiopia the total occupational accident rate is 5596/yr with a fatality rate of 16426/100,000 among the service sector workers and the rate is still increasing.(10)

Currently the Ethiopian government is following several strategies to curb this problem. Establishment of effective OSH systems, gradually developing these systems to organizational safety culture, implementing national OSH directive of 2008 in hotel and other industries was few interventional initiatives. In additional Ethiopian ministry of culture and tourism (MoCT) was exhaustively engaged in implementation of international standards as a partial compliance in the hotel accreditation program. The effort was to achieve 2020 sustainable tourism development goals, by having decent work, protecting workers health and promoting work place occupational health and safety practices.(11-13)

1.2 Statement of the problem

Occupational health and safety practices (OSH) of hotel workers mainly refers to individuals behavior, organizational and task related factors that enables the promotion of health and well-being of workers in hotel and SPA, while they are at work.(14-17) Literatures indicates that, there are plenty of established determining factors having direct or indirect influences on productivity of hospitality industry mainly emanating from unsafe acts or poor (OSH) practice. Good OSH practices could enables the enhancement of productivity, organizational safety culture and set fertile platform for the establishment of effective OSH management system. This includes potential resources like OSH policy, strategies, procedures, safety appliances, management and workers commitments on health and safety issues, priory given for OSH and organizational management system in general. Those are the potential tools which could be implemented, used or followed by organizational managers, government and other stakeholders concerned about hotels workers health and welfare.(15, 18-30) More than 80% of adverse effects on workers' health and failure of organizational productivity in any working environment was related to unsafe acts, mainly referred as poor OSH practices that could end up with moral, ethical, legal crises and financial loses.(15, 31, 32) Globally having decent work and good occupational health and safety practices could decrease more than 6300 work-related deaths every day and saves more than 4%-5% globally GDP losses.(9)

Although scientific evidences proofed the effectiveness of good occupational health and safety practices as a major factor for minimizing work-related hazard were known, factors having significant influence or contribution with OSH were not known. Also the magnitudes of association were not determined. Little is known about immediate, proximal or distal causes for housekeeping workers OSH practices.

An employer or hotel manager who provides appropriate platforms for good OSH practices in hotel industry will enable Ethiopian government to address the health of more than 427,072 peoples, currently working in the industry.(19, 21, 31, 33) Also, significantly support the achievements of country's second growth and transformation plan (GTP-2) in 2020, especially to generate more than 205 billion USD, to become one of the top five African tourist destination, to achieve ILO's country decent work agenda and guarantees sustainable tourism development program.(9, 10) Gradually, developing good OSH practices and systems into organizational safety culture in hotels, capacity building activities, establishment of strong and effective mandatory institution. Giving more emphasis to empowerments of workers and employers, could promotes health and well-being of workers or considered as major strategies among others.(34-36) Almost all hotels in Addis Ababa follows general working cycle with three levels of management hierarchies and more than eight major departments such as reception and front office, food and beverage, housekeeping and back office, marketing and promotions, human resource and training team, Engineering and technical, Finance and revenue management, Guest satisfaction and customer services, and others.(37)

As the majority of hotels are 'accommodation led', most revenues were collected from the sale of rooms. Cleansing and room attendants working in star rated hotels was arguably the most important department and key part of hotel operation. Housekeeping job was characterized by predominantly female workforce, repetitive physical tasks, low wages, labor intensive, and few opportunities for career advancement. Despite the fact that hotel housekeepers were among risk groups for various fatal and non-fatal work related hazards, little was explored about the influences of occupational health and safety practices on workers' health.(38-40) Hotel room attendants and cleansing workers are important pillars in the success of hotel business, customer satisfaction and quality services which was directly related to their activities.(11-13, 41) Achieving good OSH practices could significantly support hotel business and promotes welfare of hotel workers by minimizing ill health resulting from work-related health hazards.(42-46). Analysis of log incidents from USA five unionized hotels for three years' period reported that 2,865 injuries were reported during 55,327 workers-years of observation. The rate was highest for housekeeper, especially among cleansers (7.9%) than the overall injury rates. Also they had highest rates of musculoskeletal disorders (3.2/100)(34) A community based epidemiological study done in USA among housekeeping workers described, 84% of housekeeping workers reported that they took a pain medication during the past 4 weeks for pains they had at work. More than three-quarters (78%) have had pain during the past 12 months, which they felt might have been caused or made worse by work as a room cleaner. Among cleansing and room attendants, 96% stated that this pain began after they started their current hotel cleansing job.(8, 36, 47, 48)

However, very little is known about occupational health and safety practices of hotel housekeepers and Ethiopian ministry of labor and social affairs (MoLSA) does not provide data for such single occupations. Compared to various established risk factors regarding housekeeper's health and safety, OSH practices and other related factors were less extensively studied. Always risk was never eliminated but minimized, because of difficulties in radically changing practice related problems over night. There is also dearth of scientific literatures focusing on health and safety practices in Ethiopia, which was approximated as less than 1%.(49) Previously done studies indicates, interventions on the provisions of appropriate safety information, uses of strong OSH system and workplace health promotions could significantly maximizes workers levels of safe occupational safety practices.(44, 50-52) Moreover, the hotel accreditation program conducted by the ministry of culture and tourism also gives little attention to OSH practices. Hotel accreditation system and its grading mainly focuses on service quality (about 50%), hygiene, sanitation, safety and security accounts for only 20% indicating low consideration for workers well-being and safety.(11, 53-57)

1.3 Rationale of the study

Evidence describing links, between health and work suggested that, the right type of work is generally good for both physical and mental health of all peoples, while unemployment or not working was the most dangerous. The study was mainly aiming to generate the overall information's regarding star rated hotel housekeeper's occupational health and safety practices and other associated factors. Despite the fact that hotel housekeeping workers were categorized among risk groups for different work-related hazards and works under high-risk conditions, few studies explored yet the influence of health and safety practice. Little is known about factors influencing or enabling organizational safety system. The following three main reasons are motivating factor to deal with the subject matter. The first one is; Ethiopian service sector have one of the world's top estimates of fatality rates (18.7)([10](#)) with 10% to 20% higher risks of injury ([49](#)) and hospitality industry shares significant proportions of human work force from the service sector. Again, hotel housekeeping work constitutes more than a quarter of human workforce.([3](#), [52](#)) Second, Ethiopian government is highly relying on hotel industry and giving priorities for its development in the second GTP. The third reason was, urgent need and concerns for addressing this marginalized large human workforce engaged in hotel housekeeping. Assessing this gap, the present study discusses how health and safety practices influence work-related health problems.

1.4 Significance of the study

Unsafe act or poor OSH practices may end up with failures of the business, social development, national economic crises, and many more. The study helps to investigate important factors associated with OSH practice, which enables policy makers to give more attention to health of hotel housekeeping workers, prioritize the problem and design cost-effective interventions. Shows possible actions to be used such as to strengthen inspections, legal enforcements, ensure and evaluate both workers and customer's exposure status to various hazards in the hotel. Additionally it will serve as a baseline document by giving prompt ideas on OSH practice, for scholars or students and offer important information's for further study. Perhaps, the tool can be used to measure workplace OSH performances in other industries.

The study will assist strategic framework of the country, targeting public health efforts to reduce accidents and work-related health problems by recommending possible methods for improving OSH practices. In this processes, the study investigates and describes the role of good OSH practices on workers' health, organizational productivity and development of safety culture to achieve ILO's decent work agenda.

2 LITERATURE REVIEW

Literatures presented in this particular study were reviewed, according to objective based structure descriptions. This study tried to examine the available literatures including web of science, HINARI, EMBASE, MEDLINE, PUBMED, occupational service, NIOSH, OSHA, SHE, WHO, ILO to get acquainted with the occupational health and safety practices and the associated factors. Two types of literatures were reviewed to get general overview about the problem. The first one was conceptual literatures concerning the concepts and theories.(1, 16, 58-68) While the next is, empirical literatures consisting of studies made earlier which are similar to occupational health, safety practices and associated factors.(29, 30, 46, 49, 69-76)

2.1 Global perspectives of health and safety practice

A new threshold of zero harm must be advocated and practiced across all levels and during the entire working life in order to eliminate all negative effects of work on health. This is believed to support sustainable working life. Globally, cardiovascular and circulatory diseases share the 35% and cancer at 29% were the top illnesses responsible for 2/3 of deaths from work-related diseases, followed by occupational injuries at 15% and infectious diseases 10%. This had economic costs of work-related injury and illnesses vary between 1.8-6% of gross national product (GDP) loss in country estimates averaged at 4%.(9) Work place is the complementary aspect of development. There is no more important aspect of the hotel and hospitality industry than the protection of the health, safety, and welfare of both guests and workers.(7, 77) Hence, limited financial resources and lack of adequate data has hampered the efforts to combat the problem of industrial and occupational accidents in developing countries.

To address plenty of controversial issues; the international labor organization (ILO) was founded in 1919 as a mandated international wing of UN. The intention behind establishment of this organization was to develop labor standards, conventions, and decent work. Currently joint reports of ILO and WHO described that, 2.34 million people die each year from work-related accidents or disease, 317 million suffer from work related injuries and 4% of global GDP loss was registered.

Hotel guest room attendants in Las Vegas reported nearly twice as often to be dissatisfied with their job than those in San Francisco (55% versus 25%). More often rates of their job security as poor (69% versus 48%), and that they have experienced or expect to experience undesirable changes in their work situation (72% versus 46%). An average of 75% of all guest room attendants report that their jobs requires them to work very fast, and 88% reported having constant time pressure due to heavy workload. On average only 18% of guest room attendants said that they have enough time to get the job done.(47)

ILO estimated that the fatality rate in sub-Saharan African countries is 17.7/100,000 workers and the accident rate per 100,000 worker is 1600.(9) in this region, about 59,301 fatal occupational accidents happen annually and approximately 5.2 million work related accidents took place that results at least 4 days of absence from work. In such cases, prevention emerges as most cost effective tool to reduce accident rates causing disabilities and death in the work place. Accordingly, if peoples are not safety conscious and unsafe acts remains as a challenge, then no amount of gadgetry, fail safe devices and back up alarms can ensure their safety and health.(9, 10, 49, 78)

2.2 Occupational safety practices in Ethiopia

Ethiopia has been a member of international labor organization (ILO) since 1923 and has ratified 19 conventions. The issue of governing safety and health at work on legal basis in Ethiopia dates back to 1940s when the first legal instrument proclamation number 58/1945 was promulgated. Since then, the country adopted several international agreements and conventions as part of national legal framework. This historical event opened the new chapter of practicing occupational safety in this country. Labor force growth rate is higher than the population growth rate (9.3% for labor force and 2.6% in population) every year. In Ethiopia, the fatal occupational accident rate is 5596/yr with a fatality rate of 21.5/100,000 workers and an accident rate of 16426/100,000 workers.(9, 79) Literatures indicates only 5-10% of workers in developing countries and 20-50% of those in industrialized countries have access to adequate occupational health services. Occupational health and safety laws cover only 10% of the population in Ethiopia, omitting many hazardous industries and occupations including hospitality industry Meaning informal sector employees (very huge work force) in the country were still doesn't got legal coverages.(49)

Other than, institutional based studies done in different parts of the country and on different industries up-to date and comprehensive assessment of the evidences concerning occupational health and safety practices in Ethiopia is lacking. The levels of occupational health and safety practices also varied largely across different institution's. Workplace based studies done among different industries and service providers reported different findings of OSH practices for several professions.(58, 80) For instance, one of the work place based cross-sectional study done among Gondar town barbers reported that, of 400 barbers, only 72 (18%) had good knowledge of occupational health and safety practices and only 61 (15.3) were practicing safely during barbering.(81) Another institution based cross-sectional study done in Adwa, Ethiopia, among textile workers reported that, about 69% of the respondents had knowledge of health and safety, however its practice was inadequate because of different reasons.(79) Data obtained from Ethiopian ministry of labor and social affairs (MOLSA) showed that workplace accident is a very serious issue in the country. Manufacturing sectors comprises 2723 organizations in Ethiopia and 5.3% of them have established OSH committee in their own industries. About 95% of the manufacturing sectors have no OSH committee that carries out follow up activities of their workplace safety conditions.

For instance, data obtained from MoLSA produced 0.075 accident severity for manufacturing industries.(82) In developing countries like Ethiopia, health and safety practice received little attention and comes at low levels in the lists of national priorities.(83) In spite of the apparent increase in the burden of occupational accidents and disease across various regions of the world, including Ethiopia appear not to be sufficiently addressing the challenges of health and safety problems.(64, 84)

In addition, specific strategies or guidelines to tackle these issues have not been put in place. It should be stated that unless such countries begin to curb the apparently increasing burden of fatal and non-fatal occupational accidents and diseases simultaneously, its burden would increase hugely over the coming decades. Such conditions will end-up with overwhelming the already over-stretched scarce health care resources.(9, 10, 75)

2.3 Overview of occupational health and safety practices in hotels

In modern business, building effective occupational safety practice is becoming the core of business. Such organizations have implemented strong occupational safety management systems, not just because of concern for their employees or for legal compliances, but because they understand that, superior health and safety results. This leads to lower cost, improved employee relations and trust, improved reliability and productivity, improved protection from business interruption, increased public trust and image and increase organizational capabilities.(85) Hotel housekeeping work constitutes the single largest occupational group in the hotel industry and includes room cleaners (house cleaner or room attendants) and room-made. This occupation were characterized by irregular work schedules, time pleasures, repetitive routine or monotonous activities, contact with the public, solitary or interactive tasks, and controllable or uncontrollable tasks, lack of autonomy, co-workers conflict, unfair treatments, and ambiguous or contradictory work-demands. (50) Regular supervision, worksite inspections and OSH auditing is highly recommended to ensure and promotes workplace safety.(6) Studies done among service providers of Lass Vegas hotel housekeepers reported that, they have highest overall injury rates and highest rates of musculoskeletal disorders (MSDs) at 7.9% and 3.2 pre 100 workers respectively.(8)

Moreover, the fact that hotel housekeepers in are predominantly women's, low educational status and low wage workers puts them at further risk for unsafe-acts, occupational health and safety practices.(86) The importance of hotel housekeepers in the success of hospitality industry, as the key determinant factor for customer loyalty and customer satisfaction was so great. This important role necessitates the need for employers to promote a healthy, productive, and engaged housekeeping workforce focusing not only on safety but also on the general well-being of those workers.(19, 63, 87)

2.4 Factors affecting occupational safety practice in hotels industries

Many studies revealed that there was significant difference in levels of awareness regarding safety information and Age, work experience, educational status, workload, and accessibilities to media, worker's attitude and organizational leadership are few of them. Safety training is common factor to increase knowledge and practicing habits, which needs to be encouraged.([69](#), [79](#), [81](#)) In contrast to other industries, employment in hotels, catering, and tourism (HCT) tends to be oriented towards peoples under 35 years of age. For instance in the Spain hospitality tourism about 43.4% of the workers are between 25-34 years old.([85](#)) Also this firm encompasses an average female participation of 55.5% at global level and up to 70% at regional levels.([85](#))

Work place based study done in Gondar town to assess the occupational health and safety practices of barbers in the town reported that; health and safety practice of an individual worker could be affected by and significantly associated to workers educational status, type of employment, daily working hour and work experience, and the availability of safety appliances.([81](#))

2.5 Occupational health and safety practices of hotel housekeeping

Hotel housekeepers experience unique workplace hazards and characteristics that increase their risks for poor health outcomes. Several factors may influence hotel worker's occupational health and safety practices, such as personal factors, organizational and task related problems. However, the influence of occupational health and safety practices was not explored and there is a gap of knowledge on this area.([15](#), [16](#), [88](#))

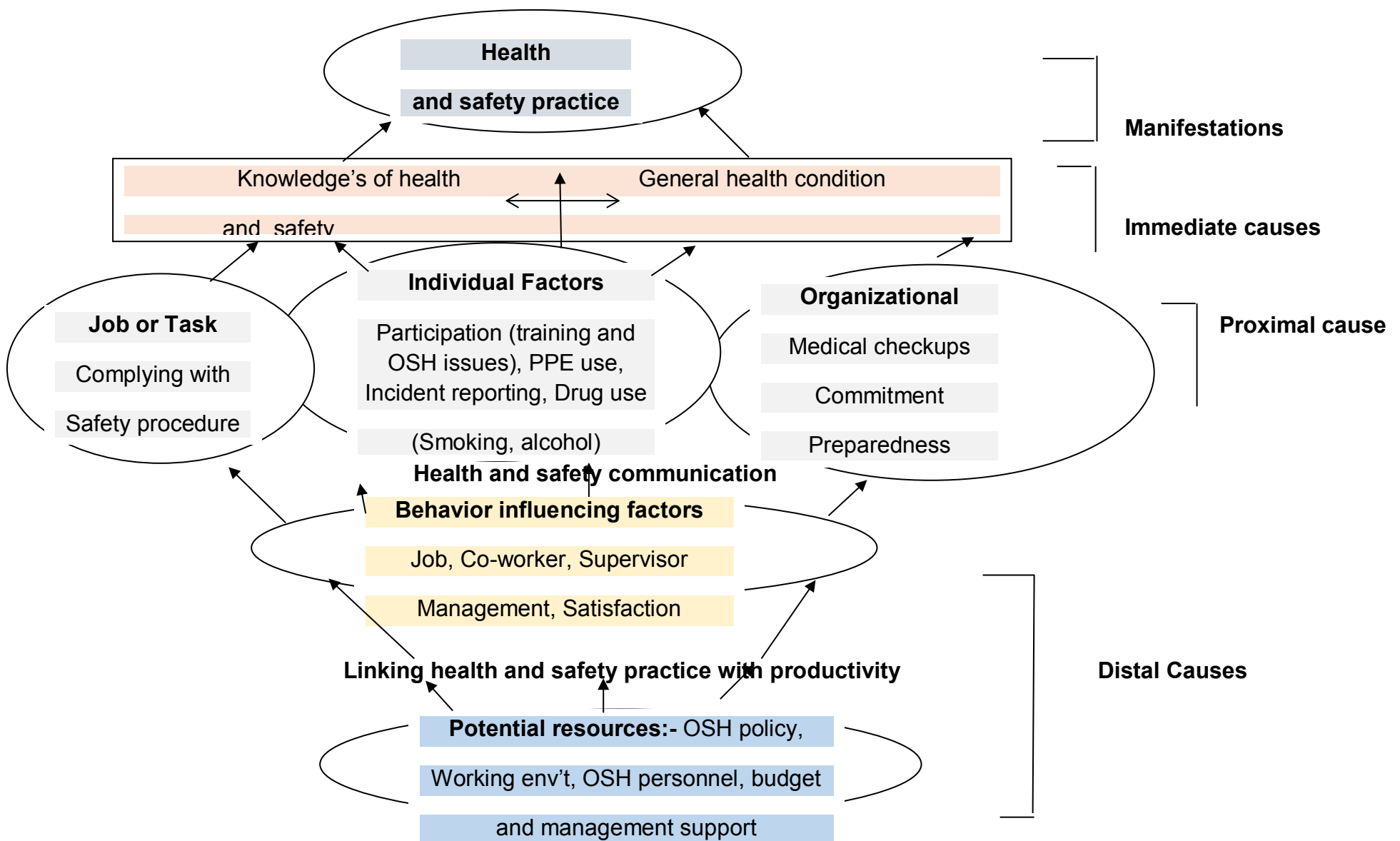
USAs health insurance probability and accountability act explored the health insurance coverage of hotel housekeeping service providers working in based on type of work they perform; compared to the 72% of full-time workers receiving health insurance coverage's, only 9% to 50% contingent workers enjoy insurance coverage's. Moreover, between 17% and 56% of contingency workers have a pension compared to 76% full time workers.([40](#))In addition another study conducted among service providers of lass Vegas hotel room cleaners explored the prevalence of back and neck pain among service providers of 941 hotel housekeepers. Participants reported severe body pain (47%), neck pain (43%), upper back pain(59%0, and lower back pain (63%).(8)

In order to bring an accelerated sustainable economic and social development, Ethiopia needs to have health and safety certified workforce to improve productivity. As opposed to this, safe workplace and effective health and safety practice system is necessary for minimizing plenty of suffers and increasing productivity. Generally promotion and protection of safe work and good health and safety practice is the complementary aspect of industrial development.([82](#), [89](#))

2.6 Conceptual framework

Several literatures were reviewed to identify relevant theories and conceptual frameworks used to meet and describe the stated objective. The numbers of underlying factors for OSH practice seems endless and interrelationships were very complex. For further conceptualization of associations between enabling or hindering factors for OSH practices among housekeepers while performing their statutory duties, the study modified and used standard UNICEF malnutrition conceptual framework. The model was useful to describe relationships between distal, proximal and immediate factors for OSH practices. Mainly, the study aimed to measure and describes factors related to OSH practices such as socio-economic, knowledge, organizational, task related and general health conditions of participants as exposure factors and their safety practices as an outcome of interest. Data's, considered to measure each components of the conceptual framework was collected by tested and validated tool.([67](#), [72](#)) The study uses OSHA'S indicators used to measure workplace occupational health and safety performances and tried to show associations. The following conceptual framework with different components of OSH practices was used in the study to describe interactions and relations holistically.

Figure 2-1:- Conceptual framework for associated factors of occupational health and safety practice



3 OBJECTIVE

3.1 General objectives

- ➡ To assess occupational health and safety practices and its associated factors among star rated hotels housekeeping workers in Addis Ababa, Ethiopia

3.2 Specific Objectives

- ➡ To determine magnitudes of occupational health and safety practices
- ➡ To identify and measure factors associated with occupational health and safety practices

4 METHODS

4.1 Study Area and population

The study surveyed 872 housekeeping workers clustered into cleansing 420 (48.17 %) and room attendants 452(51.83%)based on job characteristics and randomly selected from 38 samples of star hotels in Addis Ababa, Ethiopia. A two stage stratified random sampling random sampling method was used to select 38 (45%) from 83 hotels rated as one up to five stars from the lists. The selection was based on proportion or number of hotels within each category of star level and numbers of housekeeping workers.

Addis Ababa is capital city of Ethiopia and Africa, one of the few rapidly growing metropolitan cities in Africa and currently serving as a center for international and regional conferences. ([54](#), [55](#), [90](#)) According to 2016 master plan, geographically located at 9°1'48 latitude, 38° 44'24'E longitudes, elevation of 2355 meters above the sea level with a total area of 52700 hectares (9527 km²).

According to WTO (World tourism organization) and Ethiopian ministry of culture and tourism 2015 hotel accreditation program report, currently the country had 153 star hotels. Among star rated hotels, about 83 of them (53%) found in the capital city of the country, Addis Ababa. The city had 7 five-star hotels, 17 four-star hotels, 28 three-star hotels, 23 two-star hotels and 8 one-star hotels. But this figure may fluctuate based on new star hotels joining the market and rated at different time.

The randomly selected hotels considered in the study constitute; 3 five-star hotels, 9 four-star hotels, 13 three-star hotels, 9 two-star hotels and 4 one-star hotels which comprises more than 10,000 housekeeping workers. Majority of them were public area cleansing and room-made. Sampled hotels were selected randomly based on the proportion of hotels within each star category and numbers of workers in housekeeping department. The three major reasons to select the Addis Ababa star rated hotels housekeeping workers were, Ethiopian government is highly relying on hospitality industry especially for generating hard currency and creating job opportunities. Star rated hotels were the pioneers in doing so. However, while the attention of housekeepers and hotel managers were on giving services for customers and generating more revenue, working conditions and health of workers were given little attention. The second was, housekeeping department constitutes more than a quarter work force in hotels. The third reason was, housekeeping were the back bone of hotel services, because the major income of hotels were sales from room and customer satisfaction which was mainly based on services of housekeepers. Any consequences of poor OSH practice would directly or indirectly affect health of worker, hotels productivity and national interest.

Almost all sample hotels, uses the structure of general working cycle with three levels of management hierarchy.([70](#)) Top-level managers was CEOs and audit managers, middle level managers was about 7-10 in number based on the structure of human

resource arrangement, types of specific activities performed and star grade. The major departments were food and beverage, marketing and promotion, human resource, engineering and technical departments, human resource and training team, receptions and front office, housekeeping and information technology. The number of employees varies within departments and across hotels. More than a quarter of employees are working in housekeeping departments, mainly comprising cleansing and room-made.

4.2 Study design and periods

Organization based cross-sectional study was conducted from September 03/2016-June 08/2017.

4.3 Source population

All of the housekeeper's working in 38 randomly selected star hotels in Addis Ababa.

4.4 Study population

All cleansing workers and room attendants randomly selected from sampled hotels in Addis Ababa and required information's were collected from these populations.

4.5 Eligibility criteria

4.5.1 Inclusion criteria

Housekeeping service providers in Addis Ababa's star hotels, who were present during data collection period and willing to be enrolled in the study. Workers having at least six months and more work experience were subject of the study, because main focus of the study were getting OSH practice information from workers having some idea about their work, working environment and not strange to describe about their activities, occupational health and safety practices while on work.

4.5.2 Exclusion criteria

Hotel housekeepers among the selected star hotels in Addis Ababa, who were ill and unable to communicate during the time of data collection, were excluded.

4.6 Study variables

4.6.1 Dependent variables

Occupational health and safety practices of participants

4.6.2 Independent variables

Factors associated with OSH practices were categorized into three major groups and considered as independent variables. Socio demographic variables such as age, sex, marital status, educational status, income, service years and work status (case team) and hotels star grade. Knowledge and awareness's about occupational health and safety, and self-rated general health conditions were considered as independent variables. Other organizational, task related, potential OSH and other factors were

assessed by using observational checklists and review of records were also considered as independent variables.

4.7 Sample size determinations

The study had two objectives. In the first round , sample size were computed for both objectives separately, and the largest sample size was taken from the objective that yields the maximum sample size. .

4.7.1 Sample size for the first specific objective

Single population proportion formula were used by considering assumptions of; 95% C.I (confidence interval), 5% margin of error and 50% magnitudes of health and safety practice in the absence of appropriate literature and comparison with previously done similar published articles in Ethiopia were considered. But almost all of them were conducted in different contexts in terms of study population; i.e. safety training (56%),among Adwa town textile workers or good OHS practice among barbers in Gondar town (15%),([46](#), [79](#), [81](#)) were considered as described below.

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

n= Initial sample size

$Z \alpha/2$ = Confidence level at 95% = 1.96, using level of significance of $\alpha=0.05$.

P= Magnitudes of health and safety practices.

d = Assumed margin of error to be tolerated = 5 %

g= Assumed design effect for cluster samples = 2

Assumptions	In the dearth of literature (possible maximum sample size)	literature 1(79)	literature 2(81)	Remarks
z	1.96	1.96	1.96	
g	2	2	2	
p	50%	56.00%	15.00%	
d	5%	5%	5%	
n _{total}	768	757	392	

Table 4-1:- Sample size calculation for the first specific objective

Therefore, the final sample size were $n = \frac{(Z \alpha/2)^2 p (1-p)}{d^2} = 768$

By adding 10% contingency for non-response rate; the required total sample size were **872**, from participants in Addis Ababa star rated hotel housekeepers especially those working in cleansing and room made case-teams.

4.8 Sampling procedure

The study used stratified random sampling random sampling method and each star hotel in Addis Ababa had equal and independent chances of being included in the study. The main reason to use this method was, enumerating all star hotels and visiting them was very difficult because of scarcity of financial coast, human resources, technical capacity, the time required to visit all and their scatter distributions all over the city.

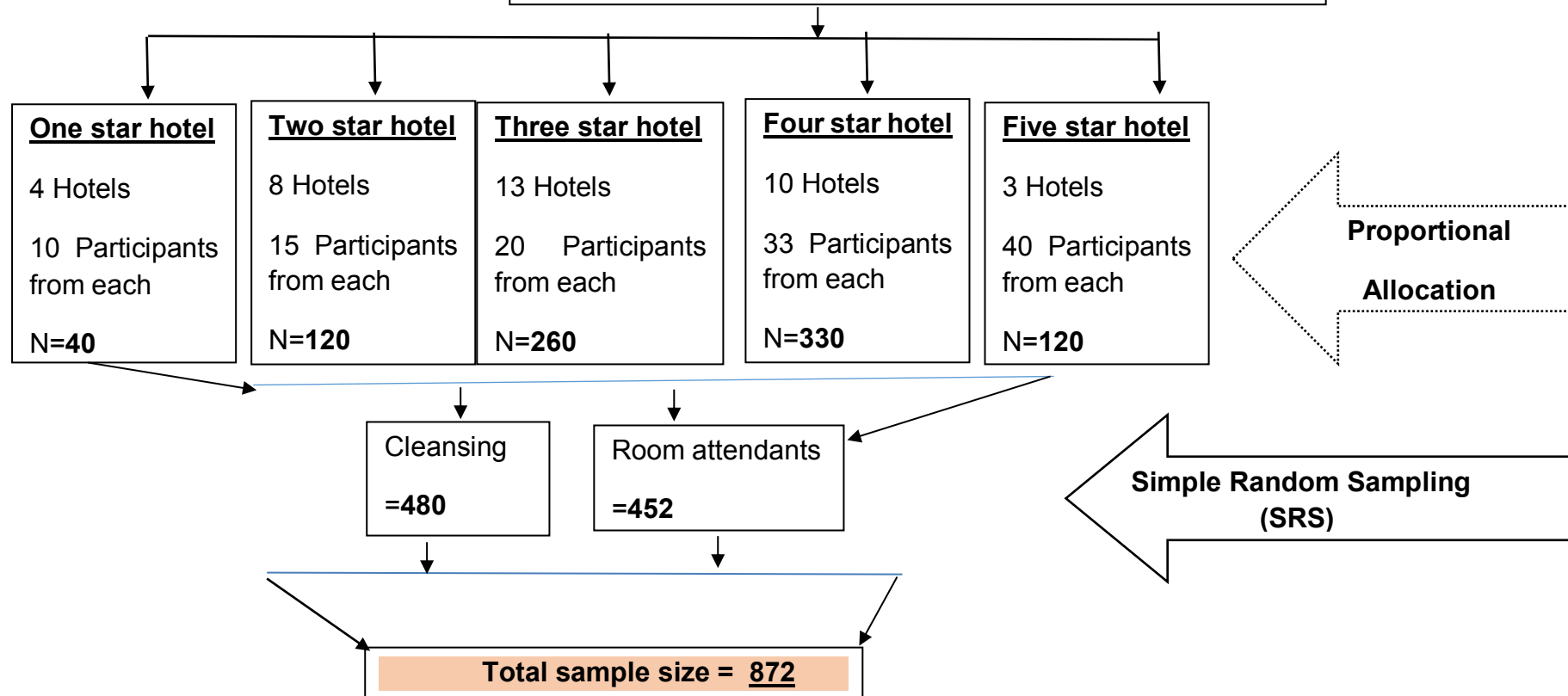
The study first selected five clusters of hotels, based on their star grades assuming that each stratum contain roughly the same hotels in terms of star levels and characteristics of occupational health and safety practices among housekeeping workers of each hotel. Meaning, the OHS practices of cleansing and room attendants in similar clusters could like the others in the same cluster, or less like those of housekeeping workers in other clusters of hotels. After enumerating all hotels within the five clusters, the random selection process were used to select 38 star hotels out of 83, or more than 45.78 % of the total in Addis Ababa or comprises about 24.83 % of the total star hotels in the country according to world tourism organization (WTO) and Ethiopian Ministry of Culture and Tourism 2015 hotel accreditation report. After identifying samples of 38 star hotels to be visited based on the proportion or number of hotels within each clusters, the study classified housekeeping workers into cleansing and room attendants based on their working departments. The assumption for doing this was the difference in specific activity's performed, possible exposure to work-related hazards and their status of occupational health and safety practices.

Based on the aforementioned departments, the desired eligible samples out of the general housekeeping workers in Addis Ababa, approximated to more than 10,000 workers were allocated proportionally to both cleansing and room attendant case teams. The assumption was that levels of worker's health and safety practices would vary based on the nature of the working departments, within departments in the same hotel and within different hotels among the selected. Finally, among the sampled hotels, participants were categorized into room attendants 452 (51.48%) and 480 (48.17%) cleansing workers. Simple random sampling technique were applied by generating random numbers using Microsoft excel 2010 to select the study participants from the worker's attendance, record, payment sheet or similar documents in each hotel, as shown in the following schematic presentation. (Figure 4.1)

Figure 4-1:- Schematic presentation of sampling procedures and techniques, Addis Ababa star rated hotels, March 2017 (n=872)

45% of Addis Ababa star rated hotels were randomly selected.

Each of the randomly selected hotel were stratified according to their working case teams and occupational characteristics of participants. Among housekeeping departments (Cleansing and room-made) were selected randomly and proportionally based on the number of workers in each star hotels and case-teams respectively as shown below.



4.9 Data collection procedures

The study used pretested and structured questionnaires. Data collection tool used in the study was the modified version of questionnaire developed by USA/ OSHA in 2015 to assess workplace occupational health and safety performances by using both leading and lagging indicators. This tool was tested by Alberta's government (Canada) by measuring different indicators of workplace OSH practices. Various relevant literatures related to the objectives of the study were considered for developing the data collection tool and the required modification were made based on the intension to measure OSH practices.([67](#), [72](#))

Questionnaires was first prepared in English, and then translated to Amharic for data collection and back to English for analysis by another person to ensure its consistency. Observational checklists and review of records for information triangulation and measuring other associated factors were also used . As proofed on pretests and during data collection the tool was found advantageous in many ways; respondents found it easier to complete because of simpler questions included and result comparisons were also straighter forward by computing composite indexes and categorizing the end results into two parts.

To measure OSH practices at individual level, participants were asked behavior related questions such as using PPE, participating on OSH issues, medical checkups, using other organizational safety appliances, following safe work procedure, reporting incidents and being free from violent behaviors, smoking, chewing chat and etc.

The survey instrument was pretested by interviewing (5% of 872) housekeeping workers represented ten hotels having one up to five star grades. Based on the pretest, minor edits were made, rearranged formats of few questions to make easier to understand and the final version of the data collection tool were translated by another person who were not participated on both the preparation of the questions and pretest. Finally the data collection tools were prepared in Amharic language for data collection.

During data collection interviewers had considered and asked about their regular working situations, unlike what subjects answered at a time of data collection in order to minimize under estimations. The interview was managed by face-to-face in Amharic language using trained data collectors. Before starting data collections and during pre-test comments were invited on the data collection tools from colleagues, advisors, medical professionals providing clinical service to hotel workers and others. In the course of the study academia having experience of occupational health, environmental health, medicine and other public health professionals were consulted.

4.10 Observational checklist

The characteristics of job or task related and organization factors associated with OSH practices were assessed by using observational checklists, mainly to identify the major factors (group level variables) having influence on OSH practices. The observational checklists and review of records were expected to measure group level variables described on previous conceptual framework, especially those factors influencing worker's behavior, potential resources to practice health and safety effectively, the external environment influencing safety practices and organizational commitments to link health and safety practice with productivity as a primary focus. Both the observational and record review checklists were adopted from ILO (work place OSH management guidelines and indicators)

4.11 Operational definitions

Co-worker safety: - To what co-workers are perceived to practice safe work behavior, whether he/she implements safety rules, act on safety suggestions cares taken for coworkers. ([29](#), [46](#), [74](#), [88](#))

Health and safety management:- Refers to the extent to which individuals and groups will commit to personal responsibilities for safety, act to preserve, enhance and communicate safety concerns, strive to actively learn, adopt and modify (both individual and organizational) behavior, based on lessons learned from mistakes, and be rewarded in a manner consistent with these values. ([16](#), [63](#), [66](#), [80](#))

Occupational health and safety practices: - Refers to the behavior of hotel housekeepers in hotels to act safely and includes any activity enabling the prevention and control of any adverse work related hazards. Health and safety practice at organizational level includes the presence and effective implementations of OSH policy, strategies, procedures, and individual activities. This could be measured by calculating the composite scores; by adding all the questions categorized under five Likert scales and dividing by the total numbers of questions considered. Variables considered in the composite score of OSH practices were PPE use, periodic and regular medical check-ups, emergency preparedness, and response, participation, incident reporting, personalities and complying with safety procedures. Those scores greater than an average of 50 % were considered as good occupational health and safety practices and those with composite index of less than 50% were considered as ineffective or poor occupational health and safety practice in this particular study. ([4](#), [19](#), [63](#), [67](#), [82](#))

Hospitality industry: - Hotels, Motels, loges and etc., or such businesses that provides transitional or short term logging with or without food. ([42](#), [91-94](#))

Star rated hotels in Addis Ababa:- One of the hospitality businesses found in Addis Ababa and based on WTO (World tourism organization) and Ethiopian ministry of culture and tourism 2015 hotel accreditation, institutions rated as one to five star

grades and characterized by providing high quality services and relatively higher service charges.([53](#), [90](#))

Housekeeping:-Housekeeping was one of the major departments in accommodation facilities in terms of the number of workers engaged in it and which is in charge of housekeeping exclusively in hotels and characterized as the busiest and most important core departments mainly comprising cleaners and room attendants.([34](#), [38](#), [39](#), [86](#), [95](#), [96](#))

Job safety:-Refers, the extent of employees to perceive that their job is safe in the accomplishment of tasks performed. This indicates the job is perceived to be dangerous, risky, scary etc.([97](#), [98](#))

Management safety:-Refers to, the extent to which the management of hotels perceives health and safety to develop safety culture at work. It could be possibly described as rewarding safe behaviors, provisions of safe working environments and others.([99-101](#))

Material safety datasheet (MSDT):- It is very useful piece of information posted on enclosing or covers of different materials that gives a summary of health and hazards about the material housekeepers use during conducting their statutory duties and also contains the associated recommended safe working practices.([6](#), [31](#), [102](#))

Room attendants:-Are workers in hospitality industry whose work was exclusively cleansing and preparing rooms for hotel customers or guests. This job were characterized by increased repetitive physical loads, low income, low skill utilization and virtually no prospects for trainings and career advancements.([47](#))

Satisfaction with safety programs:-This could be defined as, the extent of safety programs is conducted and perceived to satisfactory. It is described as whether the safety programs are perceived to be clear, worth or important.([1](#), [30](#), [75](#), [103](#))

SPA: - Defined as an entity devoted to enhancing overall well-being through a variety of professional services that encourage renewal of the mind, body, and spirit. The word spa itself denotes “fountain”. Some experts also suggest that the word “spa” originated from the name of the Belgian town named Spa where a curative natural spring was discovered in the 14th century.([104](#))

Supervisor safety:-The extent of supervisor’s perceptions to demonstrate safety related behavior’s in working environments. This could possibly described as enforcement of safety rules, acting on safety suggestions and workplace audits.([97](#), [105](#), [106](#))

Workers participation: - Is the commitment of the worker to actively participate on decisions affecting his/her health and safety and includes discussion with consultation

with unions, other nominated employee representatives, managers and co-workers.([21](#), [71](#), [107](#))

Hotel cleansing workers: - Employees in hospitality industry who were responsible for the organizations of a complete housing unit (both outside/ public areas, bath rooms and the general compound), besides hotels corridors ([34](#), [52](#), [108](#)).

4.12 Data management plan

Data were stored in a proper area and kept confidentially. During the data collection period, collected data were checked for completeness and consistency by the supervisor and investigator through a close follow up. Data was edited and checked manually by hand for checking completeness both during collection and entering into data entry templates. Responses of respondents described on the completed questionnaires were checked for omission, legibility, and consistency reading. Before starting data entry, unique codes were given to each questionnaire. Relatively a good proportion of time were allocated for data cleansing before running analysis to minimize bias and chance of wrongly concluding findings because of several artifacts.

Data were entered into Epi info version 7.2.0.1, data entry template and exported to STATA 14 software for further cleansing, and running the analysis. Missing values and outliers were checked by frequency tabulations. Since double data entry was difficult because of time constraints, the randomly selected 5% of the data set were double entered to check the accuracy and similarities based on the questionnaires identification numbers.

This were done by using codes that we previously used during coding, for each questionnaire and frequency, tabulations for easily identifying the one with error and comparing with the row data according to its code. Any decision or changes used on the data set was clearly documented for further explanations of unexpected errors that may happen at the end of the day. None of the data were dropped from analysis. In addition, check for item and unit-missing values, outliers for accuracy, causes of outliers were considered and determined.

4.13 Data analysis procedure

Data were analyzed by using STATA 14 software. Odds ratio with 95% confidence interval were used to measure the association of dependent variables such as socio demographic, knowledge, self-rated general health condition and others versus occupational safety practice. All of the analyses were stratified by working departments. Cross-tabulations, bivariate logistic regression analysis, diagnosis for multicollinearity were carried out to examine the independent influences of socio demography, knowledge of OSH, self-rated general health of cleansing and room attendants to determine magnitudes of the OSH practices within different groups who responded “yes” or “no” to the questions. Descriptive statistical analysis methods such as frequency, percentages, proportions with 95% C.I, mean and standard

deviation were used. Findings were presented on frequency tables, graphs and discussed. Binary logistic regression analysis were used to explore relations between occupational health and safety practices, and different independent variables using adjusted odds ratio with 95 % C.I. For continuous variables such as age, monthly income and work experience the median, standard deviation (+/-SD) and proportions of variables were calculated and binary logistic regression analysis were performed for identifying associated factors.

Based on the chi square results, cross tabulations, diagnosis for multicollinearity problems and bivariate logistic regression analysis, the study first identified variables having statistically significant associations. The hierarchical multivariate binary logistic regression analyses were done to identify variables having significant associations in the final model.

Based on odds ratio with 95%C.I and 0.05 p-values, significant variables were fitted into successive models and checked for significant associations with the dependent variable. Finally, variable with significant association were identified from the final model for both cleansing and room attendants. To determine relative effect of factors associated with OSH practices, stepwise multivariate logistic regressions model were carried out, and represented using adjusted OR with 95% C.I.

4.14 Data quality assurance

To mention the quality, raw data were coded. Pre-testing of the questionnaire was undertaken two weeks prior to data collection. Before the data collection, two days training was given for data collectors and supervisors concerning the objective, questionnaire, methodology, ethical issues of the study. During the data collection period, collected data were checked for completeness and consistency by the supervisors and principal investigator through close follow-ups. Missed values during the first visit were filled by re interviewing the study participants. Collected data were re-checked for completeness and consistency by supervisors and principal investigators before entering it into prepared template. Missing values and outliers were checked using frequency tabulations, residual plotting and managed accordingly.

4.15 Ethical review report

Moreover the study was conducted after getting permissions from the institutional review board of school of public health, Addis Ababa University. Then formal letter for cooperation was obtained from FDRE, Ministry of Culture and Tourism (MoCT). After getting permissions from each of the 38 hotels, informed verbal consent was obtained from each study participants after all the necessary explanations about the purposes, benefits, risks of the study and the rights on decisions of participating in the study. Those housekeeping workers who refused to participate in the study were not forced. Each respondent were informed about the objectives of the study and the study findings would be used to design and implement preventions of work-related health problems arising from poor OSH practices by providing possible control strategies.

Anonymity, autonomy and confidentiality were secured by giving professional advices on data collection trainings for both supervisors and data collectors. Confidentiality was granted for information collected by keeping safe pace. Privacy of respondent kept. Individuals name or working organizations were coded or not mentioned during analysis of each respondent affirmative response.

4.16 Dissemination of results

The result of the study will be presented to the community of school of public health, Addis Ababa University and disseminated to the school library and the respective hotels. Moreover, it will be disseminated to respective hotels, ministry of culture and tourism (MoCT), Ministry of labor and social affairs (MoLSA) and to any concerned body. Finally, further efforts will be made to publish the findings on the national and international reputable journals.

5 RESULTS

5.1 Socio-demographic characteristics

Out of randomly selected 872 housekeeping workers; all of the eligible housekeeping workers completed the survey questionnaire with non-response rate of 0.00%. The analysis of occupational health and safety practices (OSH) of the study participants based on the computed composite score of seven different indicators of OSH practices revealed that 499 (57.22%) had good OSH practice and 373 (42.78%) experienced poor OSH practice. The composite index had seven questions with Likert scale responses (strongly agree, agree, neutral, disagree and strongly disagree) was developed by simple summation in order to have maximum variability (7-35 scores) and multiplied by hundred to get percentages. To measure individual's status of OSH practices, participants were asked behavior related questions such as; using PPE, participating on OSH issues, medical checkups, using other organizational safety appliances, following safe work procedure, reporting incidents and being free from violent behaviors like smoking, chewing chat and etc. Each of those questions was checked whether presented or not at work place and affirmative responses were summed to create a single indicator measuring OSH practices. Participants reported 50% and above were considered as having good OSH practices and those less than an average of 50% were considered as having poor OSH practices. (Table 5.1)

Table 5-1:- Variables used in the composite score of OSH practice, housekeeping workers in Addis Ababa, Star rated hotels, March 2017 (n=872)

S.No	Characteristics		Cleansing (n=480)		Room attendants (n=452)	
			Number	(%)	Number	(%)
1	Use PPE in proper way	Strongly Agree	211	50.24	182	40.27
		Agree	38	9.05	43	9.51
		Neutral	9	2.14	7	1.55
		Disagree	90	21.43	109	24.12
		Strongly disagree	72	17.14	111	24.56
2	Participate on various OSH issues	Strongly Agree	175	41.67	140	30.97
		Agree	50	11.90	60	13.27
		Neutral	12	2.86	20	4.42
		Disagree	70	16.67	79	17.48
		Strongly disagree	113	26.90	153	33.85
3	Pre-employment and periodic medical examinations.	Strongly Agree	148	35.24	131	28.98
		Agree	58	13.81	52	11.50
		Neutral	36	8.57	35	7.74
		Disagree	66	15.71	77	17.04
		Strongly disagree	112	26.67	157	34.73
4	Operate safety appliances, tools or equipment's in the hotel	Strongly Agree	164	39.05	156	34.51
		Agree	60	14.29	50	11.06
		Neutral	29	6.90	26	5.75
		Disagree	64	15.24	82	18.14
		Strongly disagree	103	24.52	138	30.53
5	Follow safe work procedures or precautions.	Strongly Agree	227	54.05	197	43.58
		Agree	25	5.95	33	7.30
		Neutral	4	0.95	14	3.10
		Disagree	77	18.33	70	15.49
		Strongly disagree	87	20.71	138	30.53
6	Report incident and emergency to immediate supervisors	Strongly Agree	244	53.33	211	46.68
		Agree	30	7.14	26	5.75
		Neutral	4	0.95	4	0.88
		Disagree	55	13.10	60	13.27
		Strongly disagree	107	25.48	151	33.41
7	Free from impairments related to drug abusers like alcohol, cigarette smoking, khat chewing any violent behaviors	Strongly Agree	249	59.29	223	49.34
		Agree	10	2.38	12	2.65
		Neutral	-	-	5	1.11
		Disagree	41	9.76	44	9.73
		Strongly disagree	120	28.57	168	37.17

The analysis of occupational health and safety characteristics of housekeeping workers participated in the study, according to their working case team or departments showed that cleansing 480 (48.17%) and room attendants 452 (51.83%) had more or less similar proportions. Out of the total surveyed 872 housekeepers, the majority was females 641 (73.51%) and 231 (26.49%) was males.(Table 5.2)

The median age (50th percentile) of subjects were 26 years, with a minimum of 18 and maximum of 65 (± 6.54 S.D) years. The largest age group 405 (46.44%) was 26-35 years and the second was 358 (41.06%) ranges from 18 to 25 years. More than 87.5% of housekeeping workers in Addis Ababa, star rated hotels participated in the study were youngsters or categorized into less than 36 years old. In terms of marital status, the never married group 487 (55.85%) was larger than the married group 362 (41.51%) and the divorced or widowed 23 (2.63%) group.(Table 5.2)

The dominant religion of subjects were orthodox, 659 (75.57%) and the next largest was protestant, 145 (16.63%) followed by 66 (7.57%) Muslims. The largest ethnic group among the study subjects were Amhara, 431 (49.43%) and the second largest 255 (29.24%) was Oromo.(Table 5.2)

Regarding the educational status, more than half of the subjects 500 (57.34%) received college certificate and above, followed by secondary levels or 9-12th grades numbered to 274 (31.42%) participants. Only 98 (11.24%) subjects had educational status of primary level and below. (Table 5.2)

The median (50th percentile) of total work experience among participants, as a housekeeping worker in hotel was 3 years, with a maximum of 19 and minimum of 1 (± 4.05 S.D) years. Three forth of the subjects 649 (74.43%) had work experience of one up to five years.(Table 5.2)

Almost all housekeeping workers participated in the study, 859 (98.51%) was employed as permanent workers and only 13 (1.49%) was temporary or contract employees.(Table 5.2)

The median (50th percentile) of monthly income for the study participants were 2000 birr, with a minimum of 700 and maximum of 9000 (± 1280.46 S.D) birr. Subjects earning monthly income ranging from 700 to 2000 birr accounts for 451 (51.72%) or more than half, followed by 341 (40.25%) the group with monthly income of 2001-4000 birr.

The study used stratification sampling method and further analysis results were done as described on the following table based on the housekeepers working departments.

Table 5-2:- Socio demographic characteristics of participants by working department, Addis Ababa, star rated hotels, March 2017 (872)

S.No	Characteristics		Cleansing (n=480)		Room attendants (n=452)	
			Number	(%)	Number	(%)
1	Sex	Male	169	40.24	61	13.72
		Female	251	59.76	390	86.28
2	Age of participants (year)	18-25	197	46.90	161	35.62
		26-35	178	42.38	227	50.22
		>36	45	10.71	64	14.16
3	Marital status	Never married	243	57.86	244	53.98
		Married	171	40.71	191	42.26
		Divorced	6	1.43	17	3.76
4	Religion	Orthodox	329	78.33	332	73.45
		Protestant	70	16.67	75	16.59
		Muslim	21	5.00	45	9.96
5	Ethnicity	Amhara	226	53.81	205	45.35
		Oromo	115	27.38	140	30.97
		Tigre	30	7.14	58	12.83
		Gurage	35	8.33	36	7.96
		Others	14	3.33	13	2.88
6	Educational status	Primary or No formal education	57	13.57	41	0.07
		Secondary	130	30.95	144	31.86
		College and above	233	55.48	267	59.07
7	Employment condition	Permanent	414	98.57	445	98.45
		Temporary	6	1.43	7	1.55
8	Monthly income (birr)	700-2000	225	53.57	226	50.00
		2001-4000	167	39.76	184	40.71
		>4001	28	6.67	42	9.29
9	Work experience (year)	1-5	330	78.57	319	70.58
		6-10	63	15.00	109	24.12
		>11	27	6.43	24	5.31
10	Hotels star grade and number of participant	One Star	29	6.90	32	7.08
		Two Star	64	15.24	70	15.49
		Three Star	121	28.81	134	29.65
		Four Star	141	33.57	159	35.18
		Five Star	65	15.48	57	12.61

5.2 Knowledge on occupational health and safety informations

Based on the knowledge questions prepared to assess the general awareness's and information's of participants regarding occupational health and safety practices; the stratified analysis by working department revealed the following results.

Out of the total 872 housekeeping workers participated in the study, 234 (55.71%) of cleansing and 219 (48.45%) of room attendants answered that they knew about their rights and obligations related to their profession.(Table 5.3)

Among the study participants 199 (47.38%) of cleansing and 181 (40.04%) of room attendants had knowledge about Material Safety Data Sheets (MSDS). About 165 (39.29%) of cleansing and 171 (37.83%) room attendants knew how to prevent accidents and report it to their immediate supervisors, whenever injuries or emergencies happened to them, their co-workers or property of the organization. (Table 5.3)

The analysis of occupational health and safety knowledge's by working departments revealed that 205 (48.81%) of cleansing and 192 (42.48%) of room attendants reported that they had knowledge of occupational health and other basic safety information's. workplace occupational health and safety training, those who doesn't have workplace OSH training accounted for 168 for room attendants comprising 37.17% and that of cleansing workers numbered at 197, or 46.90%.

Out of the total housekeeping, cleansing workers who knew how to use personal protective equipment's and other safety appliances came to 230, making up 54.76% and 277, or 50.22% for room attendants. 205 (48.81%) of cleansing workers and 192 (42.48%) of room attendants said that they knew about safety signs. (Table 5.3)

Respondents answered that 125 (29.76%) of cleansing and 130 (28.76%) of room attendants participated on the training of occupational safety and other health related issues conducted by health professional after starting their current job.(Table 5.3)

Table 5-3:- Occupational health and safety knowledge's of participants by working department star rated hotels in Addis Ababa, March 2017 (872)

S.No	Characteristics		Cleansing (n=480)		Room attendants (n=452)	
			Number	(%)	Number	(%)
1	Knowledge's of workers right	Yes	234	55.71	219	48.45
		No	186	44.29	233	51.55
2	Knowledge's of Material Safety Datasheet (MSDS)	Yes	199	47.38	181	40.04
		No	221	52.62	271	59.96
3	Knowledge's of accident prevention	Yes	165	39.29	171	37.83
		No	255	60.71	281	62.17
4	Knowledge's of occupational health and safety information's	Yes	205	48.81	192	42.48
		No	215	51.19	260	57.57
5	Safety and health training	Yes	231	55.00	227	50.22
		No	189	45.00	225	49.78
6	Knowledge's of PPE and other safety appliances	Yes	230	54.76	227	50.22
		No	190	45.24	225	49.78
7	Knowledge's of Safety signs	Yes	205	48.81	192	42.48
		No	215	51.19	260	57.52

5.3 Self rated general health conditions of housekeeping workers by working departments

Based on the prepared questions and analysis to assess the general self-rated health conditions of the study participants versus OSH practices by working department the following results were found out. About 205 (48.81%) of cleansing and 238 (52.65%) of room attendants answered that, the pain or discomfort which they experienced in their working environment was made worse by their current work. The number of housekeeping workers who had reported about pain or discomfort which they experience at different time in their working environment was caused after they joined their current job 157 (37.38%) for cleansing workers and that of room attendants numbered at 209, or comprising 46.24 %.(Table 5.4)

Among all of the housekeeping workers who participated in the study, 168 cleansing workers, or 40.00% and 212 room attendants, or 46.90% answered that, they report pain or discomfort which they experienced at work places to their immediate supervisors or managers. Of the workers who visited the physicians for their sense of pain or discomfort that they experienced at their work place, 41.43% or 174 were cleansing workers, while 46.90% of them, or 212, were room attendants.(Table 5.4)

The number of housekeeping workers who had reported about their experiences of taking rest or using sick-lives because of the work related pains and discomforts felt at their work place came to 182 for cleansing workers making up 43.33%, and 234, making up 51.77% for room attendants.(Table 5.4)

Table 5-4:- Self rated general health conditions of participants by working department, Addis Ababa, Ethiopia, star rated hotels, March 2017 (n=872)

S.No	Characteristics		Cleansing (n=480)		Room attendants (n=452)	
			Number	(%)	Number	(%)
1	Pain or discomfort made worse by current work	Yes	205	48.81	238	52.65
		No	215	51.19	214	47.35
2	Pain and discomfort caused after joining the current job	Yes	157	37.38	209	46.24
		No	263	62.62	243	53.76
3	Reported felt pain or discomfort at workplace to supervisor	Yes	168	40.00	212	46.90
		No	252	60.00	240	53.10
4	Visited physicians for pain and discomfort felt in work place.	Yes	174	41.43	212	46.90
		No	246	58.57	240	53.10
5	Called in sick or used sec lives because of work-related pain and discomfort	Yes	182	43.33	234	51.77
		No	238	53.67	218	48.23

5.4 Findings of onsite observations and review of documents

During onsite observations, data collectors and supervisors walked through the workplaces assessed working environment, processes of service delivery and work practices. In addition different document reviews were done including availability of OSH personnel, institutional OSH strategy and policy documents, emergency preparedness plans and safety instructions, safety rules and procedures, workplace safety audits, inspections, and the registered documents, availability of safety commute, safety records and others.

Trainings and organized meetings to discuss on different OSH issues were carefully analyzed in order to complement and verify the data collected by self-administered questionnaire. The analysis result revealed that out of the randomly selected 38 star rated hotels in Addis Ababa; only three of them (7.89%) had occupational health and safety personnel and four hotels (10.53%) had organizational OSH policy document. However the other 35 hotels had safety and security departments and OSH services were given little considerations or much attention was given to security issues. Out of the total only four hotels (10.53%) had programs to award best performances including good safety practices for their workers and had system of sharing best OSH practices

among workers. Regarding supervisor safety follow-ups, only six hotels (15.79%) had checklists that supervisors used and reported to enhance the uses of PPE, safety instructions, safe working procedures and other important OSH issues in working environment.

The establishment and functionality of safety commutes were also very low. Only four hotels (10.53%) had functional safety commute and five hotels had (13.15%) had documents of emergency preparedness plan and report systems. However, only three hotels (7.89%) had documents of workplace safety audits used to inspect and monitor different safety and health appliances, health conditions of their workers and the likes. About 32 hotels (84.21%) had documents describing the meetings organized to discuss about different issues including OSH cases in the past six months among managers and workers.

Concerning OSH services including the first aid; majority of the hotels 36 (94.74%) had first aid kits in their working environment. In contrast to this the availability of trained personnel's to provide the first aid service was very low, only two hotels (5.26%) had trained medical personnel who gives such services. About thirty two (84.21%) hotels were posted different safety signs and posters at work place that delivers different occupational health and safety information, such as emergency exits, do not smoke and many more.

Regarding government support, 32 hotels (84.21%) reported that different mandated government institutions were visited their working environment and also had documents describing the feedbacks given to them at different times. Among the main government organizations inspecting and supervising their work environment; Ministry of Culture and Tourism (MoCT), Ministry of Health (MoH), Ministry of Labor and Social Affairs (MoLSA) were the common ones. Almost all hotels 35 (92.11%) had security cameras and x-ray machines on their gates mainly for the sake of security issues. Almost all hotels or 36 (94.74%) had fire extinguishers and about 34 (89.47%) hotels had changed the chemicals in the fire extinguisher before six month or prior to expire date.

5.5 Bivariate analysis

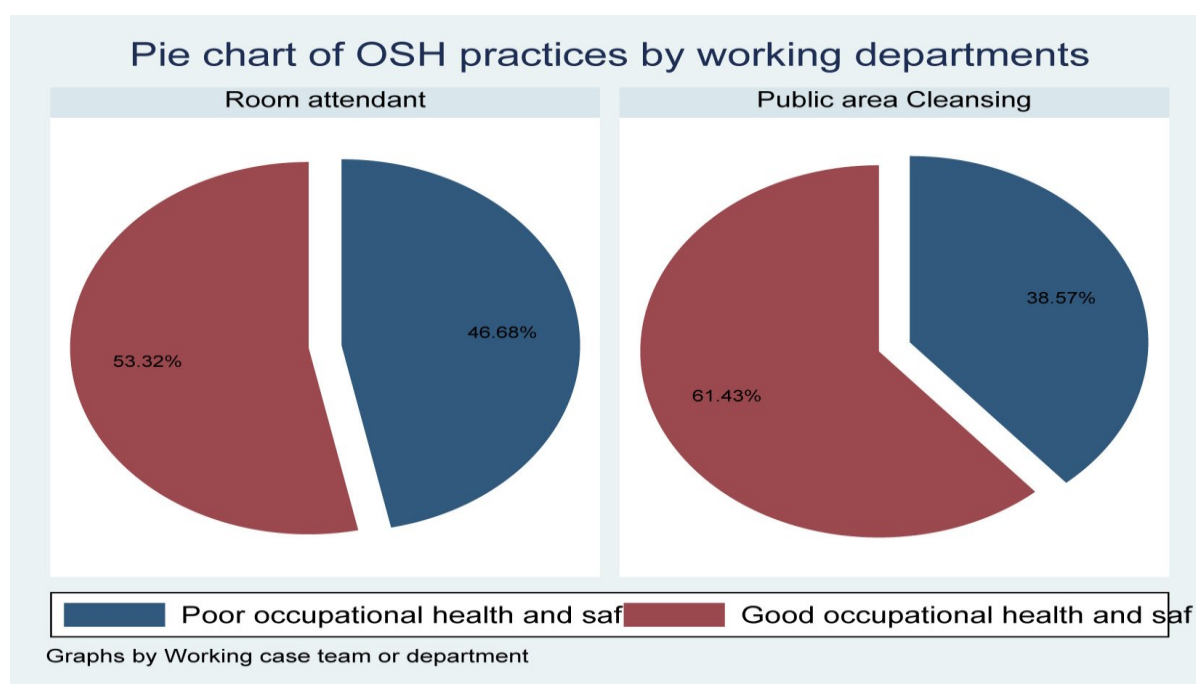
In order to examine factors associated with or influencing occupational health and safety practices (OSH) among the study subjects; the composite scores of OSH practice were used as a dependent variable and analysis was carried out based on the working departments. The bivariate analysis was used to identify independent variables having significant association with dependent variables to be used in the successive hierarchical multivariate analysis. This is based on significant associations and correlations of the dependent variables with OSH practices in the cross tabulations, chi square tests with P value < 0.2 and collinearity diagnostics among independent variables at variance inflation factor (VIF) of less than five. Upon confirmation of no multicollinearity, based on VIF values and significance with p values

further analysis progresses from bivariate to multivariate logistic regression to investigate the relative effect of each independent variable on the outcome of interest

5.5.1 Socio demographic characteristics of participants and occupational health and safety practices by working department

In the bivariate analysis, general socio demographic factors of housekeeping workers were analyzed in relation to their occupational health and safety practices by working department. An examination of this relationship showed that sex, educational status, monthly income (birr), and hotels star grade had significantly associated with participants OSH practices. However, variables like age group (year), marital status, religion, Ethnicity, employment conditions, work experience (year) doesn't showed significant associations with OSH practices of participants.

Figure 5-1:- Pie charts of participants OSH practice by working department, Star rated hotels in Addis Ababa, Ethiopia, March 2017 (n=872)



Among the housekeeping workers participated in the study, composite occupational health and safety practices score revealed that 373 (42.78) had poor occupational health and safety practices, while 499 (57.22) had good practices. (Figure 5.1)

Of the workers with good OSH practices, 241, or 53.32% were room attendants and 61.43%, or 258 were cleansing workers and 162 (70.13%) of subjects were male and 337 (52.57%) were females. (Table 5.5, Figure 5.1)

Among the study participants experiencing good OSH practices, 147 (53.65%) had educational status of secondary level and 322 (64.40%) had educational status of

college and above. The odds of good OSH practices rose significantly among cleansing workers in educational level of college and above (COR=4.56, 95% C.I: 2.45, 8.51) and secondary level (9th-12th) with (COR=3.70, 95% C.I: 1.91, 7.18) and, for room attendants with educational status of college and above (COR=3.85, 95% C.I: 1.88, 7.88). The odds of good OSH practice among cleansing workers with educational level of secondary (9th-12th) was (COR=3.70, 95% C.I: 1.91, 7.18) were more than three and half times higher and for college and above (COR=4.56, 95% C.I: 2.45, 8.51) more than four and half times higher, than cleansing workers with educational status of primary (grade 1-8th) or below. The odds of good OSH practice among room attendants in educational level of college and above (COR=3.85, 95% C.I: 1.88, 7.88) were about four times higher than room attendants with educational status of primary (grade 1-8th) or below.(Table 5.5)

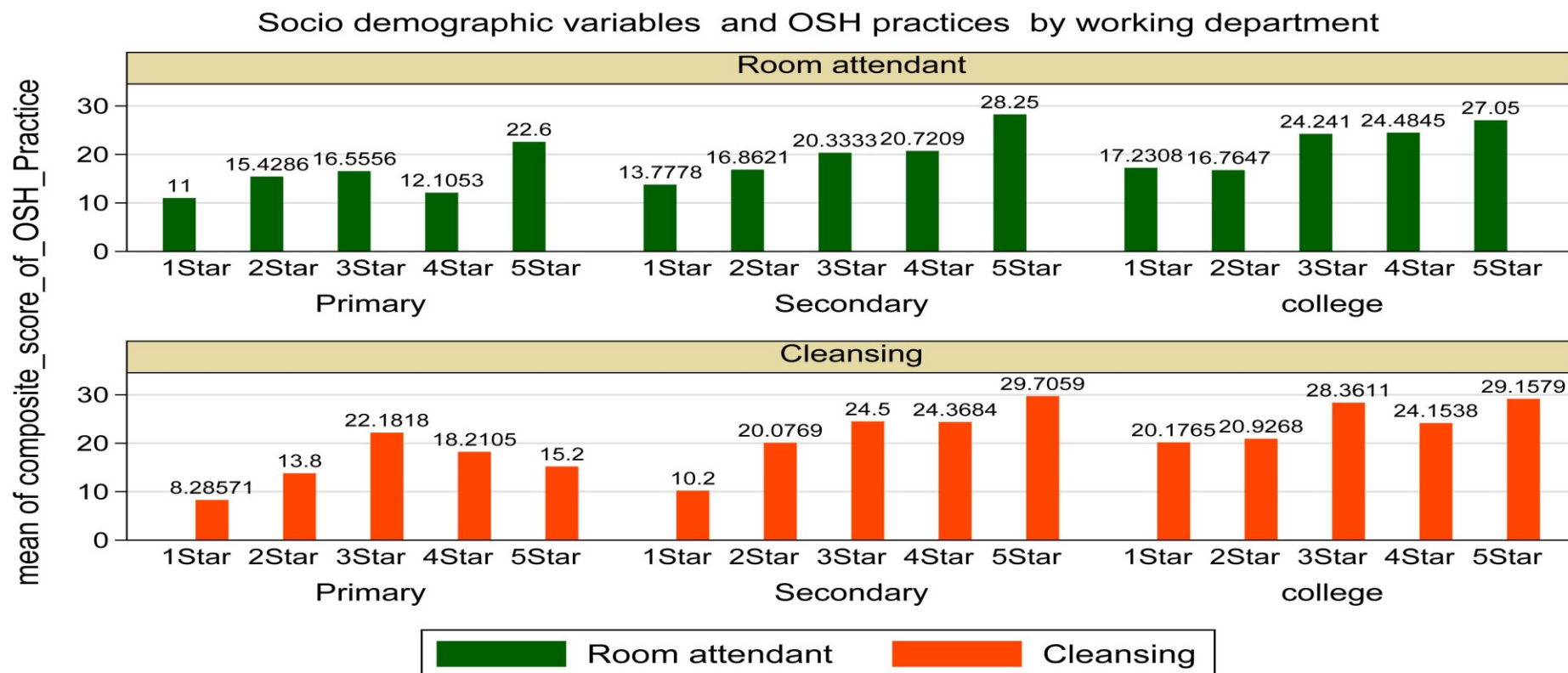
Female room attendants had 34% odds of good OSH practice (COR=0.66, 95% C.I: 0.02, 0.17) as compared to male room attendants. The odds of good OSH practice among room attendants with monthly income of 4001 birr and above (COR=3.05, 95% C.I: 1.42, 6.42) was more than three times higher than room attendants earning monthly income of 700up to 2000 birr per month. The odds of good OSH practice among cleansing workers with monthly income of 2001-4000 birr was (COR=1.63, C.I: 1.07, 2.47) more than one and half times higher than cleansing workers with income of 700-2000 birr per month.(Table 5.5)

Table 5-5:-Socio demographic characteristics of participants and OSH practices by working department, star rated hotels in Addis Ababa, Ethiopia, March 2017 (n=872)

Hint:-p Significant at:* P≤0.05, ** P≤0.01, *** P≤0.001; COR =Crude odds ratio AOR=Adjusted odds ratio and; OSH=Occupational health and safety practice

Characteristics			Cleansing (n=480)		COR, 95% C.I	Room attendants (n=452)		COR, 95% C.I
			Good OSH practices	Poor OSH practices		Good OSH practices	Poor OSH practices	
			N (%)	N (%)		N (%)	N (%)	
1	Sex	Male	104 (40.13)	65 (38.46)	1	58 (93.55)	4 (6.45)	
		Female	154 (61.35)	97 (38.65)	0.99 [0.66,1.48]	183 (46.92)	207 (53.08)	0.66 [0.02, 0.17]***
2	Age of participants (year)	18-25	123 (62.44)	74 (37.56)	1	81 (50.31)	80 (49.69)	1
		26-35	106 (59.55)	72 (40.45)	0.89 [0.58,1.34]	120 (52.86)	107 (47.14)	1.11 [0.74,1.66]
		>36	29 (64.44)	16 (35.56)	1.09 [0.56, 2.14]	40 (62.50)	24 (37.50)	1.65 [0.91, 2.98]
3	Marital status	Never married	141 (58.02)	102 (41.98)	0.69 [0.12, 3.85]	131 (53.69)	113 (46.31)	1.66 [0.61, 4.49]
		Married	113 (66.08)	58 (33.92)	0.97 [0.17, 5.41]	103 (53.93)	88 (46.07)	1.64 [0.61, 4.58]
		Divorced	4 (66.67)	2 (33.33)	1	7 (41.18)	10 (58.82)	1
4	Religion	Orthodox	196 (59.57)	133 (40.43)	0.91 [0.37, 2.25]	168 (50.60)	164 (49.40)	0.75 [0.40, 1.40]
		Protestant	49 (70.00)	21 (30.00)	1.44 [0.52, 3.98]	47 (62.67)	28 (37.33)	1.23 [0.58, 2.61]
		Muslim	13 (61.90)	8 (38.10)	1	26 (57.78)	19 (42.22)	1
5	Ethnicity	Amhara	139 (61.50)	87 (38.50)	1.20 [0.40, 3.57]	97 (47.32)	108 (52.68)	0.56 [0.18, 1.77]
		Oromo	72 (62.61)	43 (37.39)	1.26 [0.41, 3.86]	84 (60.00)	56 (40.00)	0.94 [0.29, 3.01]
		Tigre	18 (60.00)	12 (40.00)	1.13 [0.31, 4.07]	32 (55.17)	26 (44.83)	0.77 [0.22, 2.64]
		Gurage	21 (60.00)	14 (40.00)	1.13 [0.32, 3.95]	20 (55.56)	16 (44.44)	0.78 [0.21,2.86]
		Others	8 (57.14)	6 (42.86)	1	8 (61.54)	5 (38.48)	1
6	Educational status	Primary	18 (31.58)	39 (68.42)	1	12 (29.17)	29 (70.73)	1
		Secondary	82 (63.08)	48 (36.92)	3.70 [1.91, 7.18]***	65 (45.14)	79 (54.86)	1.99 [0.94, 4.20]
		College	158 (67.81)	75 (32.19)	4.56 [2.45, 8.51]***	164 (61.42)	103 (38.58)	3.85 [1.88, 7.88]***
7	Employment condition	Permanent	256 (61.84)	158 (38.16)	3.24 [0.59, 17.90]	237 (53.26)	208 (46.74)	0.85 [0.19, 3.86]
		Temporary	2 (33.33)	4 (66.67)	1	4 (57.14)	3 (42.86)	1
8	Monthly income (birr)	700-2000	125 (48.45)	100 (44.44)	1	116 (51.33)	110 (48.67)	1
		2001-4000	112 (43.41)	55 (32.93)	1.63 [1.07, 2.47]*	93 (50.54)	91 (49.46)	0.97 [0.66, 1.43]
		>4001	21 (8.14)	7 (25.00)	2.40 [0.98, 5.87]	32 (76.19)	10 (23.81)	3.05 [1.42, 0.47]
9	Work experience (year)	1-5	134 (58.79)	136 (41.21)	1	162 (50.78)	157 (49.22)	1
		6-10	43 (68.25)	20 (31.75)	1.51 [0.85, 2.68]	64 (58.72)	45 (41.28)	1.38 [0.89, 2.14]
		>11	21 (77.78)	6 (22.22)	2.45 [0.96, 6.24]	15 (62.50)	9 (37.50)	1.62 [0.69, 3.80]
10	Hotels star grade and number of participant	One Star	7 (24.14)	22 (75.86)	1	7 (21.88)	25 (78.13)	1
		Two Star	29 (45.31)	35 (54.69)	2.60 [0.97, 6.96]*	24 (34.29)	46 (65.7)	1.86 [0.70, 4.93]**
		Three Star	91 (75.21)	30 (24.79)	9.53 [3.70, 24.54]***	80 (59.70)	54 (40.40)	5.29 [2.14, 13.10]***
		Four Star	83 (58.87)	58 (41.13)	4.50 [1.80, 11.22]***	86 (54.09)	73 (45.91)	4.21 [1.72, 10.29]***
		Five star	48 (73.85)	17 (26.15)	8.87 [3.22, 24.48]***	44 (77.19)	13 (22.81)	12.09 [4.27,34.26]***

The following figure describes the associations of significant socio demographic variables with occupational health and safety practices of housekeeping workers participated in the study.



Graphs of socio demographics and OSH practices of participants by department March, 2017 Addis Ababa, Ethiopia

Figure 5-2: -Socio demographic factors significantly associated with OSH practices, Star rated hotels in Addis Ababa, Ethiopia, March 2017 (n=87)

The odds of good OSH practices among different hierarchies of hotels stars, also varies significantly for both room attendants and cleansing workers. The odds of experiencing good OSH among cleansing workers in three star hotels (COR=9.53, 95% C.I: 3.70, 24.54) was more than nine and half times higher and for room attendants in three star hotels (COR=5.29, 95% C.I: 2.14, 13.10) was more than five times higher than cleansing and room attendants in one star hotels respectively. The odds of good OSH practices among five star hotels cleansing workers (COR=8.87, 95% C.I: 3.22, 24.48) was more than eight times higher and more than twelve times higher for room attendants (COR=12.09, 95% C.I: 4.27, 34.26) than cleansing and room attendants in one star hotels respectively. The odds of good OSH practice among four star hotels cleansing workers (COR=4.50, 95% C.I: 1.80, 11.22) and room attendants (COR= 4.21, 95% C.I: 1.73, 10.29) than cleansing and room attendants in one star hotels respectively.(Table 5.5)

5.5.2 Characteristics of OSH practice and knowledge of housekeeping workers by working department

The analysis were done for knowledge's of occupational health and safety information's of the housekeeping workers in relation to their occupational health and safety practices by working departments. Based on the prepared knowledge related questions for both cleansing and room attendants, the independent significant effect of each of the following variables on OSH practices of housekeeping workers were analyzed by bivariate logistic analysis. The analysis result showed that; knowledge of workers right and responsibilities, Knowledge of Material Safety Datasheets (MSDS), sources of OSH information(academic education training or mass media), knowledge of using PPE and other safety appliances, knowledge's of safety signs were variables which showed significant associations with occupational health and safety practices of housekeeping workers in the bivariate logistic regression analysis.

Unlike different literatures written on similar issues, safety and health training, doesn't showed significant association with participants OSH practices in the current study.

The odds of good OSH practice among cleansing workers (COR=6.14, 95% C.I: 3.98, 9.46) and room attendants (COR=6.04, 95% C.I: 4.01, 9.10), who had knowledge of their rights and obligations regarding workplace health and safety was more than six times higher than other housekeeping workers who doesn't knew about it.(Table 5.6)

Cleansing workers who knew about Material Safety Data Sheets (MSDS) (COR=4.66, 95% C.I: 3.02, 7.20) had more than four times higher odds of OSH practice and room attendants with the same knowledge (COR=3.8, 95% C.I: 2.55, 5.76) had more than three times odds of good OSH practices than other housekeeping workers who doesn't knew about MSDS.(Table 5.6)

Room attendants who knew about how to prevent workplace accidents and emergencies (COR=3.39, 95% C.I: 2.26, 5.09) and cleansing workers with the same

information (COR=3.34, 95% C.I: 2.25, 5.45) had more than three times higher odds of experiencing good OSH practices than other housekeeping workers who doesn't knew about it.(Table 5.6)

cleansing workers who knew about occupational health and had safety information (COR=3.34, 95% C.I: 2.22, 5.04) and room attendants who knew about it (COR=3.22, 95% C.I: 2.19, 4.73) had more than three times higher odds of good OSH practice than other cleansing and room attendants who doesn't knew about occupational health and not have safety information.(Table 5.6)

Three fourth of cleansing 159 (79.30%) and room attendants 132 (77.19%) reported that they got health and safety training at work place. Cleansing workers who reported their participation on workplace occupational health and safety trainings (COR=5.33, 95% C.I: 3.46, 8.22) had more than five times higher odds of good OSH practice than cleansing workers who doesn't have health and safety training. Room attendants, participated on workplace OSH trainings (COR=4.98, 95% C.I: 3.21, 7.73) had more than four times higher odds of good OSH practices than room attendants who doesn't have workplace OSH trainings.(Table 5.6)

Cleansing workers who knew about how to use PPE and other safety appliances in hotels (COR=7.76, 95% C.I: 4.91, 11.98) had more than seven times higher odds of good OSH practices than other cleansing workers who doesn't have the same information. Also room attendants who knew how to use PPE and other safety appliances in hotels (COR=5.34, 95% C.I: 3.47, 8.21) had more than five times higher odds of good OSH practices than other room attendants who doesn't have the same information.(Table 5.6)

Regarding safety signs, room attendants who knew about it (COR=4.24, 95% C.I: 2.83, 6.35) and cleansing workers who knew about safety signs (COR=3.53, 95% C.I: 2.32, 5.36) had more than three times higher odds practicing good OSH than other housekeeping workers who doesn't knew about safety signs.(Table 5.6)

Table 5-6:- Relationships between OSH knowledge's of participants and practice, Star rated hotels in Addis Ababa, Ethiopia, March 2017 (872)

Characteristics			Cleansing (n=480)		COR, 95% C.I	Room attendants (n=452)		COR, 95% C.I
			Good OSH practices	Poor OSH practices		Good OSH practices	Poor OSH practices	
			N (%)	N (%)		N (%)	N (%)	
1	Knowledge's of workers right	Yes	186 (79.49)	48 (20.51)	6.14 [3.98, 9.46]***	164 (74.89)	55 (25.11)	6.04 [4.01, 9.10]***
		No	72 (38.71)	114 (61.29)	1	77 (33.05)	156 (66.95)	1
2	Knowledge's of Material Safety Datasheet (MSDS)	Yes	158 (79.40)	41 (20.60)	4.66 [3.02, 7.20]***	131 (72.38)	50 (27.62)	3.83 [2.55, 5.76]***
		No	100 (45.25)	121(55.75)	1	110 (40.59)	161 (59.41)	1
3	Knowledge's of accident prevention	Yes	129 (78.18)	36 (21.82)	3.50 [2.25, 5.45]***	122 (71.35)	49 (28.65)	3.39 [2.26, 5.09]***
		No	129 (50.59)	126 (49.41)	1	119 (42.35)	162 (57.65)	1
4	Knowledge's of occupational health and safety information's	Yes	156 (76.10)	49 (23.90)	3.34 [2.22, 5.04]***	140 (72.92)	52 (27.08)	3.22 [2.19, 4.73]***
		No	102 (47.44)	113 (52.56)	1	101 (38.85)	159 (61.15)	1
5	Safety and health training	Yes	158 (80.20)	39 (19.20)	4.98 [3.21, 7.73]***	130 (77.38)	38 (22.62)	5.33 [3.46, 8.22]***
		No	100 (44.4)	123 (55.16)	1	111 (39.08)	173(60.92)	1
6	Knowledge's of PPE and other safety appliances	Yes	188 (81.74)	42 (18.26)	7.67 [4.91, 11.98]***	167 (73.57)	60 (26.43)	5.68 [3.79, 8.52]***
		No	70 (36.84)	120 (63.16)	1	74 (32.89)	151 (67.11)	1
7	Knowledge's of Safety signs	Yes	156 (76.10)	49 (23.90)	3.53 [2.32, 5.36]***	140 (72.92)	52 (27.08)	4.24 [2.83, 6.35]***
		No	102 (47.44)	113 (52.56)	1	101 (38.85)	159 (61.15)	1

Hint:-p Significant at: * P≤0.05, ** P≤0.01, *** P≤0.001; COR =Crude odds ratio AOR=Adjusted odds ratio and; OSH=Occupational health and safety practice

5.6 Multivariate logistic regression analysis

The multivariate analysis was done for socio demographic variables; knowledge's of occupational health and safety information and self-rated general health conditions of the study subjects. Binary logistic regression analysis techniques by submit method was used hierarchically to assess the relative effect of socio demographic, knowledge of occupational health and safety information and self-rated general health conditions on the outcome variable which was the composite score of occupational health and safety practices. Variables which had p-value greater than 2.00 in the first binary analysis was omitted in the second multivariate analysis (in the first model) to avoid instability of the results and the models ability to predict the independent effect of each independent variables on the outcome of interest. In the first step, the effect of socio demographic characteristics on the occupational health and safety practice by working department was computed. Then the knowledge of occupational health and safety was seen in the presence of socio demographic variables that showed significant associations with OSH practice in the first model.

Table 5-7:- Summary of hierarchical logistic regression analysis of the relative effect of socio demographic factors on OSH practice, Star rated hotels in Addis Ababa, Ethiopia, March 2017 (n=872)

			Cleansing (n=480)		Room attendants (n=452)	
Variables in the model			P-Value	Model One AOR, 95% C.I	P-Value	Model One AOR, 95% C.I
1	Sex	Male	1	1	1	1
		Female	0.97	0.98 [0.62, 1.56]	0.00	0.06 [0.02, 0.18]***
2	Age of participants (year)	18-25	1	1	1	
		26-35	0.57	0.73 [0.44, 1.22]	0.62	0.93 [0.56, 1.55]
		>36	0.80	0.65 [0.28, 1.53]	0.10	1.14 [0.51, 2.54]
3	Marital status	Never married	0.67	0.33 [0.05, 2.38]	0.32	
		Married	0.98	0.45 [0.06, 3.16]	0.32	
		Divorced	1	1	1	
4	Educational status	Primary	1	1	1	1
		Secondary	0.00	3.21 [1.56, 6.58]***	0.07	2.20 [0.96, 5.02]
		College	0.00	4.15 [2.10, 8.24]***	0.00	3.91 [1.75, 8.70]***
5	Employment condition	Permanent	1		1	
		Temporary	0.18	3.05 [0.47, 19.66]	0.84	
6	Monthly income (birr)	700-2000	1	1	1	1
		2001-4000	0.02	1.48 [0.92, 2.36]	0.87	1.07 [0.66, 2.71]
		>4001	0.06	1.50 [0.54, 4.15]	0.00	1.37 [0.52, 3.62]
7	Work experience (year)	1-5	1	1	1	
		6-10	0.16	1.57 [0.80, 3.08]	0.15	1.46 [0.83, 2.58]
		>11	0.06	2.02 [0.66, 6.17]	0.27	1.86 [0.62, 5.60]
8	Hotels star grade and participants	One Star	1	1	1	1
		Two Star	0.06	2.39 [0.84, 6.76]	0.21	2.18 [0.76, 6.28]
		Three Star	0.00	8.87 [3.24, 24.24]***	0.00	5.56 [2.06, 14.99]***
		Four Star	0.00	4.53 [1.71, 12.02]***	0.00	4.11 [1.53, 11.08]***
		Five star	0.00	9.41 [3.13, 27.96]***	0.00	10.71 [3.41, 33.61]***

Hint:-p Significant at:* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$; AOR=Adjusted odds ratio and; OSH=Occupational health and safety practice

The hierarchical multivariate logistic analysis for cleansing workers, in the first step (Model one) in addition to age and sex other socio demographic variables, such as marital status, educational status, employment condition, monthly income, work experience and hotels star grade were fitted into the model. However, religious and ethnicity were dropped from the model because of insignificant association with OSH practice. Regarding room attendants, in addition to age and sex other socio demographic variables such as educational status, monthly income, work experience and hotels star grade were fitted into the first model. While marital status, religion, ethnicity and employment condition were dropped from the model because of insignificant association with OSH practice as shown in the above table.

Table 5-8:- Summary of socio demographic and knowledge's of participants versus OSH practices, Star rated hotels in Addis Ababa, Ethiopia, March 2017 (n=872)

Variables in the model			Model two			
			Cleansing (n=480)		Room attendants (n=452)	
			Model One AOR, 95% C.I	Model Two AOR, 95 % C.I	Model One COR, 95% C.I	Model Two AOR, 95 % C.I
1	Sex	Male	1		1	
		Female	0.98[0.62,1.56]		0.06[0.02,0.18]*	0.07[0.02,0.23]***
2	Educational status	Primary	1	1	1	1
		Secondary	0.73[0.44,1.22]	5.04 [2.11,12.06]	2.20[0.96,5.02]	1.44[0.58,3.60]
		College	0.65[0.28,1.50]	5.87 [2.58,13.35]	3.91[1.75,8.70]*	2.66[1.13,6.38]**
3	Hotels star grade and number of participant	One Star	1	1	1	1
		Two Star	2.39[0.84,6.76]	1.59[0.46,5.55]	2.18[0.76,6.28]	1.48[0.45,4.88]
		Three Star	8.87[3.24,24.24]***	8.16 [2.28, 29.23]***	5.56[2.06,14.99]*	6.50 [2.16,19.56]***
		Four Star	4.53[1.71,12.02]**	3.90 [1.13,13.40]***	4.11[1.53,11.08]*	3.72 [1.25,11.03]***
		Five star	9.41[3.17,27.96]***	5.27 [1.34,20.80]***	10.71[3.41,33.61]***	7.77 [2.15,28.05]***
1	Knowledge's of workers right	Yes		2.19 [1.11,4.31]*		2.60 [1.28,5.28]*
		No		1		1
2	Knowledge's of Material Safety Datasheet (MSDS)	Yes		1.30 [0.57,3.00]		0.76 [0.35,1.65]
		No		1		1
3	Knowledge's of accident prevention	Yes		0.77 [0.34,1.75]		0.49 [0.22,1.99]
		No		1		1
4	Knowledge's of occupational health and safety information's	Yes		1.56 [0.86,2.72]		1.10 [0.59,2.05]
		No		1		1
5	Safety and health training	Yes		2.24 [1.15,4.37]*		2.43 [1.29,4.58]**
		No		1		1
6	Knowledge's of PPE and other safety appliances	Yes		2.43 [1.17,5.04]*		2.42 [1.29,4.54]*
		No		1		1
7	Knowledge of safety sign	Yes		1.55 [0.81, 2.98]		2.31 [1.27, 4.21]*
		No		1		1

From the final model, multivariate logistic regression analysis of room attendants OSH practices and associated factors revealed that, among socio demographic factors such as; sex or being female (AOR=0.07, 95% C.I: 0.02, 0.23), educational status of college and above (AOR=2.69, 95% C.I: 1.13, 6.38) and hotels star grade of being working in three star hotel (AOR=6.50, 95% C.I: 2.16, 19.56), working in five star hotels (AOR=7.77, 95 % C.I: 2.15, 28.05) and being working in four star hotels (AOR=3.72, 95% C.I: 1.25, 11.03) showed significant associations. Among knowledge variables fitted into the model on the second step, knowledge of workers right and obligations (AOR=2.60, 95% C.I: 1.28, 5.28), work place OSH training (AOR=2.43, 95% C.I: 1.29, 4.58), knowledge of using PPE and other safety appliances in the hotel (AOR=2.42, 95% C.I: 1.29, 4.54) and knowledge of safety sign (AOR=2.31, 95% C.I:1.27, 4.21) showed significant associations with room attendants OSH practices. The final multivariate logistic regression analysis of cleansing workers OSH practices versus other associated factors revealed that, from socio demographic variables only educational status; secondary (AOR=5.04, 95% C.I: 2.11, 12.06) and for college and above (AOR=5.87, 95% C.I: 2.58, 13.35) and hotels star grades; three star hotels (AOR=8.21, 95% C.I: 2.28, 29.23), five star hotels (AOR=5.27, 95%C.I: 1.34, 20.80) and four star hotels (AOR=3.90, 95% C.I:1.13, 13.40) showed significant associations with their OSH practice. Among cleansing workers, knowledge of workers right and obligations regarding workplace OSH practices (AOR=2.60, 95%C.I: 1.28, 5.28), workplace health and safety training (AOR=2.43, 95%C.I: 1.29, 4.58), knowledge of using PPE and other safety appliance (AOR=2.42, 95%C.I: 1.29, 4.54) and knowledge of safety signs (AOR=2.31, 95%C.I: 1.27, 4.21) showed significant associations. (Table 5.8)

Evaluation of the final model showed very high statistical significant predictions ($p=0.00$) of cleansing and room attendants OSH practices. The final model done a great job in predicting housekeeping workers OSH practice status rather than just by chance. About 29.30 % of variability in OSH practices of cleansing workers were explained by the variables in the final model (Adjusted $R^2 = 0.293$), however more than 70 % of the variance in housekeeping workers OSH practices were explained by other factors. The variance of OSH practices among room attendants were explained 33.6% (Adjusted $R^2 = 0.336$) by the variables in the above model, even though 66% of the variability was explained by other factors not explained in the final model. Knowledge's of using PPE and other safety appliances in the hotel (21.4%: P-value = 0.00), educational status of participants and (18.6%: P-value = 0.00) hotels star grade (11%: P-value = 0.00) had statistically unique contributions in predicting cleansing workers OSH practice. Regarding room attendants, sex (20%: P-value = 0.00), educational status (16%: P-value = 0.00), work place OSH trainings (11.5%: P-value = 0.02), knowledge's of using PPE and other safety appliances (11.6%: P-value = 0.00), hotels star grade (11.6%: P-value = 0.00), Knowledge's of workers right (14.6%: P-value = 0.00) and knowledge's of safety sign (10.1%: P-value = 0.00) had statistically significant unique contributions in predicting their OSH practices. (Table 5.8)

6 DISCUSSIONS

The study examined factors such as knowledge and general health conditions of housekeeping workers versus occupational health and safety practices. In the courses of various bivariate and multivariate logistic regressions the study tries to explore factors that contributes to poor or good health and safety practices among the star rated hotels housekeeping workers in Addis Ababa, based on their occupational characteristics and working departments. The main research question in the study was to examine factors having significant associations with participants occupational health and safety practices such as of knowledge and general health conditions.

The study also addressed important and wider ranges of OSH issues among randomly selected hotels and participants. The main areas of occupational health and safety practices, such as workers behavior, knowledge, general health condition, working environment and task related factors were addressed through face to face interviews, onsite observational checklists and review of organizational documents.

The study tried to explore the behavior of housekeeping workers towards using safety appliances, participating on periodic and regular medical checkups, active participations on OSH issues, knowledge and practices of using PPE and other safety appliances in their work place, following safe work procedure, incident and accident reporting and impairments related to drug abusers such as chewing chat and smoking cigarettes. In the courses of this process, a tool considered or used as a practical tool for measuring occupational health and safety performance (practice) at individual level was developed and perhaps could be used by scholars, hotel managers, OSH professionals and any other body concerned about the issue. All of those factors were computed into one composite score to measure the general occupational health and safety practices of the study participant. Significant differences were not observed for factors such as age, marital status, religion, ethnicity, employment status monthly income and work experiences.

Variables such as educational status, hotels star grade, knowledge of workers right and responsibilities, occupational health and safety training, knowledge of using PPE and other safety appliances and knowledge's of safety sign was found to be a common factors to increase practices of occupational health and safety for both cleansing and room attendants.

Hotel housekeepers differed substantially from industrial workers in the report and rankings they ascribed to different OSH knowledge's, practices and general health conditions.

The study showed, out of the total (872) study subjects 373 (42.78%) had poor occupational health and safety practices and 499 (57.22%) had good occupational health and safety practices, which was considerably higher as compared to the study conducted among the textile workers of Adwa town Ethiopia, where 54% of the study subjects were found to have good OSH practices.[\(79\)](#) Also the findings of this study

was much higher than the result reported by the study done among barbers in Gondar town, north west Ethiopia, which reported 61 of them, comprising 15.8% had good OSH practices.(81)The difference might be due to the nature of the hospitality industry where the job of housekeeper was considered as a back bone for the business and customer satisfactions. Hospitality industry were experiencing a wave of restructuring, new practices to cut unnecessary costs and constantly upgrading services because of highly competitive business environment. Managers or hotels owners give emphasis not to lose their star grades and safety of their properties.(39, 42, 109) Among the total study participants, 480 (48.17%) were cleansing and 452 (51.83%) were room attendants. Among cleansing workers, numbered to 241 (53.33%) and among room attendants 258 (61.43%) had good occupational health and safety practices. However the results of the study were based on affirmative responses of participants and if direct measurements for different workplace exposures were applied by using standard tools and scientific measuring instruments to some variables like general health conditions, this result may become far lower or higher.(Table 7)

The study showed that sex of room attendants had significant association with OSH practice (AOR = 0.07, 95 % C.I: 0.02, 0.23) as also observed from other studies done in Ethiopia.(79)

One of the main findings of the study was, participants OSH practice within different hierarchies of hotels star levels showed statistically significant difference. For instance the final multivariate analysis result described, three star hotel cleansing workers had higher odds of good OSH practice (AOR = 8.16, 95 % C.I: 2.28, 29.23) as compared to cleansing workers in one star hotels. Also cleansing workers in five star hotel had more than five times higher odds of good OSH practices (AOR = 5.27, 95 % C.I: 1.34, 20.80) than those in one star hotels. Cleansing workers working in four star hotels had more than three times higher odds of good OSH practice (AOR = 3.90, 95 % C.I: 1.13, 13.40) as compared to one star hotels. Room attendants in five star hotels had higher odds of good OSH practice (AOR = 7.77, 95 % C.I: 2.15, 28.05) and those working in three star hotels (AOR = 6.50, 95 % C.I: 2.16, 19.56) compared to room attendants in one star hotels. Again the odds of good OSH practice among room attendants in four star hotels (AOR = 3.75, 95 % C.I: 1.25, 11.03) was more than three and half times higher than room attendants in one star hotels.

The difference might be due to variation in managerial strategies within different hierarchies of hotels star level, various OSH facilities and the setups of working environment. As the hotels star level increases, educational qualifications and work experiences of employee being hired was expected to be higher profile and wages are also directly related with this.(39)

The study showed educational levels of housekeeping workers were significantly associated with their OSH practice. Cleansing in the educational level of 12th complete and above (AOR = 5.04, 95 % C.I: 2.11, 12.06) had more than five times higher odds of good OSH practice than cleansing with primary or below educational status.

Cleansing workers and room attendants in the educational level of college and above (AOR = 5.87, 95 % C.I: 2.58, 13.35) and (AOR = 2.69, 95 % C.I: 1.13, 20.80) respectively compared to one star hotels. The result was consistent with other occupational health and safety studies conducted in different working setups Ethiopia. Most of the studies revealed that increased educational level has been associated with increased OSH practice and almost all of them suggested that , workers who had higher schooling were found to have good knowledge and practices of occupational safety related to their job. ([69](#), [76](#), [79](#), [81](#)) This is due to the fact that education was more likely to increase workers awareness, knowledge and OSH practices.

In this study, work place health and safety training had significant association with housekeeping workers OSH practice, cleansing (AOR = 2.24, 95 % C.I: 1.15, 4.37) and room attendants (AOR = 2.43, 95 % C.I: 1.29, 4.58) who had trainings on occupational health and safety, had more than two times higher odds of good OSH practices than those who doesn't have trainings respectively. Literature indicates that there is strong relationship training on health and safety with the levels of knowledge and practices of respondents. ([73](#), [110](#), [111](#)) This was due to the fact that health and safety trainings could both motivate workers to be safer and instruct them to have good OSH practice.

The multivariate analysis result showed that participants knowledge of their right and obligations regarding workplace health and safety was significantly associated with OSH practices. Cleansing workers who knew their right and responsibilities (AOR = 2.19, 95 % C.I: 1.11, 4.13) and room attendants (AOR = 2.60, 95 % C.I: 1.28, 5.28) had more than two times higher odds of good OSH practice than those who doesn't know about it respectively. The result was consistent with other studies previously done similar issues in Ethiopia. ([43](#), [69](#), [79](#))

Room attendants who knew about safety signs had more than two times higher odds of good OSH practice (AOR = 2.31, 95 % C.I: 1.27, 4.21) than room attendants who doesn't know about it. This might be due to the presence of different health and safety signs posted at their workplace, as confirmed by observational checklist. (page 30-31)

Knowledge's of using PPE and other safety appliances in workplace had significant associations among both cleansing (AOR = 2.43, 95 % C.I: 1.17, 5.04) and for room attendants (AOR = 2.31, 95 % C.I: 1.27, 4.21), which was more than two times higher odds good OSH practice compared to other cleansing and room attendants who doesn't know how to use respectively.

The study reported that almost all (98.51%) of the housekeeping workers in Addis Ababa was hired as a full time employees which was much higher than that of the study done among five star hotels in Seoul, Korea which reported housekeeping workers dispatched by outsourcing companies accounted as much as 36.5%. ([40](#))

Perhaps the difference might be due to lower wages for housekeeping workers in Ethiopia. The study showed that the median monthly income of housekeeping workers were 2000, with a minimum of 700 and maximum of 9000 (± 1280.46 S.D) birr, which was very lower compared to other similar studies in America, Canada and South Korea.([34](#), [39](#), [40](#), [112](#)) Therefore rather than outsourcing, paying for agencies or paying housekeepers based on working hours basis, managers prefer hiring housekeepers as a full time employee.

Different literatures reported that work-related pain and discomfort were significant and prevalent problems for hotel housekeeping workers, and had negative correlation with occupational health and safety practices.([47](#)) To measure the magnitudes of work-related pain and discomfort, the study assessed participants by asking, "Have you had any pain or discomfort at different times in the past 12 months that you felt might have been caused or made worse by your current work as cleansing worker or room attendant?" This question reflected the medical-legal criteria used by physicians to determine whether pain or discomfort is work related. I.e. whether it was caused by work and whether it occurred during the course of conducting work duties or whether these work duties aggravated the pain or discomforts that the aggravation resulted in disability or need for medical care. In addition to these participants were asked whether their pain or discomfort began during their current job, whether they visited physicians for this pain (which could be considered as proxy measure for severity), whether they reported this pain to management or immediate supervisors, and whether they had used sick leaves or vocational days for their work related pain or discomfort.

Out of the total 872 housekeeping workers participated in this study 366 (41.97%) were reported; they felt pain or discomforts at different times that happened to them after joining their current job. The findings of multivariate logistic regression analysis by working department showed that pain or discomfort experienced by room attendants at different times were significantly associated with occupational health and safety practices. The odds of having good OSH practices among room attendants not experiencing pain or discomfort after starting their current job was more than two times higher (AOR = 2.14, 95% C.I = 1.10, 4.15) than those who felt pain and discomfort. Furthermore out of the total room attendants, numbered at 452 about 209 (46.24%) peoples reported that, they felt pain or discomfort at different times that happened to them after joining their current job, which was lower than the findings of the study done in USA, San Francisco and lass Vegas. For instance the study done among Lass Vegas star rated hotels housekeeping workers reported that, more than three quarters of room attendants reported work-related pain or discomfort which was severe enough to visit physicians (62%of all cases) and to take time off from work in order to recover. Another similar study conducted among 900 hotel room cleaners in lass Vegas, reported, 95% of the workers experienced work related physical pain and 83% reported felling constant discomfort at their workplace.([112](#))(Table 9)

The difference in magnitude of work-related pain and discomforts might be due to differences in socio demographic characteristics of the study populations, socio economic discrepancies. The other possible reason for the lower reporting of the magnitudes of work-related pain or discomforts among housekeeping workers in Addis Ababa might be due to lack of data for peoples not responded to the prepared questions. Peoples who were not working during survey days were less available, especially if they are on sick or disability leaves. This could mean that the health status of housekeeping workers appears to be better among the study subjects than in the entire cleansing and room attendants. Meaning no data were available regarding peoples who did not responded to the questions at all, making it impossible to compare the general health conditions of participants and non-participants.

The high prevalence of work related pains and discomforts among housekeeping workers might be due to the nature of hotels work environment that exposes housekeeping workers for various physical, psychosocial stresses, chemical, biological and toxic substances which could potentially leads to acute health problems like felling pain and discomfort at work places. Unless such working environments were changer to suit workers health or the managers gives emphasis to the occupational health and safety of their workers, such problems may develop into chronic health problems like respiratory, dermatological, infectious disease or other multi-access of health hazards.([97](#), [113](#))

Nevertheless, while Ethiopian hospitality industry workers was identified as an under researched and underserved occupation group facing unequal distributions of health outcomes compare to other blue collar occupations in the country. They had received very little research attention.

7 STRENGTHS AND LIMITATIONS

The study has a number of strengths and limitations which enable the ability to generalize the final findings.

7.1 Strengthes of the study

- The study was considered 38 star rated hotels housekeeping workers out of 83, or more than 45.78 % of the total in Addis Ababa and 24.83 % of the total star rated hotels in the country by using stratification sampling and candidates were selected by lottery methods.
- Safety signs and symbols were used during data collection for cross checking the knowledge of respondent. Triangulation methods (observational checklist, record review and questionnaire) were used for collecting the data.
- The study reported 0.00% of non-response rate, which was higher and attributed to the greater commitment to work, the higher levels of communication, the less disjointed working arrangements and an appreciation of the potential value of the study to the enhancement of occupational health and safety practices among star rated hotels in Addis Ababa.

7.2 Limitations of the study of the

- The study was a kind of cross sectional survey that its results were based on self-reported, which may be a potential for substantial sources of bias or inaccuracies including social desirability bias (providing answers that positively reflect on the respondents in their occupations as OSH officer)
- The prepared data collection tool was the modified version of USA, OSHA leading and lagging indicators used for measuring work place OSH performances, perhaps this tool may not be the best fit for our country, because of the differences in socio demographic characteristics of the population for which it was framed.
- The cut of point (50.00%) used for classifying housekeeping workers into good and poor OSH practices were not the international standard. However the study considered it based on logical reasoning and similar studies done among different occupational groups.
- The other limitation of the study was its inability to assess the non-star rated hotels and compare the findings between the two, and inability to assess the financial information's and willingness of hotels to invest on OSH.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions of the study

- ➡ The extent of poor OSH practices among housekeeping workers in Addis Ababa, star rated hotels was currently at a level that needs public health interventions. Therefore work place OSH trainings, pre-employment and periodic medical checkups, provisions of adequate PPE and orientations on proper use, linking OSH practices with productivity in hospitality industry was few of the common factors to increase knowledge and practices of OSH among housekeeping workers.
- ➡ Significant differences in self rated general health status among both cleansing and room attendants were found for several health measurements. Therefore, further studies will be needed to determine, to what extent these differences in working departments, physical workloads, psychosocial factors and other workrelated health problems are caused by differences in working departments, specific activities performed.
- ➡ Working environment, job or task related and management commitments among star rated hotels in Addis Ababa were at worsening condition. For instance, only few hotels had OSH policy, OSH personnel to give OSH services, functional safety committee, regular and continuous work safety audits and so much more.
- ➡ The short falls of hotels star grading concerning OSH practices and their performances demonstrated ineffective in the accountability mechanisms in the accreditation process. Hotel star rating could offer incentives, for improving OSH performances; for instance, hotels that show an overall higher performance of OSH on star rating standards will receive higher market shares or income based on their star grades.
- ➡ The study focused on housekeeping workers OSH practices regarding socio demographic, knowledge, health conditions and other factors related to working environment, which demonstrated statistically significant associations.
- ➡ Both cleansing and room attendants reported different experiences of OSH practices. This could indicate work department based divisions of labor produces different factors associated with housekeeping workers OSH practices.

8.2 Recommendations of the study

- To assess general health conditions of housekeeping workers, interviewing and analyzing their affirmative responses was not enough, it needs further medical checkups. Therefore workers who reported experiencing sense of pain or discomfort should be referred to health institutions for further medical diagnosis by their respective hotels as soon as possible
- From the findings of the study it was worth noting that a good proportion of star rated hotels workers in Addis Ababa reported inadequate OSH practices (42.78%); as shown from participants response and analysis results. To address these short falls, Ethiopian ministry of culture and tourism (MoCT) could emphasize the importance of abiding by OSH codes, making even partial compliances, such as the completion of the 2/3rd of OSH criteria would be mandatory to receive star grades for hotels on annual license renewal. Additional incentive may include funding to proactive OSH policy in star rated hotels by MoCT.
- Increased attention to high risk occupations in hospitality industry such as housekeeping requires; advanced risk assessments, exposure measurements and analysis for certain specific hazards, spread uses of OSH manuals and technical standards set on the national occupational health and safety guidelines developed by MoLSA, increased support for OSH trainings in higher academic education trainings were few of the possible and recommended interventions for improving occupational health and safety practices.
- Further research should be conducted to explore the differences of occupational health and safety practices, health conditions and psychosocial risk factors influencing health and well-being of workers in different wings of hospitality industry, comparisons of OSH practices among star rated hotels and the non-rated hotels both in Ethiopia and other parts of the world. Analytical epidemiologic studies with strong follow ups were also recommended.
- Qualitative study approach that would involve interviewing the workers and asking them more detailed questions, which could then be examined for selected themes.
- Improving the hospitality industry OSH practices was an imperative for both the workers and customers. Yet, lacking an incentive or enforcement mechanism, hotels were unlikely to invest on these programs. Improving OSH compliances through the star rating process and continuous supervision programs were very critical and if adopted, will substantiate the Ethiopian government and Ministry

of Culture and Tourism commitment to hospitality industry workers in general, not only the housekeeping workers.

- ➡ Since 2015, Ethiopian Ministry of Culture and Tourism was exhaustively engaged in hotel star rating program by cooperatively working with international agencies like world tourism organization. The effort was to make the rating system accepted by international community; by revamping threaten system including codes and standards, making this a fertile ground and an opportune moment to act on OSH. The health and safety conditions of hospitality industry workers in Ethiopian could be improved by explicitly recognizing the potential significance of the responsibilities like owners the company and managers for maintaining clean and safe work place that promotes health of workers.
- ➡ High OSH standards were not marketing highlights for hospitality industry. Withought a market incentive to improve health and safety standards for hotel housekeeping workers, there is little reason for administrators of the institutions to invest on OSH programs. Regulatory agencies, mainly ministry of culture and tourism (MoCT), Ministry of Health (MoH), ministry of labor, social affairs (MoLSA) and other concerned bodies are higly encouraged to work on fair job arrangements, safe and health work places for hospitality industry workers.
- ➡ Furthermore, MoCT could seek to strengthen inter-governmental agency cooperation by collaborating with Ethiopian Ministry of labor and social affairs (MoLSA) to link hotels star rating OSH standards to the general labor legislative frameworks. Hotel star rating standards could have to touch criteria's like, provisions of workers compensation, insurance and affordable health care coverage's to their workers as well as specific OSH obligations to hospitality industry workers which could build upon national and international labor conventions and regulations.
- ➡ Generally with an incentive system for OSH compliance and by linking OSH standards with the national general labor law and other legal frameworks , the OSH component of the star rating process in hospitality industry and others would become more meaningful means for improving workplaces safety and occupational health of workforce in Ethiopia's hospitality industry.

The work and time plan for the proposal and thesis work

S.no	Activities	Responsible bodies	year 2016-2017											
			Months											
			May	Jun	Jul	Aug	sep	oct	nov	dec	Jan	fe b	ma c	apr
1	Research methods class	pi												
2	Title selection and approval	pi												
3	To submit first draft at end of the weak	pi												
4	Advisor review and give comments	pi & adv.												
5	Receiving proposal based on comments	pi												
6	Advisor review second draft and give comments	pi & adv.												
7	Revising proposal based on comments	pi												
8	Submitting research proposal to my advisor	pi												
9	Receiving proposal based on comments	pi												
10	Submitting to the school final research proposal	pi												
11	Ethical approval of the schools rec	IRB												
12	Training of data collectors and data collections	pi & dc												
13	Data entry and cleansing	pi, sup, dc												
14	Data analysis and write-up	pi												
15	Submission of first draft	pi												
16	Submission of second draft	pi												
17	Submission of final draft	pi												
18	Mock defense	pi & SPH												
19	Final defense	pi & SPH												
20	Submission of final document	pi												

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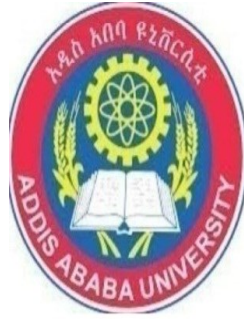
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ANNEX 1 English Version Participant's Information Sheet and Consent

Addis Ababa University, College of Health Sciences, School of Public Health
Questionnaire to assess occupational health, safety practices and associated factors
among service providers of star rated hotels in Addis Ababa, Ethiopia

Hello. My name is _____ and I am here on behalf of Segni Bobo, a postgraduate student from AAU, School of Public Health. I am here to collect information about general socio-demographic, occupational health, safety practices and associated factors from the study participants. Specifically, about factors affecting occupational health and safety practices and other related factors of the hotel housekeeping service providers working in, and requesting you to participate in this study, which would require your response to an interview on some, related issues.

Title of the Study: - Assessment of occupational health, safety practices and associated factors among service providers of star rated hotels housekeeping workers in Addis Ababa, Ethiopia.

Background: Hotel work poses many health problems caused by unsafe acts and ineffective safety practices estimated as 80% any work related hazards. This is specifically because of behavioral factors, organizational; task related problems other associated factors.

Objective: To assess occupational health, safety practices and associated factors among service providers of star rated hotels housekeeping service providers working in in Addis Ababa, Ethiopia

Benefit: There is no any direct benefit given to the study participants from this study. However, the study findings would be used to design and implement prevention control strategies in hospitality industries in the future, and occupational health and safety education will be given.

Risk: There are no risks posed to the participants from the study

Method of selection: You are selected to this study randomly/by chance.

Confidentiality: Your name will not be written and will never be used in connection with any information you give to me. All information given by you will be kept strictly confidential.

Rights: Your participation is purely voluntary and you are not obligated to answer any question you do not wish to answer. If you feel discomfort with the interview, you can withdraw any time after you get involved in the study.

Duration of interview: This interview will take about 20 minutes.

Could I have your Permission to continue?

If yes, continue the interview.

If no, skip to the next participant by writing reasons for his/her refusal.

For any questions you have, you can contact principal Investigator 0911793098

Interviewer:

Code _____ Name _____ signature _____

Date of interview _____ Time started _____ Time completed _____

Result of interview: 1. Completed 2. Respondent not available 3. Refused 4. Partially completed

Checked by: Supervisor: Name _____ Signature _____

ANNEX 2 English Version Questionnaires

PART-ONE: SOCIO-DEMOGRAPHIC CHARACTERISTICS INDICATORS			
S.No	QUESTIONS	RESPONSE(S)	SKIP TO
101	Sex	1) Male ☐ 2) Female ☐	
102	Age (In years)	_____	
103	Marital Status	Never Married ☐ Married ☐ Divorced or Widowed ☐ Others (specify) _____	
104	Religion	Orthodox ☐ Protestant ☐ Muslim ☐ Others (specify) _____	
105	Ethnicity	Oromo ☐	

		Amhara ☐ Tigre ☐ Others (specify)_____→	
106	Educational level	No formal education ☐ Primary (1-8Th grade) ☐ Secondary (9-12Th grade) ☐ College and above ☐ Others (specify)_____→	
107	Employment condition	Permanent ☐ Temporary or Contract ☐ Others (specify)_____→	
108	Monthly Salary in birr	_____→	
109	Total work experience	_____→	
110	Hotels star grade	One star ☐ Two star ☐ Three star ☐ Four star ☐ Five star ☐ →	
111	Working case team	Cleansing ☐ Room attendants ☐ Others (specify)_____→	

PART-TWO: OCCUPATIONAL SAFETY KNOWLEDGE INDICATORS							
S.No	QUESTIONS	RESPONSE(S)			SKIP TO		
		Yes	No	Remark			
1	Do you know about your rights and responsibilities regarding workplace health and safety?	☐	☐				
2	Do you read information found on Material Safety Datasheet (MSDS)?	☐	☐				
3	Do you know how to prevent work-related accidents accident?	☐	☐				
4	Do you know about occupational health and safety information?	☐	☐				
5	Have you got Safety training?	☐	☐				
6	Do you know how to use PPE and other safety appliances?	☐	☐				
7	Do you know Safety signs?	☐	☐				
PART-THEERE: OCCUPATIONAL HEALTH AND SAFETY PRACTICES INDICATORS							
S.No	QUESTIONS	RESPONSE(S)					SKIP TO
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	
301	I use appropriate PPE in proper way or in accordance with the training and instructions.	☐	☐	☐	☐	☐	
302	I always participate in every OSH issues.	☐	☐	☐	☐	☐	
303	I am involved in pre-employment and periodic medical examinations offered by the hotel or myself.	☐	☐	☐	☐	☐	

304	I operate any safety appliances, tools or equipment's on reasonable and probable grounds.	☐	☐	☐	☐	☐	
305	I follow safe work procedures or precautions and know how to perform all my activities in a safe way.	☐	☐	☐	☐	☐	
306	Whenever any work related incidents happen, I reports to my immediate supervisors orally and by using formats.	☐	☐	☐	☐	☐	
307	I am free from impairments related to drug abusers like alcohol, cigarette smoking, khat chewing any violent behaviors	☐	☐	☐	☐	☐	

PART-FOUR: OCCUPATIONAL HEALTH AND SAFETY RELATED INDICATORS					
Work-related pain, discomfort or injuries during the past 12 months					
S.No	QUESTIONS	RESPONSE(S)			SKIP TO
		Yes	No	Remark	
401	I had pain and discomfort believed to be caused or made worse by work	☐	☐		
402	Pains and discomforts that I felt in different times happened to me after I joined my current job.	☐	☐		
403	I report the pain or discomfort which I feel on my workplace to my supervisor or other management personnel's.	☐	☐		
404	I had consulted physicians concerning the pain and discomfort that I feel in work place in the past 12 months.	☐	☐		
405	I called in sick or used sec lives because of work-related pain and discomfort	☐	☐		

Checklist for the observation of working environments, OSH practices

Addis Ababa star rated hotels (Adapted from OSHAs health and safety practice other relevant literatures)

Identification

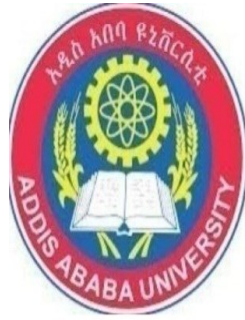
• Name of the working department_____

• Name of the working section_____

Hazards in working environment, hotel housekeeping worker's occupational health and safety practices and associated factors.

S.no	Hazards in working environment	Yes	No	Documents to approve the response	Remarks
1	Does pre-employment and periodic medical examinations; supplied by the organization for employees?			Presence or absence of medical records	
2	Does the hotel have meetings to discuss safety and health factors with the employees in the last six months?			1. presence or absence of safety management systems, like safety commute 2. presence or absence of organizational health and safety policy	
3	Are training needs considered in connection with new employment, equipment or other changes?			Presence or absence of workers orientation and training template.	
4	Does the hotel have good emergency preparedness and response program?			Presence or absence of emergency response plan template	
5	Does the hotel supplies appropriate personal protective equipment's and gives orientation for workers on how to use it?			Presence or absence of inspection sheets, like registries of workers PPE use.	
6	Does your working section had first aid kits, necessary medical equipment and trained worker?			Presence or absence of first aid safety kits with	

				appropriate medicines and medical personnel	
7	Is there discussion between management and employees to deal with any decisions delivered on issues related to health and safety?			Presence or absence of workers meeting registries and registered comments on issues of occupational health and safety practices	
8	Do you think the managements are committed, deal quickly and efficiently when safety issues are raised?			Presence or absence of workers meeting registries; moreover, registered responses given to workers concern.	
9	Is there any dangerous incident or emergency which happened in the hotel in the last 12 months?			Presence or absence of major incident registries template	
10	Are corrective actions taken to prevent recurrence?			Presence or absence of emergency response plan or intervention plan	
11	Is there a process in place to ensure that employees have the qualifications and training to perform their jobs in a health and safe manner?			Presence or absence of workers competency inspection formats	
12	Are periodic and regular safety audits done on machines, equipment's, and other safety appliances?			Presence or absence of health and safety audit registries, workers competency inspection formats.	
13	Does the hotel have OSH policy or other health and safety plan of action in the workplace?			Presence or absence of written health and safety plan of action and its reports	
14	Does the hotel have health and safety personnel?			Presence or absence of health and safety personnel in the hotel.	
15	Does the government and other stakeholders participates and inspects workers health and work place hazards?			Presence or absence of feedback reports given by work place inspectors.	



ጤ ናሳይንስ ኮሌጅ

የሕብረተሰብ ጤና ትምህርት ቤት

የአካባቢ እና የሙያ ደኅንነትና ጤንነት ትምህርት ክፍል

የጥናቱ መግለጫና የፊቃደኝነት መስጫ ቅፅ

የመጠይቅ መለያ ቁጥር----- የሆቴል ሙሉ ስም -----

አድራሻ -----

ጤና ይስጥልኝ? -----እባላለሁ::እዚህ የመጣሁት ይህንን ጥናት የሚያካሄድ የአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ የሕብረተሰብ ጤና ትምህርት ክፍል ቡድን አባል የሆኑትን አቶ ሰኚ ቦቦ በመወከል ነው::
የመጠይቁ አጠቃላይ ይዘት ስለማሕበራዊና ኢኮኖሚያዊ፤ የሥራ አካባቢ ጤንነት፤ የሙያ ደኅንነትን፤በሥራ ላይ የሚደርሱትን እና ሊደርሱ የሚችሉትን የተለያዩ አደጋዎች እና ክስተቶችን ለመከላከል እንዲሁም ተያያዥ የሆኑትን መንስኤዎች ለመቆጣጠር የሚደረገውን ትምህርታዊ ጥናት ለማድረግ የሚሆን መረጃ ለማስባስብ ነው::በተለይም በኮከብ ደረጃ የተመደቡትን የአዲስ አበባ ሆቴሎች ውስጥ በፅዳት እና የሆቴሎች ክፍል አዘገጃጀት አገልግሎት ላይ የተሰማሩ የሆቴል ሰራተኞችን በዚህ ጥናት እንዲሳተፉ በታላቅ ትህትና እጠይቃለሁኝ::

የጥናቱ ርዕስ እና አላማ:- በኮከብ ደረጃ የተመደቡትን የአዲስ አበባ ሆቴሎች ውስጥ በፅዳት እና የሆቴሎች ክፍል አዘገጃጀት አገልግሎትን የሚሰጡ የሆቴል ሰራተኞችን በተመለከተ የሥራ ላይ ጤንነት እና የሙያደኅንነት፤በሥራ ላይ የሚደርሱትን እና ሊደርሱ የሚችሉትን የተለያዩ አደጋዎችን እና ክስተቶችን ለመከላከል ሰራተኞቹ የሚያደርጓቸውን ጥንቃቄዎች እና ልማዶች ለማወቅ እና ተያያዥ የሆኑ መንስኤዎቻቸውን ለመለየት የሚደረግ የዳሰሳ ጥናት ነው::

ስለሚደረገው ጥናት ያሉት መረጃዎች:- ከዚህ ቀደም በዚህ ዙሪያ የተደረጉ የተለያዩ ጥናቶች እንደሚመለከቱ የሆቴል ፅዳት እና የሆቴሎች ክፍል አዘገጃጀት አገልግሎት ላይ የተሰማሩ የሆቴል ሰራተኞች 80% በላይ ለሚገመቱና ከሚሰሩት ሥራ ጋር ተያያዥነት ላላቸው በተለይም ከጥንቃቄ ጉድለቶች እና ጎጂ የአሰራር ልማዶች ከማያስከትሉት የጤንነትና የሙያ ደኅንነት እንከኖች እንደሚጋለጡ ይፋ ሆኗል::ይህም በዋናነት ከሰራተኛው ፀባይ፤ከሚሰራበት ድርጅት እና በየዕለቱ ከሚያከናውኗቸው ሥራዎችና ተያያዥነት ካሏቸው የተለያዩ መንስኤዎች ሊሆን እንደሚችል እሙን ነው::

የጥናቱ ጥቅም:- ተሳታፊው በሚሳተፍበት ወቅት በቀጥታ የሚያገኙት ነገር የለም::ከዚህ ጥናት የሚገኘው ውጤት በኮከብ ደረጃ የተመደቡትንና በከተማችን የሚገኙ ሆቴሎች ውስጥ በፅዳት እና በቤት አጠባበቅ ሥራ ላይ የተሰማሩ የሆቴል ሰራተኞችን የሥራ ቦታ ጤንነት፤የሙያ ደኅንነት ልማዶቻቸውንና ተያያዥ መንስኤዎቻቸውን በማጥናት ሊደርሱ የሚችሉትን አደገኛ ክስተቶችን ለመከላከል እና ለመቆጣጠር የሚያስችሉ ዜደዎች እና ሰትራቴጂዊ መፍትሔዎች ለመንደፍ እንዲሁም ያሉትን ችግሮች ለማቃለል የሚያስችሉትን አቅጣጫዎች ለመቀየስ መጠነኛ እገዛ ይኖራቸዋል::

ተሳታፊው የተመረጠበት ዜጅ፡- እርስዎ ከዚህ በታች የተሰጠውን የጥናቱን መግለጫ ተገንዝበው ፈቃደኛ ከሆኑ መረጃ በመስጠት የዚህ ጥናት ተሳታፊ እንዲሆኑ ሳይንሳዊ በሆነ መንገድ፤ማለትም በእጣ ወይም ዕድልን መሰረት በማድረግ ነው፡፡

የተሳታፊው መብት፤ተሳታፊው በዚህ ጥናት የመሳተፍ ወይም ያለመሳተፍ ሙሉ መብት የተጠበቀ ነው፡፡

በጥናቱ በመሳተፍ ላይ እያሉ በማንኛውም ሰዓት እና ጊዜ ማቋረጥ ወይም ከጥያቄዎቹ ውስጥ ለመመለስ የማይፈልጉትን ጥያቄ አለመመለስ ይችላሉ፡፡በቃለ መጠይቁም ሆነ በቃለ ምልልሱ ወቅት ግልጽ ያልሆኑ ነገሮችን መጠየቅ ይችላሉ፡፡

የመረጃ ምስጢራዊነትን በተመለከተ፡- ተሳታፊው የሚሰጠው ማንኛውም መረጃ ሚስጢራዊነቱ በከፍተኛ ጥንቃቄ የተጠበቀ በመሆኑ በማንኛውም ምክንያት መረጃዎቹ ለሦስተኛ ወገን ተላልፈው አይሰጡም፡፡የተሳታፊው ስምም ሆነ ሌሎች መግለጫዎች በጥናቱ ውስጥ የማይገለፁ በመሆናቸው ተሳታፊው ከማንኛውም ጥቃት እና ጫና ነፃ ነው፡፡

ለመረጃ ስጭዎች፡- በዚህ ትምህርታዊ ጥናት የቃለምልልስ ተሳታፊ በመሆን በጥናቱ የሚደርስባቸው ምንም ዓይነት ጉዳትም ሆነ ጫና በተሳታፊው ላይ አይደርስም፡፡የጥናቱ መረጃ በሚሰበሰብበት ወቅት የተጎዱ ተሳታፊዎች ከተገኙ በሆቴሎቹ ውስጥ ወይም በቅርብ በሚገኙ የጤና ተቋማት እንዲረዳ ይደረጋል፡፡

የተሳታፊው የፍቃደኝነት ቅጽ፡- ከዚህ ቀጥሎ የተሰጠኝን መረጃ በሚገባኝ ቋንቋ አንብቤ ወይም ተነባልኝ በትክክል ተረድቼዋለሁ፡፡ይህ ትምህርታዊ ጥናት በአዲስ አበባ ዩኒቨርሲቲ የሕብረተሰብ ጤና ሳይንስ ት/ቤት እና በኢትዮጵያ ባህልና ቱሪዝም ሚኒስቴር ድጋፍና ትብብር አማካኝነት ተማሪ ሰኚ በቦ በድህረ ምረቃ ጽሁፍ ጥናቱን እንደሚያካሄድ ይታወቃል፤ የጥናቱ ዋና ዓላማ በኮከብ ደረጃ የተመደቡትን በአዲስ አበባ ከተማ ሆቴሎች ውስጥ የሚሰሩትን ሠራተኞች፤በተመለከተ ከሥራቸው ጋር ተያይዞ ሊከሰቱ የሚችሉትን የጤንነት እና የሙያ ደኅንነት ችግሮችን እንዲሁም ተጓዳኝ መንስኤዎቻቸውን ለማወቅ የሚደረግ ጥናት ነው፡፡ በዚህ ጥናት ውስጥ በመሳተፍ የሚሰ ጧቸው ማንኛውም መረጃዎች በምስጢር እንደሚያዙ፤ በጥናቱ በመሳተፍ ምንም አይነት ጉዳትም ሆነ ጥቃት እንደማይደርስበት፤በመጠይቁ የተካተቱትን ጥያቄዎች ካልተስማማዎት ማቋረጥ ወይም ወደ ሌላ ጥያቄ መዝለል እንደሚችልና ማንም ሰው ሊያስገድድት እንደማይችል፤ እርሶ በሚሰሩበት ሆቴል በጤናዎም ሆነ ሥራዎን በተመለከተ ምንም አይነት ጉዳት እንደማይደርስበት፤ በአጠቃላይ ጥናቱን በተመለከተ ያልገባዎትን ማንኛውንም ጉዳይ ቀጥሎ በተቀመጠ አድራሻ ጠይቆ መረዳት ይችላሉ፤

ቃለ ምልልሱ የሚወስደው ጊዜ= ከ 15-20 ደቂቃ ይሆናል፡፡ አዲስ አበባ ዩኒቨርሲቲ የሕብረተሰብ ጤና ሳይንስ ት/ቤት= 0115157701

የአጥኝው ሙሉ አድራሻ= አቶ ሰኚ ቦቦ 091785756/ 0911793098/ 0911174014
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የጥናቱ ዋና አማካሪ ሙሉ አድራሻ= ወ/ሪት መዓዛ ገዙ እና አቶ ይፎክር ተፈራ

ከላይ የተሰጠኝን መረጃ በሚገባኝ ቋንቋ አንብቤ ወይም ተነባልኝ በትክክል ከተረዳሁ በኋላ በጥናቱ ለመሳተፍ ፈቃደኛ ሆኜያለሁ፡፡

የመረጃ ሰብሳቢ ሙሉ ስም ----- ፊርማ ----- ቀን -----

የአጥኝው ሙሉ ስም ----- ፊርማ ----- ቀን -----

የተቆጣጣሪው ሙሉ ስም ----- ፊርማ ----- ቀን -----

ቃለ-ምልልሱ የተጀመረበት ጊዜ ----- የተጠናቀቀበት ጊዜ -----

የቃለ-ምልልሱ ውጤት 1) ሙሉ በሙሉ የተጠናቀቀ ----- 2) ተሳታፊው ያልተገኘ/ ፈቃደኛ ያልሆነ -----

3) ቃለ-ምልልሱ በከፊል የተጠናቀቀ ----- 4) ከዚህ የተለየ ካለ (ይግለፁት) -----

ከላይ በተገለፁት ጉዳዮች ላይ ከተስማሙ የእርሶን ፈቃደኝነት ማግኘት ይቻላል? መልስ 'አዎ' ከሆነ፤ ቀጥታ ወደ ቃለ-ምልልሱ መግባት ይቻላል፡፡ የተሳታፊው መልስ 'አይደለም' ከሆነ ከተሳታፊው ጋር የሚደረገውን ውይይት በማቋረጥ ፈቃደኛ ያልሆኑበትን ምክንያት በመፃፍ ወደቀጣዩ ተሳታፊ የሚታለፍ ይሆናል፡፡

የአማርኛ መጠይቅ ቅጽ -----

የመጠይቁ መለያ ቁጥር -----

ክፍል አንድ: አጠቃላይ የማህበራዊ እና ኢኮኖሚያዊ መረጃዎችን በተመለከተ የቀረቡት መጠይቆች			
ተ.ቁ	ጥያቄዎች እና ማጣሪያዎቻቸው	ለቀረቡት ጥያቄዎች ተሳታፊው የሚመርጣቸው ምርጫዎች	ይዝለሉት
101	የፆታ ሁኔታ?	1) ወንድ ☐ 2) ሴት ☐ →	
102	እድሜዎ ስንት ነው?	እድሜ በአመት _____	
103	የጋብቻ ሁኔታ?	ያገባ/ች ☐ ያላገባ/ች ☐ የፈታ/ች ☐ ከነዚህ የተለየ (ይግለፁ) _____ →	
104	ሀይማኖትዎ ምንድነው?	የኦርቶዶክስ ክርስቲያን ☐ ፕሮቴስታንት ☐ እስልምና ☐ ከነዚህ የተለየ (ይግለፁ) _____ →	
105	ብሔርዎ ምንድነው?	አሮሞ ☐ አማራ ☐ ትግሬ ☐ ከነዚህ የተለየ (ይግለፁ) _____ →	
106	የትምህርት ደረጃዎ ምን ያህል ነው?	አልተማርኩም/ ማንበብ እና መፃፍ ብቻ ☐ አንደኛ ደረጃ የጨረሰ (1-8ኛ) ☐ ሁለተኛ ደረጃ የጨረሰ (9-12ኛ) ☐ የኮሌጅ ሰርተፍኬት እና ከዚያ በላይ ☐	

		ከነዚህየተለየ (ይግለፁ) _____			
107	የቅጥር ሁኔታዎ እንዴት ነው?	ቋሚ ሰራተኛ ☐ የኮንትራት ሰራተኛ ☐ ከነዚህ የተለየ (ይግለፁ) _____			
108	የወር ገቢዎ ምን ይህል ነው?	_____ ብብር			
109	እስካሁን ምን ያህል የሥራ ልምድ አለዎት?	_____ በዓመት			
110	በአሁኑ ጊዜ የተሰማሩበት የሥራ ክፍል ምን ይባላል?	የፅዳት ቡድን ☐ የሆቴል ክፍሎች ዝግጅት ☐ ከነዚህ የተለየ (ይግለፁ) _____			
111	እርሶ የሚሰሩበት ሆቴል ባለ ስንት ኮከብ ነው?	ባለ አንድ ኮከብ ☐ ባለ ሁለት ኮከብ ☐ ባለ ሦስት ኮከብ ☐ ባለ አራት ኮከብ ☐ ባለ አምስት ኮከብ ☐ ከነዚህየተለየ (ይግለፁ) _____			
ክፍል ሁለት: የሥራ አካባቢ ጤንነት እና የሙያ ደህንነት አጠባበቅ ልማዶች፤ የሰራተኛውን አረዳድ እና ግንዛቤዎችን የሚያመለክቱ መጠይቆች፤					
ተ.ቁ	ጥያቄዎች እና ማጣሪያዎቻቸው	ለቀረቡት ጥያቄዎች ተሳታፊው የሚመርጣቸው አማራጮች			ይዝለሉት
		አዎ	አይደለም	ማስታወሻ	
201	የምሠራውን ሥራ በተመለከተ ግዴታዎቼን እና መብቶቼን በትክክልና በግልጽ አውቃለሁ፡፡	☐	☐		
202	በሥራ ቦታ የምንጠቀምባቸውን መሳሪያዎችና ኬሚካሎች ላይ የተለጠፉትን ፅሁፎች አነባለሁ፡፡	☐	☐		

203	በድርጅቱ ውስጥ ልከሰቱ የሚችሉትን አደገኛ ክስተቶችን ለመከላከል እና ለመቆጣጠር የሚያስችል ዕውኝውቀት አለኝ።	☐	☐		
204	የሥራ አካባቢ ጤንነት እና የሙያ ደኅንነትን በተመለከተ መረጃ ወይም እውቀት አለኝ።	☐	☐		
205	የሙያ ደኅንነትና ጤንነትን በተመለከተ ስልጠና ወስደህ/ ሽ ታውቅያለሽ/ህ።	☐	☐		
206	የአደጋ መከላከያ መሣሪያዎች እና የሙያ ደኅንነትና ጤንነት መጠበቂያ ቁሳቁሶችን እንደት መጠቀም እነደምች ልአውቃለሁ።	☐	☐		
207	የሙያ ደኅንነትና ጤንነት ምልክቶችን ለይቼ አውቃለሁ	☐	☐		

ክፍል ሦስት: የሠራተኛው የሥራ ላይ ጤንነት እና የሙያ ደኅንነት አጠባበቅ ልማዶችን የሚያመለክቱ መጠይቆች፤

ተ.ቁ	ጥያቄዎች እና ማጣሪያዎቻቸው	ለቀረቡት ጥያቄዎች ተሳታፊው የሚመርጣቸው አማራጮች					የተለየሀሳብ
		እጅግ በጣም ነው የምስማማበት	እስማማበታለሁ	መካከለኛ	አልስማማበትም	እጅግ በጣም ነው የማልስማማበት	
301	ከሆቴሉ የሚሰጡኝን የሥራ አካባቢ ጤንነት እና የሙያ ደኅንነት መጠበቂያ ቁሳቁሶችን በወሰድኩት ሥልጠና እና የአጠቃቀም መመሪያው መሰረት በአግባቡ እጠቀማለሁ።	☐	☐	☐	☐	☐	
302	የእኔንና የባልደረቦቼን ጤንነት ሊጎዳ የሚችል ማንኛውንም ጉዳዮችን ለመከላከል ቀጥታ ተሳትፎ አደርጋለሁ።	☐	☐	☐	☐	☐	
303	በየጊዜው ድርጅቱ ለሰራተኛው የሚደርጋቸውን የጤንነትና የሙያ ደኅንነት ምርመራዎች ላይ እሳተፋለሁ፤ በግልም በየወቅቱ ምርመራ የማድረግ ባህሪ አለኝ።	☐	☐	☐	☐	☐	
304	በሆቴሉ ውስጥ የሚገኙትን ማንኛውም የጤንነት እና ደኅንነት መጠበቂያ ቁሳቁሶችም ሆኑ አደገኛ ክስተቶችና መከላከያ	☐	☐	☐	☐	☐	

	መሳሪያዎችን በአስፈላጊ ጊዜና ምክንያታዊ በሆነ መንገድ በአግባቡ መጠቀም እችላለሁኝ፡፡						
305	የተሰጡኝን ሥራዎቼን እና ግዴታዎቼን በጥንቃቄ እና የሥራውን ቅድም ተከተል በመጠበቅ አደጋን በማያስከትል መልኩ እፈፅማለሁ፡፡	☐	☐	☐	☐	☐	
306	ማንኛውም አደገኛ ክስተትም ሆነ ትክክለኛ ያልሆኑ አሠራሮች በሥራ ቦታ ሲያጋጥሙኝ ቶሎ ለቅርብ ኃላፊዬ አመለክታለሁ፡፡	☐	☐	☐	☐	☐	
307	ከተለያዩ ሱሶች ማለትም ሲጋራማጨስ፣ጫት መቃም፣እና ፀብ አጫሪ ከሆኑ ባህሪያት ነፃ ነኝ፡፡	☐	☐	☐	☐	☐	
ክፍል አራት፡ የሠራተኛውን የጤንነት እና የሙያ ደኅንነት ሁኔታዎችን የሚያመለክቱ፤							
ተ.ቁ	ጥያቄዎች እና ማጣሪያዎቻቸው	ለቀረቡት ጥያቄዎች ተሳታፊው የሚመርጣቸው አማራጮች		የተለየሀሳብ			
		አዎ	አይደለም				
401	በአሁኑ ጊዜ የምሠራው የሆቴል ሥራ ከጀመርኩት ወዲህ በተለያዩ ጊዜያት ህመም አጋጥመውኛል፤ምችትም አይሰማኝም እናም ሥራው ህመሙን እያባባሰብኝ ነው፡፡	☐	☐				
402	በተለያዩ ጊዜያት ያጋጠሙኝን የህመም ስሜቶች በአሁኑ ጊዜ የምሠራውን ሥራ ከጀመርኩት ወዲህ ነው የጀመሩኝ፡፡	☐	☐				
403	በሥራ ቦታዬ የህመም ስሜት ሲሰማኝ ቶሎ ብዬ ለቅርብ ኃላፊዬ አመለክታለሁ፡፡	☐	☐				
404	ከሥራዬ ጋር በተያያዘ ምክንያት በተለያዩ ጊዜያት የሚሰሙኝን የህመም ስሜቶችን ለመታከም ወደ ሐኪም ቤት በመሄድ ባለሙያዎችን አማክራለሁ፡፡	☐	☐				
405	በሥራዬ ቦታ የሚገጥሙኝን የህመም ስሜቶችን ለመታከም እና እንዲሻለኝ በተለያዩ ጊዜያት የህክምና ፍቃድ (እረፍት) እወስዳለሁ፡፡	☐	☐				

Curriculum vitae



1	Work Experience	Aug 10, 2017- till now
1.10	Occupation or position	Neglected tropical diseases control and prevention program senior expert
1.11	Main activities and Responsibilities	Planning projects, monitoring, evaluations and report writing on different projects held at national and regional levels. Co-operatively working with national and international potential funding organizations and writing reports. Co-coordinating researches, surveys and other associated issues Managing the office and coordinating the colleagues working with us.
1.12	Name and address of employer	Ethiopian Ministry of Health head quarter
1.13	Type of business or sector	Government
1.20	Work Experience	Aug 07, 2013- Jan 19, 2017
1.21	Occupation or position	Environmental health and occupational safety senior expert at MoCT (Ministry of Culture and Tourism)
1.22	Main activities and Responsibilities	Preparing and delivering trainings Managing safety and health program elements Developing and recommending safety and occupational health policy to higher levels of managements

		Inspecting and surveying tourist service giving facilities, workforces, processes, products or other systems to control or eliminate the possible hazards
1.23	Name and address of employer	Ministry of culture and tourism head quarter
1.24	Type of business or sector	Government
1.25	Name and address of employer	Ministry of culture and tourism head quarter
1.26	Type of business or sector	Government
1.30	Work Experience	Nov 10, 2012- Aug 06, 2013
	Occupation or position	Urban health extension program supervisor at Addis Ababa health bureau, yeka sub-city
1.31	Main activities and Responsibilities	Providing technical supports for urban health extension workers and the community Giving trainings for urban health extension program workers on different health and related issues Planning weekly, monthly quarterly implemented action plans and writing reports. Managing community-led WASH programs and other emergency or disaster related cases
1.32	Name and address of employer	Ministry of health, Addis Ababa regional health bureau, Yeka sub-city health office
1.33	Type of business or sector	Government
1.40	Work Experience	Nov 10, 2011-Nov 09, 2012
1.41	Occupation or position	Communicable disease control and prevention team leader (Vice leader of the health office)
1.42	Main activities and responsibilities	Conducting supportive supervisions for health extension workers and different program elements. Training material preparations on TB, Malaria, leprosy, HIV/AIDS etc and giving trainings. Planning and effectively utilizing funds gained from potential funding agencies and effectively allocating that for different main program elements.

	Participating on different meetings, seminars and workshops representing west wollega zonal health office.
1.43 Name and address of employer	Ministry of health, West Wollega zonal health office
1.44 Type of business or sector	Government
1.50 Work Experience	Feb 01, 2011-Nov,2011
1.51 Occupation or position	Project planning, monitoring, evaluation and budget administration team leader.
1.52 Main activities and responsibilities	Project planning, monitoring, evaluation and budget administration team leader. Supporting the implementation monitoring and evaluation of community based WASH programs. Co-coordinating program elements for the prevention and control of malaria, TB, HIV/AIDS, leprosy, STI, etc. Preparing behavioral change communication (BCC) materials and delivering information's. Co-coordinating the woreda health management information system (HMIS) and conducting periodic evaluations of the data management system.
1.53 Name and address of employer	Ministry of health, West Wollega zonal health office
1.54 Type of business or sector	Government
1.60 Work Experience	July 07, 2009- Jan 30, 2011
1.61 Occupation or position	Rural health extension program supervisor at west wollega zonal health office
1.62 Main activities and responsibilities	Supervising and implementing the components of rural health extension programs such as, environmental health, control and prevention of communicable diseases, community mobilization and awareness creation programs. Designing proper way of liquid and solid waste management at community level and implementing it. Managing rural WASH programs

1.63	Name and address of employer	Ministry of health, West Wollega zonal health office
1.64	Type of business or sector	Government
2	Education and training	
2.1	Sep 01/2007-June 07/2009-Jimma University	BSc Degree in Environmental Health science
2.2	June 01/2013-August 01/2013-Addis Ababa university	Project planning, Implementation, monitoring and evaluation and performance report writing
2.3	Sep 01 /2013-June 20/2014-CPU Unity University College	Basic Computer skill especially on Ms-Word, Ms-Excel, Ms-Access, PowerPoint, Adobe Photo shop, SPSS and Different Software and application use
2.4	June 01/2014-December 30/2014-Addis Ababa University in association with UNESCO	Research methods on qualitative and quantitative research and publication system
2.5	January 01/2014-May 30/2014-Addis Ababa University in association with UNTO	Event Organization and chief of Party
2.6	July 01/2010-Dec 30/2010-Ethiopian family Guidance	Reproductive health and pharmaceutical Logistic Supply management
2.7	January 01/2011-May 30/2011-John Hopkins University in collaboration to Addis Ababa health office	Risk Assessment, Health Need and Emergency disaster management
2.8	June 01/2013-Dec 30/2013-HIV/AIDS prevention and control program of Ethiopia in association with UNFPA	Behavioral change, Communication material preparation and clinical risk management on HIV/AIDS
2.9	Jane 2014-March 01/2015-Midrock Ethiopia Unity University college	Customer relations, service management and assessment of customer service satisfaction
2.10	Sep 01/2012-May 11 /2013-Internationa Leadership and	International Certificate on Leadership and management

	Management Institute of Ethiopia	Development	
2.11	Sep 01/207-june 01/2009 –of Jimma University	Community based training program (CBTP) and professional training program	
2.12	June 01/2013-May 30/2014-AMAS International Driving License School	International 3 rd Level Driving license	
3	Research experience	Assessment of solid waste management practice and associated factors among west wollega, Gimbie town residents, Jimma university, July, 2007	
3.1		National surveillance on harmful cultural practices and the negative effects of Globalization among Ethiopian selected cities, ministry of culture and tourism, 2004	
4	Research interest	Even though I am ready to work on any Health related issues, I am highly Interested in Research areas related to Public Health	
5	References	Especially on Occupational Health, maternal and child health, public health nutritional problems, non- communicable diseases, etc...	
		Kebede Faris (Senior Water Supply Sanitation Specialist at world Bank Ethiopia Country Office) Tel; +251115176048 Email ; kfaris@worldbank.org	
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Declaration

Express my deepest gratitude I, the undersigned, declare this thesis is my original work in partial fulfillment of the requirement of degree of Masters of Public Health and has not been presented in this or other University.

All sources of materials use for this thesis have been acknowledged.

Name: Segni Bobo Barkesa

Signature_____

Date: Nov 15/2017

Place: Addis Ababa, Ethiopia

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

Name: Meaza Gezu/ Yifokir Tefera

Signature_____

Date: _____