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**Assessment of Knowledge, Attitude and Practice of Disaster Preparedness
among Health Professionals Working in Saint Paul Hospital Millennium
Medical College, Addis Ababa, Ethiopia**

By: Biruk Tugo

Advisor: Desalegn Yayeh (Ph. D)

Addis Ababa, Ethiopia

November, 2022



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By BirukTugo

Advisor: DesalegnYayeh (Ph. D)

A Thesis Submitted to Center for Food Security Studies College of Development Studies Addis Ababa University, in Partial Fulfillment of the Requirements for the Degree of Master of Science in Food Security and Development.

Addis Ababa, Ethiopia

November, 2023

Addis Ababa University
College of Development Studies
Center for Food Security Studies

DECLARATION

This thesis entitled “**Assessment of Knowledge, Attitude and Practice of Disaster Preparedness among Health Professionals Working in Saint Paul Hospital Millennium Medical College, Addis Ababa, Ethiopia**” is my original work and has not been presented for MSc degree in any other University and that all the sources and materials used for the thesis have been properly acknowledged.

Declared By: Biruk Tugo

Signature: _____

Date: _____

Place: Addis Ababa University College of Development Studies, Center for Food Security Studies

This is to certify that the above declaration made by the candidate is correct to the best of my knowledge as an advisor.

Desalegn Yayeh (Ph. D) _____

Addis Ababa University
College of Development Studies
Center for Food Security Studies

This is to certify that the thesis prepared by BirukTugo entitled “assessment of knowledge, attitude and practice of disaster preparedness among health Professionals Working in Saint Paul Hospital millennium medical college, Addis Ababa, Ethiopia” and submitted in partial fulfillment of the requirement for the degree of master of science in food security and development complies with the regulations of Addis Ababa University and meets the accepted standards with respect to originality and quality

Signed by the examining committee:

Signed by the examining committee:

External Examiner: _____ Signature _____ Date _____

Internal Examiner: _____ Signature _____ Date _____

Advisor: Desalegn Yayeh (Ph. D) Signature _____ Date _____

Name of Chairman _____ Signature _____ Date _____

Acronyms and Abbreviation

ABC	Airway, Breathing and circulation
CFSS	Centre for Food Security Studies
CDS	College of Development Studies
SPHMMC	Saint Paul Hospital Millennium Medical College
KAP	Knowledge, Attitude and Practices
SPSS	Statistical Package for the Social Sciences
AAU	Addis Ababa University

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Abstract

Background: *The issue of disasters is so critical that merit intellectual attention & resources. However, very little has so far been done in the area of disaster preparedness in Ethiopia. It is with this in mind, that the research will be interested to explore mainly knowledge, attitude and practice health care workers on disaster preparedness. Moreover, the research will be intended to find out what arrangements were in place should disaster occur at hospital. This study was intended to assess knowledge, attitude, practice on disaster preparedness measures among healthcare workers in St Paul Hospital millennium medical college, Addis Ababa, Ethiopia, 2022. A descriptive cross-sectional study was employed among 384 health workers at St Paul Hospital millennium medical college, Addis Ababa, Ethiopia, 2022. A structured questionnaire which assesses the objective of the study was administered for the study participants. Data were entered and analyzed using SPSS version 20. Descriptive statistics such as percentages, pie chart and bar graph were used for data presentation. A total of 384 study subjects were included and gave a response rate of 100%. In this study, the overall good knowledge on disaster preparedness among the study participants were 53.39% (95% CI: 48.41% -58.37%). The general attitude of respondents towards disaster preparedness was largely positive as 63.54% (95% CI: 58.73% - 68.35%) respondents had favorable attitude. Furthermore, the magnitude of good practice on disaster preparedness in the study area was 57.03% (95% CI: 52.08% - 61.98%). The study revealed that had good knowledge and their attitude was acceptable, their practices in terms of the frequency of ongoing and the frequency of regularly updating the plans were probably inadequate. Gaps need to be filled in terms of updating staff regarding regular drills, ongoing training on a regular bases with inclusion of all key people in the hospital.*

Keywords: *Knowledge, Attitude, Practice, Disaster preparedness, Saint Paul Hospital millennium medical college, Ethiopia*

1. Introduction

1.1. Background and Justification

A disaster is a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of affected society to cope using only its own resources(Shaluf, 2007).Disasters are complex events that impact many sectors of society, not only physically, in term of health and infrastructure, but also affecting politics and economics. They also have profound effects on individuals, families, and communities. The influence of rapid population growth over the twentieth century and climate change mean more people are exposed to or at risk for disasters(Bayar, 2018).

Disasters have been integral parts of the human experience since the beginning of time, causing premature death, impaired quality of life, and altered health status. Global warming, shifts in climates, sea-level rise, and societal factors may coalesce to create future calamities. Generally, disasters are of two types-Natural and Man-made. Natural disasters are flood, cyclone, drought, earth quake, cold wave, thunderstorms, heat waves, mud slides, volcanoes, Tsunamis and storm. Man-made disaster includes epidemic, deforestation, pollution due to prawn cultivation, chemical pollution, wars, road /train accidents, riots, food poisoning, industrial disaster/ crisis and environmental pollution.1Disasters are no longer limited to natural catastrophes. Man-made emergencies also cause disasters in terms of fatalities and economic losses(Ezhilarasi and Jothy, 2018).

Disaster preparedness which corresponds to all measures taken to prepare for and to reduce direct and/or indirect effects of disasters, allows the community, government and non-government institutions to predict and where possible to prevent them. That is to respond to and effectively cope with the consequences of disasters.it requires the contribution of many different areas ranging from training and logistics to health care and institutional capacity building. (International Federation of Red Cross and Red Crescent Societies, 2000; World Health Organization, 2011)Ncube and Chimenya, 2016).In times of disasters, hospitals are among the most crucial institutions as they are considered as sanctuaries where victims seek ministrations.

Although major disasters are always to be expected, past disasters and more recent events shows that communities are not yet fully prepared(Habte, 2018).

The World Disaster Reduction Campaign of 2008-2009 was dedicated to making hospitals safe from disasters, thus recognizing the importance of the hospitals during disasters (United Nations International Strategy for Disaster Reduction [UNISDR], 2008). The Hyogo Framework for Action 2005-2015 also recognizes the importance of healthcare facilities during disasters and calls for the integration of disaster risk reduction planning into the health sector with the goal that hospitals become safe from disasters (UNISDR, 2005). This can be achieved by having disaster emergency preparedness plans in place so as to ensure an effective and efficient disaster response (Ncube and Chimanya, 2016).

In Africa, between 1995 and 1996, thirty-nine countries had epidemic outbreaks that have affected the total number of 576.5 million people. There is the so-called meningitis belt having 20 countries with 384 million people who are susceptible to epidemics with incidence rates of 1% and high case fatality rising up to 10%. Droughts are permanently frightening about 460 million people in 30 countries, while 484 million people are living in 22 countries that are prone to floods. For the war, this is number one African principal man-made disaster. According to Ethiopia no matter whether the government plays a big role to avert transport accidents, vehicle-related casualties are increasing and make up nearly half of all traumatic injuries(Tilahun, 2021).

1.2. Problem Statement

According disasters worldwide, it has been indicated that in the present study results demonstrated significant relationships between the mean scores of knowledge and performance, and the studied nurses' work experience. Accordingly, the nurses with less than five years of work experience had better knowledge and performance in comparison with the two other groups. Considering the fact that in the hospital wards, the workload is usually higher for the younger employees and nurses, so it is not far-fetched that these nurses need to participate more in disaster preparedness workshops and gain more knowledge and awareness. Indeed, because individuals with higher work experience have usually taken part in practical classes in previous years, they do not consider participating in new workshops with more up-to-date content as their job and education priorities because of their high job responsibilities. Therefore, they usually

attend less in these workshops. These make nurses with less work experience both more aware of the disasters and disaster management, and better perform in this area (Sadat et al., 2020).

At the time of response to disasters and emergencies, the priority is to help, support and treat the victims; to save lives. Therefore, disaster relief and assistance are mainly carried out by rescue or emergency medical teams. Moreover, when an emergency event such as fire occurs for instance; within the health facility, medical professionals will be on the front line. Thus, they must be knowledgeable in disaster management and able to respond effectively to any disaster and emergency crisis. Education and training are necessary for health pro-professionals to gain knowledge and develop the skills that make an effective response to disaster and emergency possible. However, the lack of training programs in disaster preparedness was one of the main issues contributing to the negative outcomes of two regional studies on Yemen assessing hospital disaster preparedness (Naser and Saleem, 2018).

It is observed through reading articles that there is limited preparedness and management plans in the government hospital. Nurses have insufficient knowledge and practices regarding the disaster management and emergency preparedness which is a weak point of the nurses. There are no educational programme to enhance their knowledge and as well as their practices(Al, 2017). Lack of knowledge and preparedness can lead to inadequate performance by health-care providers in caring for disaster victims. Experiences with responses to previous disasters have indicated the importance of emergency education and disaster preparedness(Jiang et al., 2015).

A considerable number of health professionals had limited knowledge about the concept of disaster and response to certain specific disasters. About a quarter could not be able to describe the acronym “ABC” in first aid management of trauma. About a third had inadequate knowledge about early warning information, preparedness and response regarding common disasters. In addition, they had limited opportunities for training on topics related to disaster, despite their felt needs(Berhanu et al., 2016).

The issue of disasters is so critical that merit intellectual attention & resources. However, very little has so far been done in the area of disaster preparedness in Ethiopia. It is with this in mind, that the research will be interested to explore mainly Knowledge, attitude and practice health

care workers on disaster preparedness. Moreover, the research was intended to find out what arrangements were in place should disaster occur at hospital.

1.3. Objectives

1.3.1. General Objective

This study is intended to assess knowledge, attitude, practice and disaster preparedness measures among health professionals.

1.3.2. Specific Objectives

- To describe knowledge of disaster preparedness among health Professionals Working in SPHMMC Addis Ababa, Ethiopia.
- To Explore the attitude on disaster preparedness among health professional working in SPHMMC Ababa, Ethiopia.
- To appraise practice of disaster preparedness among health professionals working in SPHMMC, Addis Ababa, Ethiopia

1.4. Research Questions

This study was contributed to answer the following research questions:

- ❖ What is the knowledge of disaster preparedness among health professionals working in SPHMMC, Addis Ababa, Ethiopia?
- ❖ What is the attitude of health professionals working in SPHMMC, Addis Ababa, Ethiopia on disaster preparedness?
- ❖ What is practice of health professionals working in SPHMMC, Addis Ababa, Ethiopia on disaster preparedness?

1.5. Significance of the Study

Determining the KAP of disaster preparedness among health care workers SPHMMC Addis Ababa, Ethiopia will permit planners at SPHMMC to make plans and predictions about preparedness measures among its employees. This study will open doors to other researchers to operate research in the field of disaster preparedness and management in Ethiopia. Concerted

action will be taken to reduce the loss of life, damage to property, economic and social disruptions in the event of a disaster and necessity to have a have a disaster preparedness plan.

This research may help stakeholders to put into place specific policies to improve awareness of health care workers in disaster preparedness knowledge, attitude and practice. This study was designed to assess knowledge, attitude and practice among health professionals about disaster preparedness, and to have a better understanding of the possible areas for improving the gaps of disaster preparedness.

1.6. Scope of the Study

Regarding the concept, this study was focused on the KAP of disaster preparedness among all health professionals wporcking in SPHMMC who works more than 6 months.

1.7. Limitation of the Study

- ✓ Data has been collected from one hospital of SPHMMC. Data collected was limited so its generalizability of the study is limited. It is recommended for future that all government hospital should be included to take a broader Review
- ✓ The study does not include the administrative staff and other supportive stuffs.

2. Review of Related Literature

2.1. Theoretical Related Literature

Knowledge is defined as a set of skills acquired to fulfill an understanding of a given area. In this study the concept of knowledge is defined as state of being aware or up to date information nurse should have related to disaster preparedness. Attitude is defined as the way a person views something or tends to behave towards this thing. In this study nurses' attitude is how nurses are belief, motivated to report in the event and confident to manage disaster. Practice is doing something based on skills you have and preparedness means all actions taken before an event occur and taking corrective measurement to ensure good organization in disaster response. In this study nurses' practice are drills, simulations done in hospital or in department for preparing, empowering them before event occur and manage confidently disaster event while occur (UZAMUHOZA, 2017).

According Jake way, LaRosa, Cary, and Schoenfisch (2008), preventing, preparing for, responding to and recovering from disasters and emergencies have become a priority for everyone. Since Florence Nightingale demonstrated to the world the important role that nurses play on the front lines of responding to disasters, the field of public health and disaster nursing has continued to expand its scope and define its significance. Public health nurses bring critical expertise to each phase of a disaster: mitigation, preparedness, response, and recovery (Ezhilarasi and Jothy, 2018).

Previous study conducted in Aceh found that the proportions of people with good knowledge of disaster and disaster preparedness were quite low (Ismail et al., 2016). Another study conducted in Among those polled in Tehran, 31.4% demonstrated a lack of awareness about how to be safe in the event of an earthquake. In that survey, 31.4 percent of respondents had "moderate" levels of knowledge, while 37.2% had "suitable" levels (Jahangiri and Azin, 2010). Other study in Beijing reported that people's disaster response knowledge in Beijing was low, especially regarding human-made disasters only 9.4 % (Li et al., 2019). The emphasis of catastrophe preparedness and prevention initiatives has changed from individual preparation to community resilience. When disasters become more and more severe, the important role of communities and individuals in emergency preparedness for public health has gained prominence in

society(Adams and Eisenman, 2019) . Therefore, it's required to improve capacity and participatory of community on disaster management and preparedness by involving them into the contextual role.

2.2. Empirical Related Literatures

2.2.1. Knowledge about disaster preparedness

On assessment of disaster preparedness among emergency departments of Italian Hospitals, showed that Only 45 % of participants declared to know what an Emergency Plan for Massive Influx of Casualties is, 41 % believed to know who has the authority to activate the plan, 38 % knew who is in charge of intra-hospital operations(Paganini et al., 2016).

A study shows that 92.3% Participants were known that what disasters are and only 7.7% were didn't know about the disaster. 64.1% participants were responding positively that they know what disaster plan is. 34.6% didn't know about this.37.8% participants were known about where to find the disaster plan.48.7% were didn't know where to find the plan. 46.2% participants were known what are the drills and 46.2% were didn't know what are the drills 37.8% knew their function during the drills and 62.2% didn't t know their function during drills as shown in graph No.6. The 60.9% participants were known what is disaster preparedness and 39.1% didn't know about it as shown in the graph No.7 (Al, 2017).

On studies conducted among the medical professionals from two selected medical college hospitals in Dhaka city of Bangladesh in 2018, the investigator assesses the knowledge and awareness on disaster management among medical Professionals. Up on their investigation they found that majority of the respondent had poor level of knowledge (only about 30.0% of the respondent had good level of knowledgt)(Rahman et al., 2018).

Assessment of knowledge regarding disaster preparedness showed that 100% of respondents knew what a disaster is, 92% knew what a disaster plan is, 51.7% knew where to find a disaster plan, almost all respondents did not know what is a drill and their function during a drill l(Singhal et al., 2016).

A study runs infewer than 5% respondents were well prepared for emergency. Over half (52%) of poorly prepared respondents did not know what to do in emergency(Xu et al., 2015).There is

also a higher percentage of students (35.00%) who understood the importance which means Agree to participating on a disaster risk education and 15% strongly agree with seminar and training (Mamon et al., 2017).

A study shows that only 98 (47.8%) of the participants had good knowledge of emergency preparedness and planning, and 31 (15.1%) had poor knowledge (Adenekan et al., 2016).

Black Lion Specialized Hospital on Assessment of Knowledge, Attitude and Practice of Disaster preparedness among hospital health care workers result shows that about half of (50.8%) health care workers had good knowledge about hospital disaster preparedness and its plan. The remaining 49.2%) had low knowledge (Habte, 2018).

2.2.2. Attitude about disaster preparedness

Regarding disaster preparedness in 2016 on disaster preparedness showed that 80% of respondents agreed to the need to know about disaster plan, 94.2% agreed that management should be adequately prepared for a disaster, 90% believed that managing disaster is for all people in the institution, 77% said that training is needed for all employees.

A total of 63 participants responded to the questionnaire with a male preponderance (n=53, 84.1%). Most of the doctors agreed that training in disaster preparedness should be mandatory for all health professionals (Shahzad et al., n.d.).

Only 65.5% said that drills should be conducted in their institution. (Singhal et al., 2016). On emergency and disaster management showed that the respondent's attitude toward disaster management was generally positive. Of study participants, 84.9% agreed to the teaching of disaster management in the country. They want to have an emergency plan, to know their roles during the response to emergency events, as well as wanting to train on disaster planning (Naser and Saleem, 2018).

Study conducted worldwide like in studies done in Jimma Zone, Southwest Ethiopia overall the respondent's attitude towards disaster preparedness was found to be favorably positive. A vast majority (92.8%) reported that they need training on disaster preparedness, management and response (Tassew et al., 2022).

2.2.3. Practice about disaster preparedness

In terms of practice where by 56.1% of emergency nurses reported having had adequate practice compared to 30.7% of the community health nurses had adequate practice of disaster management (Ahayalimudin et al., 2012). Majority of students (94.25%) did not know about regular updates of disaster plans. Among students, 73.56% never faced any disaster, and 97.70 % students were never a part of disaster management team. (Singhal et al., 2016) This study generally showed low practice of disaster preparedness at Black Lion hospital. This was evidenced as the study obtained only 19(8.3%) of practice score (Habte, 2018).

Studies done in Yemeni 58.9% of respondents had not participated in any exercise in emergency and disaster preparedness and most of the study participants had not attended any training on disaster management (Naser and Saleem, 2018).

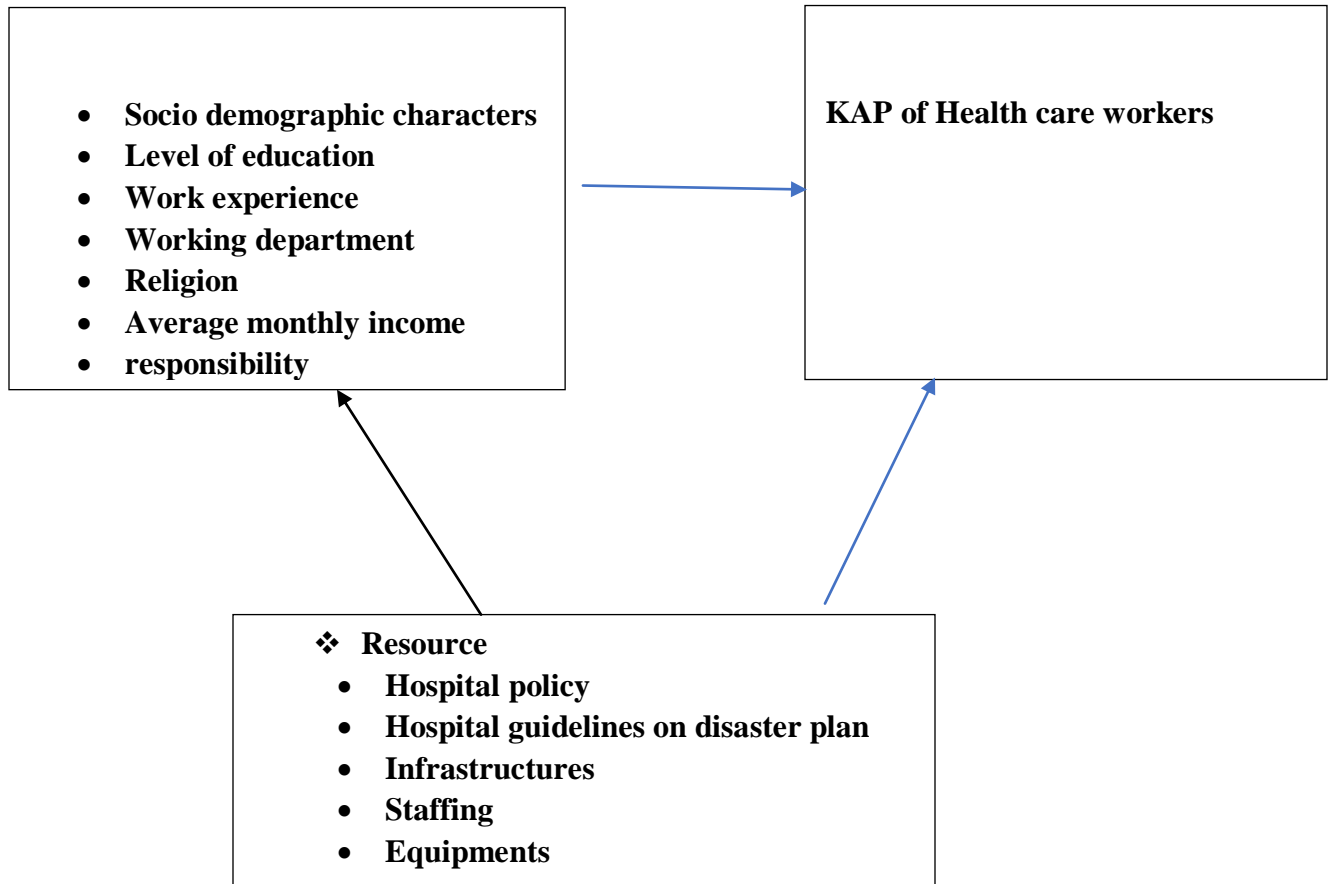
About 91.7% of the study participants had not attended training on disaster management and the only 10 (8.3%) had attended training on disaster management (Rahman et al., 2018).

2.3 Conceptual Framework of the study

It is well defined as diagram which shows the correlation between variables. Therefore, the researcher used such diagram to assess how health professionals are prepared for uncertainty situation and explain how behavior change from knowledge and attitude will improve their practice and management to disaster events.

Independent variables

Dependent variables



Intervening variables

Figure 1: KAP concept framework Adopted from (Sciences, 2017)

3 Research Methodology

3.1. Description of the Study Areas

This study was conducted Saint Paul's Hospital Millennium Medical College (SPHMMC) in Addis Ababa, which is the second-largest multi-specialty tertiary care teaching hospital in Ethiopia. The hospital has been giving medical services for more than 50 years with an emphasis on the underserved population. There are about 800 students and more than 3,031 medical staff (Mindaye et al., 2021) . SPHMMC is one of the three public medical colleges located in Addis Ababa, Ethiopia. Addis Ababa is the capital city of Ethiopia and the seat of the African Union. Though Saint Paul Hospital was established more than five decades ago, the College was established during the Ethiopian Millennium in 2007. As of 2021, the College has more than 3,000 clinical and non-clinical staff and provides medical service, medical training and community service for the population of Addis Ababa and the surrounding regions. The College enrolls undergraduate medical students from all regional states of Ethiopia with special considerations for emerging and underrepresented region (Seyoum et al., 2022).

Currently it's the biggest hospital in Ethiopia and in the city center of Addis Ababa. Located in

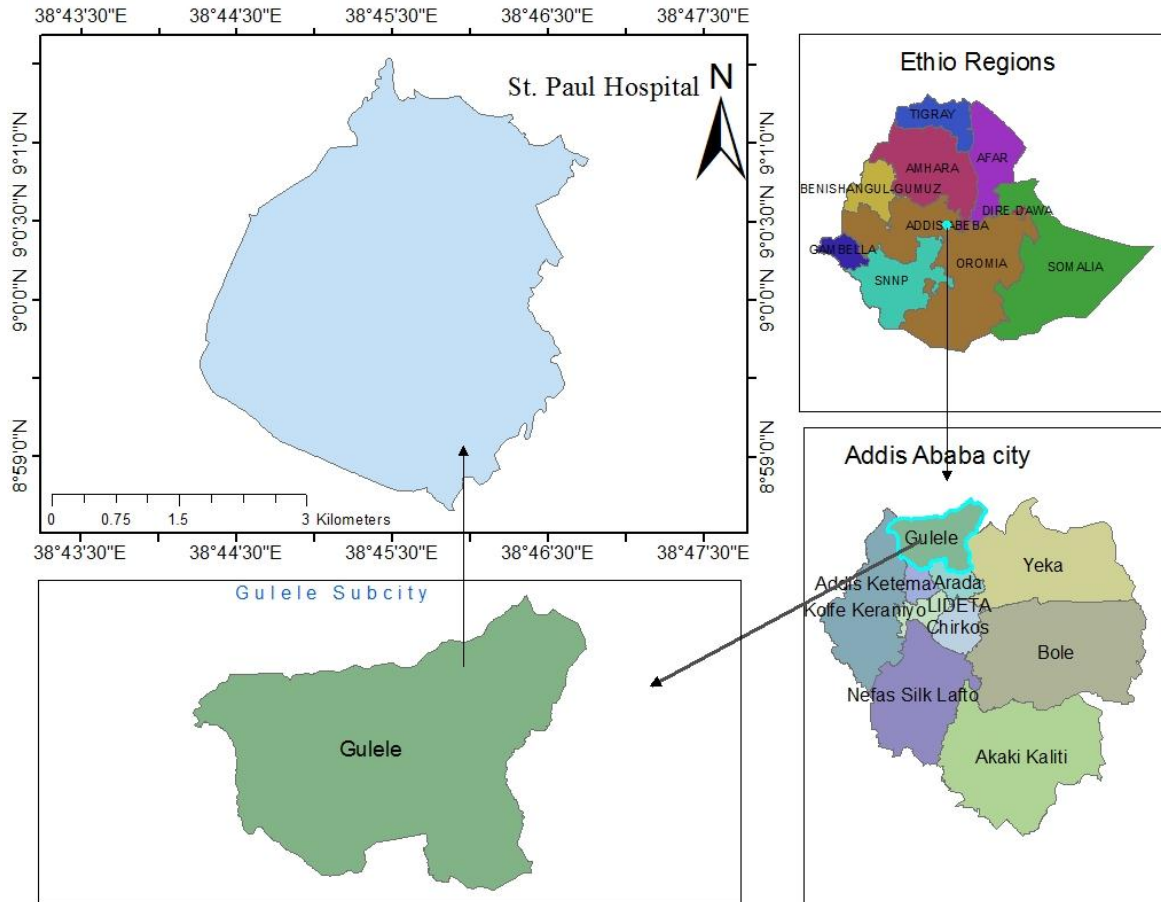


Figure 2: Saint Paul hospital millennium medical college location from GIS 10.5 version and Google earth satellite view of the study area

3.2. Research Design

Institutional based cross sectional study design was conducted in triangulation with qualitative approach.

3.3. Research Methods

3.3.1. Sampling Technique and Sample Size Determination

Saint Paul Hospital millennium medical college will be selected using a convenience sampling is used in this study. The study participant was selected using simple random sampling technique by principal investigator. The required sample size for this study was calculated using formula

for simple population proportion based on the prevalence rate of 49.2 in Black Lion specialized hospital health care workers regarding to disaster preparedness reported from the previous study and using the 95% confidence interval and 5% marginal error. By adding 10% for none response the final sample size was 384. The target population was 3,031 the calculated sample size using the convenes method, researchers took 384 health professional population as a sample, so the actual sample size was 384

The sample size based on the research objective was as the follows;

$$N = \frac{(Z_{\alpha/2})^2(pq)}{d^2}$$

$$d^2$$

$$= ((1.96)^2 \times .5(.5)) / (.05)^2$$

$$= (3.8416 \times .25) / .0025$$

$$= .9604 / .0025$$

$$= 384.16 \sim 384$$

Then substituting the above values

$$= 385 / (1 + (384 / 3013))$$

$$= 340 \text{ plus } 10\% \text{ non-response rate}$$

$$= 384$$

The required sample size for this study was calculated using formula for simple population proportion based on the prevalence rate of 49.2 in Black Lion specialized hospital health care workers regarding to disaster preparedness reported from the previous study and using the 95% confidence interval and 5% marginal error. By adding 10% for none response the final sample size was 384.

3.3.2. Data Sources and Tools

The researcher used a questionnaire which adapted from previous similar study conducted in by Michotte (Michotte, 2019) received to collect data on health professionals' knowledge, attitudes and practices of disaster preparedness in SPHMMC. In the first section of data collection tool, the following socio-demographic information was collected: the participant's sex, age, current position, experiences and level of education. Monthly income on Ethiopian birr, Religion, another responsibility, working hrs. In a day, working department the second section of the

questionnaire includes 6 questions related to Health professional's disaster preparedness" knowledge. The third section deals with 14 questions related to health professionals" attitude that require agree, Disagree and Do not know as response. The last section includes items related to health professionals Disaster preparedness" practices currently taking place at SPHMMC with yes, no or I don't as answer. The original questionnaire was in English, the questionnaires were formulated by closed questions and structured questions.

3.3.3. Data collection process

After getting ethical clearance researcher approached the unit manager for self- introduction and give information about the research. For collecting data, the researcher used self-administered questionnaires among health professionals from SPHMMC, the instrument was designed to assess health professionals knowledge, attitude and practice regarding Disaster preparedness. Participants were got all information related to the topic and were ensured that their contribution is voluntary and confidential in order to get their consent. Respondents were requested to fill the questionnaire during their free time. Each participant was completed their questionnaire individually. The filled-in questionnaires was placed in secured box located in three service the researcher passed within 1 hour to collect the filled in questionnaire from participant

3.3.4. Data Analysis Methods

Analysis of data is a procedure of organizing data and manipulating them in order to respond the research questions. Therefore, complete questionnaire from participants was coded, converted and analyzed by using Microsoft Excel and Statistical Packages for the Social Sciences (SPSS) software version 20 .The analyzed data were in the form of frequencies and percentages while figures and tables used to present the results. Median scores were calculated to see the levels of knowledge, attitude and practice.

3.4 Operational definition of the study variables

Assessment of Knowledge, Attitude and Practice of Disaster Preparedness(Habte, 2018).

Disaster preparedness plan - an agreed set of arrangements for preparing for, responding to, and recovering from emergencies, and involves the description of responsibilities, management structures, strategies, and resource and information management with a view of protecting life, property and the environment.

Good knowledge: Refers to respondents who have scored more than 50 % of knowledge

questions.

Low knowledge: Refers to respondents who have scored less than 50 % of knowledge questions.

Positive attitude: Represents those respondents who have scored equal to or more than 50 % from attitude question.

Negative attitude: Indicates respondents who have scored less than or equal to 50 % attitude questions.

KNOWLEDGE ATTITUDE AND PRACTICE OF DISASTER PREPAREDNESS AMONG HEALTH PROFESSIONALS((Tassew et al., 2022).

Adequate practice- refers to all emergency health professionals, who score more than or equal to the mean score for practice questions.

Inadequate practice- refers to all emergency room health professionals, who score less than the mean score for practice questions.

3.5. Ethical Considerations

Before starting this study, the researcher presented a research proposal to the CDS (College of Developmental Study University of AA research ethics committee for approval. In addition, before the data collection process started, the researcher sought and obtains permission from CDS, AAU Written informed consent was also obtained from each respondent before their participation in the study. Then the study subjects were well insured their willingness to participate or refuse to participate in the study, and that it was their right to withdraw from the study at any time. They were also ensured that their names were not mentioned anywhere in this research but the numbers were used to protect their identity. The information provided by the participants was maintained anonymous and confidential at all the times and was used only for the purpose of the recent study. About data management, information was kept in secured place like in a locked computer with personal password and on Email which only the researcher and supervisors had access.

4. Results and Discussion

4.1 Descriptive characteristics of the study participants

A total of 384 study subjects were included and gave a response rate of 100%. About, 52.6% of the participants were found in the age range of 23-28 years. Fifty seven (57%) of the samples were females. Around 83% of the samples were BSc holders. Nearly Seventy five (75%) of them were Nurses. Fifty Six (55.7%) percent of them had an experience of below 4 years. Only, 14.8% of the samples had another responsibility other than the current position (**Table 1**).

Table 1: Sociodemographic/economic profile of Health Professionals in Saint Paul Hospital Millennium Medical College, Addis Ababa, Ethiopia, 2022. (n =384)

Variables	Category	Frequency	Percentage
Age in years	23 - 28	202	52.6
	>28	182	47.4
Sex	Male	165	43.0
	Female	219	57.0
Marital status	married	166	43.2
	Single	205	53.4
	Widowed	8	2.1
	Separated	5	1.3
Religion	Orthodox	243	63.3
	Muslim	52	13.5
	Protestant	83	21.6
	Others*	6	1.6
Educational status	Diploma	4	1.0
	BSc	318	82.8
	Dr/MD	22	5.7
	MSc/MPH	40	10.4
Profession	Nurse	287	74.7

	Health officer	34	8.9
	Midwife	28	7.3
	Physician	19	4.9
	laboratory technician	3	.8
	Others**	13	3.4
Work unit	Outpatient	68	17.7
	Emergency	34	8.9
	Laboratory	5	1.3
	Surgery	47	12.2
	Medical	23	6.0
	Paediatrics	36	9.4
	Gyne and Obs	26	6.8
	Others***	145	37.8
Work experience	1-4 years	214	55.7
	> 4 years	170	44.3
Average monthly income	600-6000 ETB	206	53.6
	>6000 ETB	178	46.4
Respondents have another responsibility other than their position.	No	327	85.2
	Yes	57	14.8

*Others: Waqifeta, Adventist

**Others: Physiotherapy, Environmental Health, dentist, pharmacy

***Others: ICU, Oncology, Maxillofacial, dialysis unit, transplant

4.2 Knowledge of Disaster Preparedness among Health Professionals Working in SPHMMC Addis Ababa, Ethiopia.

Questions that were addressed in this section was to assess whether respondents knew what a disaster is, what a disaster plan is, whether they knew where to find the plan, whether staff members understood their function during a drill and what disaster preparedness really is. From the participants, 54.4% of them know definition of the disaster. About 54.7% of the samples know a disaster plan. Only 19.8% know what drills are. Concerning preparedness, 38.3% of them define disaster preparedness (**Table 2**)

Table 2: Knowledge Related Question on Disaster Preparedness Among Health Professionals Working in SPHMMC Addis Ababa, Ethiopia, 2022. (n =384)

Variables	Category	Frequency	Percentage
Respondents know what is disaster	No	175	45.6
	yes	209	54.4
Respondents know what is disaster plan	No	210	54.7
	yes	174	45.3
Respondents know where to find plan	No	306	79.7
	yes	78	20.3
Respondents know what is drill	No	308	80.2
	yes	76	19.8
Respondents understand their function during drills	No	313	81.5
	yes	71	18.5
Respondents know what is disaster preparedness	No	237	61.7
	yes	147	38.3

In this study, the overall good knowledge on disaster preparedness among the study participants were 53.39% (95% CI: 48.41% -58.37%)(**Figure 3**). This finding is in line with a study conducted at Black Lion specialized hospital, which showed 50.8% of the health care workers had good knowledge about hospital disaster preparedness and its plan (Habte, Addisie, & Azazh, 2018). The similarity of the finding may be due to the nature of the study setting (both of the study conducted in urban setting).

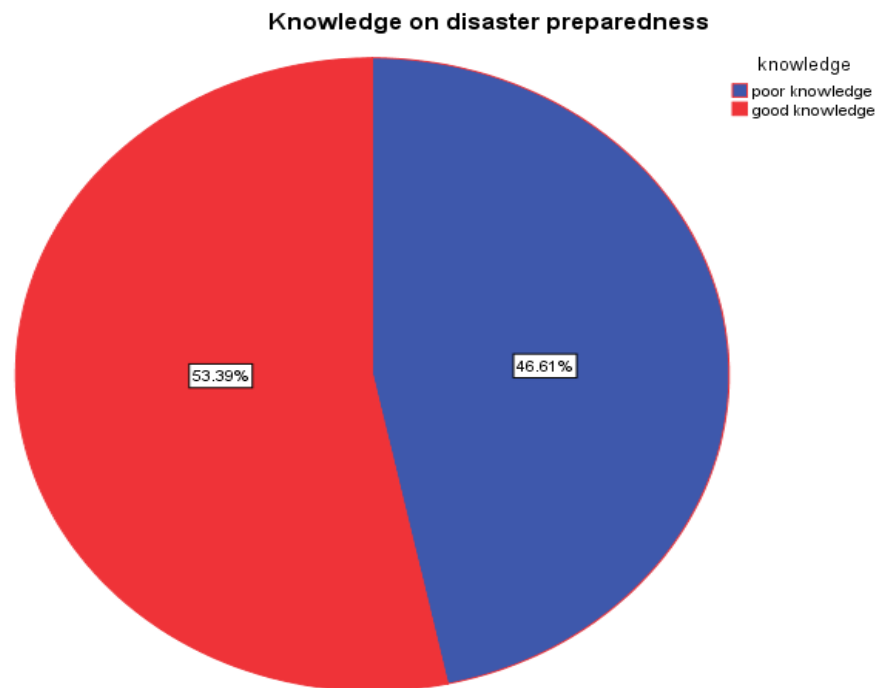


Figure 3: Knowledge on disaster preparedness among health care workers in SPHMMC Addis Ababa, Ethiopia, 2022. (n =384)

4.3 Attitude towards Disaster Preparedness among Health Professionals Working in SPHMMC Addis Ababa, Ethiopia.

About, 81.5% of the participants a need to know about disaster plans. The statement “disaster planning is for a few people in the hospital” agreed by 27.9% of the samples. About 89.8% of the participant agreed that disaster management training is necessary for all health care workers in SPHMMC. Ninety percent (90.4%) of the samples have willingness to provide first aid for disaster victims (**Table 3**).Table 3 illustrates that health professionals at SPHMMCagree that

they need to know about disaster plans, believe that they need to be adequately prepared should a disaster happen, that the plans are for all, that hazards likely to cause a disaster should be identified and dealt with. 89.9% felt that training is necessary for all health care workers. Even if the share is small, respondents also felt that disaster plans are necessary and need to be regularly updated.

Table 3: Attitude related questions on disaster preparedness among health professionals working in SPHMMC Addis Ababa, Ethiopia, 2022. (n =384)

Variables	Category	Frequency	Percentage
Respondents need to know about disaster plans	I do not know	10	2.6
	Disagree	313	81.5
	Agree	61	15.9
Management should be adequately prepared when a disaster occurs	I do not know	62	16.1
	Disagree	194	50.5
	Agree	128	33.3
Disaster planning is for a few people in the hospital	I do not know	70	18.2
	Disagree	207	53.9
	Agree	107	27.9
Potential hazards likely to cause disaster should be identified and deal with	I do not know	55	14.3
	Disagree	157	40.9
	Agree	172	44.8
Disaster management training is necessary for all health professionals working in SPHMMC	I do not know	21	5.5
	Disagree	18	4.7
	Agree	345	89.8
Disaster management training is necessary only for disaster management service staff and volunteers	I do not know	36	9.4
	Disagree	263	68.5
	Agree	85	22.1

Respondents think it is necessary to have a disaster plan	I do not know	41	10.7
	Disagree	112	29.2
	Agree	231	60.2
Disaster plans need to be regularly updated	I do not know	80	20.8
	Disagree	165	43.0
	Agree	139	36.2
Disasters are unlikely to happen in our country	I do not know	58	15.1
	Disagree	217	56.5
	Agree	109	28.4
Disaster management is for nurses and doctors only	I do not know	82	21.4
	Disagree	262	68.2
	Agree	40	10.4
Disaster simulations should occur frequently in the hospital	I do not know	92	24.0
	Disagree	153	39.8
	Agree	139	36.2
Drills should be conducted in SPHMMC	I do not know	98	25.5
	Disagree	99	25.8
	Agree	187	48.7
Respondents believe that it is necessary to provide first aid immediately when disaster strikes	I do not know	16	4.2
	Disagree	47	12.2
	Agree	321	83.6
Respondents have willingness to provide first aid for disaster victims.	I do not know	7	1.8
	Disagree	30	7.8
	Agree	347	90.4

The respondents in general were presented with various statements were basically aimed at finding out their attitude on disaster plan at the hospital. The general attitude of respondents towards disaster preparedness was largely positive as 63.54% (95% CI: 58.73% - 68.35%). respondents had Good attitude(**Figure 4**). This finding is similar with a study conducted in Ethiopia (*Habte, Addisie, & Azazh, 2018*).

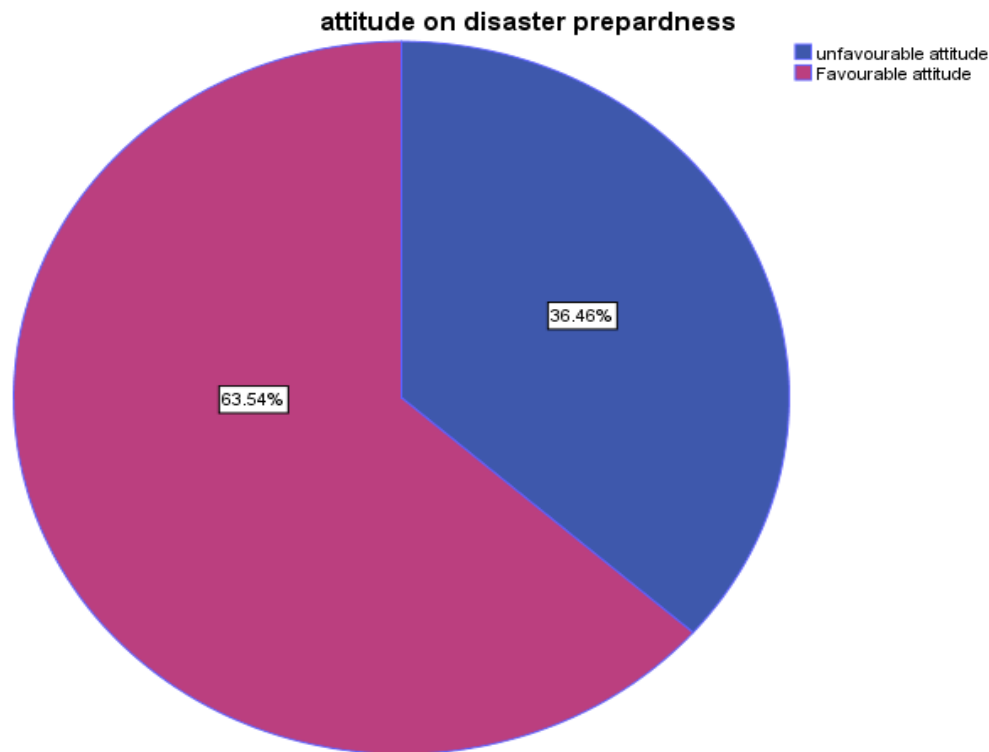


Figure 4: Attitude on disaster preparedness among health professionals working in SPHMMC Addis Ababa, Ethiopia, 2022. (n =384)

5.4 Practice on disaster preparedness among health professionals working in SPHMMC Addis Ababa, Ethiopia.

About 32.3% of the study subjects know that drills were done in the hospital. Six percent (6.3%) of the study subject told that an ongoing disaster management training was delivered. Sixty Six percent (66.4%) of the participants have faced disaster (**Table 4**).

Table 4: Practice related questions on disaster preparedness among health professionals working in SPHMMC Addis Ababa, Ethiopia, 2022. (n =384)

Variables	Category	Frequency	Percentage
disaster drills done at SPHMMC	I do not know	173	45.1
	No	87	22.7
	Yes	124	32.3
Ongoing disaster training in SPHMMC.	I do not know	179	46.6
	No	181	47.1
	Yes	24	6.3
Is the disaster plan periodically updated	I do not know	228	59.4
	No	148	38.5
	Yes	8	2.1
Respondents have ever faced disaster.	I do not know	18	4.7
	No	111	28.9
	Yes	255	66.4
Respondents know the latest disaster in SPHMMC	I do not know	117	30.5
	No	150	39.1
	Yes	117	30.5
Respondents believe that practice for disaster preparedness is insufficient.	I do not know	56	14.6
	No	98	25.5
	Yes	230	59.9

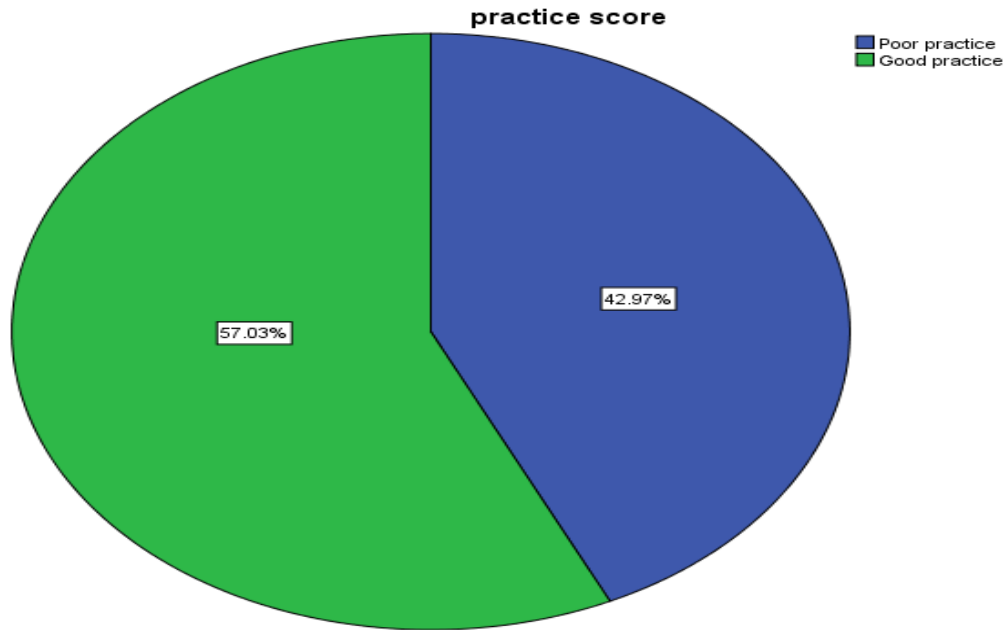


Table 5: Practice on disaster preparedness among health professionals working in SPHMMC Addis Ababa, Ethiopia, 2022. (n =384)

The magnitude of good practice on disaster preparedness in the study area was 57.03% (95% CI: 52.08% - 61.98%) (**Figure 5**). This indicates that there is deficiency in the practices regarding disaster preparedness and that work still needs to be done regarding preparedness.

5. Conclusion and recommendation

5.1 Conclusion

The health workers at SPHMMC Hospital were found to have a reasonable knowledge on disaster and its management. Their attitude regarding disaster preparedness was good. They believed that disasters are likely to happen at their hospital and that they need to be prepared should they happen. Also that all staff members need to know about disaster planning, that they should know their function during a disaster. They also agreed that disaster plans need to be regularly updated. Though they had good knowledge and their attitude was acceptable, their practices in terms of the frequency of ongoing and the frequency of regularly updating the plans was probably inadequate. The findings of the research was that selected health care workers at the SPHMMC Hospital were aware of the disaster preparedness and its plans, and the disaster management preparedness. Their attitudes to the plans and drills were largely positive. However, the practices were deficient and work still needs to be done in regard to ongoing training, performance of drills and the frequency of regular updating of the plans. Gaps need to be filled in terms of updating staff regarding regular drills, ongoing training on a regular bases with inclusion of all key people in the hospital.

5.2 Recommendation

Overall, the results are decent. However, there is still opportunity for development. The following ideas are suggested in order to enhance the knowledge, attitudes, and behaviours of healthcare professionals at SPHMMC Hospital:

- During a drill, every employee should be familiar with their responsibilities. All health care workers should receive training, and the disaster committee should see to it that this occurs.
- Staff members should be made aware of the frequency of drills as well as ongoing training.
- The location of emergency plans should be convenient for all staff members. When required, they should be easily accessible. The Disaster Committee should make sure that everyone on staff is aware of the location of the plans. To avoid

being unavailable when needed, they should make sure they are not cooped up in an office.

- The Disaster Committee should make sure that all preparations are up to date and maintained. The normal meeting schedule that is currently in place should be maintained. If a calamity occurs, the administration should be in charge of making sure the hospital is appropriately equipped.
- The plans should be updated by performing a risk analysis of any prospective risks or occurrences that are expected to happen frequently in the hospital.

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APPENDIX

INFORMATION SHEET

Hello,

I am Biruk, a part time student studying for Master in Food science and developmental study (food security) with the University AA. I'm currently in my third year of Study in the field of FSDS. I'm undertaking a studyinvestigating the knowledge, attitudes and practices of the health care workers regarding Disaster Preparedness.

Purpose of study?

The hospitals all over the world have had to respond to disasters around them. Disaster preparedness is the key to effective event command. Amongst other things, preparedness involves awareness, planning and training

This study aims to assess the knowledge, attitudes and practices of Health care workers regarding disaster preparedness in the hospital. Your assistance in this regard will be greatly appreciated.

Annex: Questionnaire

Instruction: circle or make a thick the one you choose from the alternatives from the right-side options for the related questions which are placed on the left side.

Would you be willing to participate in the study?

YES

NO

Part I: Socio-demographic characteristics

Code	Socio-demographic Questions	Response	Remark
101	Sex	1. Male 2. Female	
102	Age	_____ Age in years	
103	marital status	1. Married 2. Single 3. Widowed 4. Divorced 5. Separated	
104	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Other (Specify) _____	
105	Profession	1. Nurse 2. HO 3. Midwife 4. Physician 5. laboratory technician 6. other-----	

106	Educational status	1.Diploma 2.BSc 3.Dr/MD 4.MSc/MPH 5.Other (specify) _____	
107	Service year	----- (year)	
108	What is your average monthly income/salary/in ETB?	----- (ETB)	
109	Do you have another responsibility other than your position?	0. No 1. Yes	
110	Working unit/department	1. Outpatient 2.Emergency 3.Laboratory 4.Surgeryward 5.Medicalward 6.Pediatricward 7. Gyn and obs ward 8. Other(specify) _____	

Part II: Knowledge

201. What is a disaster?-----

202. What is a disaster plan?-----

No	Question	Yes	No	I don't know
203	Do you know where to find the plan?			
204	Do you know what drills are?			
205	Do staff members understand their functions during a drill?			
206	What is disaster preparedness?			

Part III. Attitude

No	Question	Agree	Disagree	Do not know
301	I do not need to know about disaster plans			
302	Management should be adequately prepared when a disaster occurs			
303	Disaster planning is for a few people in the hospital			
304	Potential hazards likely to cause disaster should be identified and deal with			
305	Disaster management Training is necessary for all health care workers in SPHMMC			
306	Disaster management Training is necessary only			

	for disaster management service staff and volunteers			
307	Do you think it is necessary to have a disaster plan?			
308	Disaster plans need to be regularly updated			
309	Disasters are unlikely to happen in our country			
310	Disaster management is for nurses and doctors only			
311	Disaster simulations should occur frequently in the hospital			
312	Drills should be conducted in SPHMMC			
313	Do you believe that it is necessary to provide first aid immediately when disaster strikes?			
314	Do you have willingness to provide first aid for disaster victims?			

Part IV. Practice

No	Question	Yes	No	I don't know
401	Are disaster drills done at your hospital?			
402	If yes, what type of drills is done? ----- ----- -----			
403	Is there ongoing disaster management training?			
404	If yes, how often? ----- ----- ----- -----			
405	Is the disaster plan periodically updated?			
406	If yes, how often?-----			

	----- -----		
407	Have you ever faced any disaster?		
408	Do you know about the latest Disaster in your hospital?		
409	Do you believe your practice for disaster preparedness is insufficient		