ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

DEPARTMENT OF EMERGENCY MEDICINE AND CRITICAL CARE

Knowledge, attitude and practice of disaster preparedness and associated factors among Addis Ababa fire & disaster risk management commission & Red cross society emergency medical service employees, Addis Ababa, Ethiopia ,2023.

By Gizatu Alemu (BSc Nurse, EMCCN candidate)

Thesis result to be submitted to department of emergency medicine and critical care Addis Ababa university, in partial fulfilment of the requirement for MSc in emergency medicine & critical care nursing, Addis Ababa, Ethiopia, 2023.

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by: Gizatu Alemu (BSc Nursing)

Advisors:

Mr. Birhanu Melaku (MSc EMCCN lecture)

Dr Lemlem Beza (PhD, assistant professor)

Dr. Temesgen Beyene (MD, ECCM, MPH Candidate., consultant emergency medicine & critical care medicine specialist, assistant professor of emergency medicine &critical care, POCUS Educator scholar clinical research graduate (Alumni- Harvard medical school)

Advisor's Approval Sheet

Addis Ababa University

College of Health Science

Department of Emergency medicine and critical care

This is to certify that the thesis entitled "Assessment of knowledge, attitude, and practice of disaster preparedness & associated factors among Addis Ababa fire & disaster risk management commission & RCS EMS employees at Addis Ababa , Ethiopia, 2023 '' is submitted in partial fulfilment of the MSc in "Emergency medicine and critical care nursing" to the Graduate Program of the College of Health Science of Addis Ababa University and has done by Gizatu Alemu ID No: GSR/1726/14 under my supervision. Therefore, I recommend that the student has fulfilled the requirements and hence hereby can submit the thesis to the Department.

Name of advisors:

Mr Birhanu Melaku (MSc EMCCN lecture) _____ _____

Signature Date

Dr Lemlem Beza (PhD) signature _____ date _____

Dr Temesgen Beyene (EMCC Specialist)

_____ _____

Signature Date

Approval by the board of examination

This thesis done by Gizatu Alemu is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of masters in emergency medicine and critical care nursing.

External examiner:

_____ _____ _____

Name Signature Date

Internal examiner:

_____ _____ _____

Name Signature Date

Research advisors:

Mr. Birhanu Melaku (MSc EMCCN lecture)

_____ _____

Signature Date

Dr Lemlem Beza (PhD, Assistant professor)

Signature _____ date _____

Dr TEMESGEN BEYENE (ECCM Specialist)

_____ _____

Signature Date

Department head:

_____ _____ _____

Name Signature Date

Declaration

I hereby declare that this MSc thesis is my original work and has not been presented for a degree in any other university and all sources of material used for this thesis have been duly acknowledged.

Name: Gizatu Alemu (BSc.)

Signature: _____ Date: _____

Table -1; Research thesis submission table

Research thesis submission table

Name of investigator	**Gizatu Alemu (BSc, MSc EMCCN Candidate)**	
Name of advisors	**1 Mr. Birhanu Melaku (MSc EMCCN Lecture)** **2 Dr. Lemlem Beza (PhD, Assistant professor)** **3 Dr. Temesgen Beyene (MD, ECCM Specialist, Assistant professor of EMCC.)**	
Full title of research project	**Knowledge, attitude & practice of disaster preparedness and associated factors among Addis Ababa fire & disaster risk management commission and red cross Emergency medical service employees, Addis Ababa, Ethiopia,2023.**	
Duration of project	**October – June ,2023**	
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Total cost of project	**25,600 ETB**	
Address of investigator	**+251904628769** **Gmail; gizalemu27@gmail.com**	

Acronyms and abbreviations

AAU-Addis Ababa university

AAFDRMC- Addis Ababa fire & disaster risk management commission

BSc-Bachler of science

DM -disaster management

ED - emergency department

EM -DAT - emergency data base

EMS- emergency medical service

ERCS-Ethiopian Red Cross Society

FDRE- federal democratic republic of Ethiopia

HCWs - health care workers

KArP -knowledge attitude and readiness to practice

KAP- knowledge attitude practice

MOH-ministry of health

PI- principal investigator

RCS-red cross society

SPSS - Statistical package for social science

SPHMMC-saint Paul hospital millennium medical college

TASH-Tikur Anbessa specialized hospital

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Abstract

Background: Disasters have become a major public health concern, as they can occur at any time, cause significant property damage, disrupt infrastructure, and hinder social and economic progress. Natural and man-made disasters claim lives and cause displacement every year, and the frequency of disasters has increased over the past five decades. To respond to such events, the Red Cross Society and Fire & Disaster Risk Management Commission act as entry points for victims to receive proper care before arriving at hospitals in Addis Ababa.

Objective: This study aimed to assess the knowledge, attitude and practice of disaster preparedness & associated factors among Emergency medical service employees working in Addis Ababa fire and disaster risk management commission and red cross society**.**

Methodology: An institutional-based cross-sectional study was conducted among employees of Addis Ababa Fire and Disaster Risk Management Commission and Red Cross society affiliated with Emergency Medical Services (EMS). The data were collected through self-administered structured questionnaires between March 15 to April 15, 2023, and were checked for completeness before being entered into EPI-data version 4.6. The data were later exported to SPSS version 27.0.1 for analysis. Bivariate and multivariable analyses were employed in the study for data analysis.

Results: Out of 120, total of 115 health professionals participated in the study. About 59.1 % of participants were female and majority of respondents age group is 25-30(88.7%) years and mean & median age of participants is 28.57(SD=3.618) & 28 respectively. About half of 6o(52.2%) at 95%CI (41.7%-62.7%) EMS health care workers had adequate knowledge about disaster preparedness. Overall attitude towards the disaster preparedness was largely positive as 87(75.7%), 95% CI (66.9%-84.4%) of respondents had favourable attitude. Good practice 76(66.1%), 95% CI (57.3%-75.7%) of disaster preparedness was observed. Those who took disaster management training (AOR=4.644, 95%CI=1.574-13.705, p=0.005) and had disaster management plan (AOR=7.970, 95%CI=2.405-26.418, p<0.001) were strongly associated with good knowledge of the participants. Those who took Disaster management training was strongly associated with favorable attitude of the participants at (AOR=4.191, 95%CI=1.414-12.422, P=0.010). Those who took disaster management training(AOR=14.638, 95%CI=3.329-64.357, P <0.001,those who had performed drills previously(AOR= 4.446, 95%CI=1.054-18.749,P=0.042),those who had been worker of disaster management team(AOR

=7.472,95%CI=1.893-29.493,P=0.004) and those who updated disaster management plan (AOR =10.191,95%CI=2.302-45.113,P=0.002) were significantly associated with participant's good practice towards disaster preparedness.

Conclusion and recommendation: This study showed that more than half of EMS employees had good knowledge, practice and largely positive attitude on disaster preparedness. Still much effort is expected from AAFDRMC & RCS to enhance adequate knowledge, practice & favorable attitude through more ongoing disaster trainings & frequent disaster simulations.

Keywords: Knowledge, attitude, practice, disaster preparedness, fire and disaster risk management, red cross

1. Introduction

1.1. Background

Disaster, according to the WHO, is "an event that disrupts everyday life, results in a suffering which is beyond an ability of the affected community and necessitates extraordinary emergency interventions to save and preserve lives or the environment. Natural catastrophes, technical disasters, and civil/political disasters are all examples of disasters.[1]

The four phases of the disaster management cycles are disaster mitigation, disaster preparedness, disaster response, and disaster recovery. An action taken to minimize the effect of disaster is considered mitigation. Actions are initiated during the response phase in order to save lives, protect property, protect the environment, and stop further damage. After an occurrence, the recovery phase begins with efforts to return the community to normal. [2]

Emergency/disaster preparedness is an action plan of being ready to react for an actual disaster and suspicious accomplished via planning &formulation of policies , disaster training, important infrastructure &equipment acquisition with necessary knowledge and practice skills. [3]

The main aim of disaster management is to minimize the potential losses from anticipated hazards (to avoid if possible), guarantee immediate and appropriate support for victims when necessary and achieve prompt and sustainable recovery from disaster effects. [4]

Due to the growing risk of disasters brought by threats like the global pandemic, climate change, and geopolitical instability, local and national institutions have started settling sort of preparedness & plan of response. EMS and health professionals, who will be the first responders during disaster are among those who will be on the front lines of preparation. [5]

Disasters that have happened in the world typically may be used as reminders as that the world we live in is full of risks and even although, we cannot predict the time a disaster will strike, we can predict that both natural and man-made crises will occur. [6]

1.2. Statement of problem

Based on global outlook on disaster research, incidence of both natural as well as man-made disasters has increased over the last five decades which was resulted in death and displacement of people in the world in each year. Due to increased population growth, concentration in coastal areas and cities as well as climate change, the world's vulnerability to catastrophes rose and their effects were worsened. [3]

According to the world Emergency event data base report (EM-DAT) of 2021, more than 430 natural catastrophic disaster events in the world were recorded which was ended up with more than 10,000 deaths, affected more than 100 million people and around US$ 252.1 billion economy loss. [7]

Africa is second to Asia in terms of the frequency of natural catastrophes, with the continent experiencing 56% and 83% of all global complex emergencies and epidemics between 1995 and 2004. In southern Africa, political and intercommunal crises, as well as natural and man-made calamities, are frequent hazards. [4]

Easter & northern part of Ethiopia were posed with significant & repeated risks of drought and flooding which on average over 1.5 million & 250,000 people were affected by drought & flooding every year respectively. [2]

Despite of these, In Ethiopia research and publications regarding disaster preparedness are scarce. Study reviewed in 2018 in Black lion hospital, health care worker's knowledge level regarding disaster preparedness was low (49.2%), 91.7% of health care workers had inadequate level of practice and had unfavorable attitude of 35.2%. Also the country's low attention to disaster preparedness & management policy may abandon effect of disaster when it strikes. [8]

Even though, the health care worker's attitude towards hospital disaster /emergency preparedness was positive(55.1%), knowledge and practice level of health care providers about preparedness to disasters was poor & inadequate (52% &56.4%) respectively in the study conducted-on hospitals under Addis Ababa health bureau 2020. [9]

The extent of disaster preparedness in conjunction with the underdeveloped emergency services in Ethiopia, Addis Ababa fire and disaster risk management commission, and red cross society

EMS employees' understanding of how much knowledge, attitude, and practice of disaster preparedness contribute to reduce risk, morbidity, and mortality secondary to disaster are unknown. Inadequate knowledge, negative attitude, and poor practice on disaster preparedness during emergency service contributes to limited disaster intervention.

The issue of disaster became serious threat in the city due to public gatherings throughout the year at various locations or services, such as during Ramadan and Epiphany, train services, universities and colleges, current geopolitical situations, and construction activities.[10] Despite of all these disaster threats, to the level of evidence as far what I have, there is no evidence of documents or studied journals have been found on EMS employees serving in governmental disaster management institutions (in Addis Ababa fire and disaster risk management commission and red cross society) regarding knowledge, attitude & practice of disaster preparedness.

1.3. Significance of Study

A key concern for public health is a disaster, which has an impact on people, property, and lives both locally and nationally. Employees of AAFDRMC & RCS who are working in frontline during a disaster need to be always prepared for disaster and emergency because the timing and location of disaster occurrence are unpredictable. Good knowledge, positive attitude and adequate practice towards disaster preparedness reduces the loss of life & property due to nowadays increasing occurrence of manmade & natural disasters in the city.

So, findings of the study will give an opportunity for those institutions to know level of their staffs' understanding, attitude & practice of EMS employees towards disaster/emergency preparedness and to act accordingly to improve their knowledge, attitude and practice by working with concerned bodies and in strengthening efforts that will reduce the loss of life and property of community & government through training and drills. Identifying and analyzing such information related to the level of knowledge, attitude &practice of preparedness to disasters may serve as a focal point and source of inspiration for further future study in this area.

2. Literature Review

2.1. General overview

As the world disaster statistics showed $235 billion &130,000 lives lost from disaster in 2000-2006. As statistics in 2011 showed that disasters caused death of more than 30,700 people, an estimated economic damage of more than US$ 366 billion in the world in a year 2011 alone. Around 317 natural disasters were reported in 2015 ,which occurred all over the world in 2014 and also more than 10,000 deaths and around 252.1 billion US$ economic losses were reported in 2021 which has been increasing over the past decade in the world. [11, 7].

Africa's issue is particularly disturbing because every year, countries on the continent face threats that put them at a greater risk, an ever-increasing vulnerability for hazards than other continents. World health organization/ reported as many countries in sub-Saharan regions of Africa hadn't comprehensive disaster /emergency preparedness plan because majority of professionals have deficient basic knowledge and art of response to disaster to handle it. [11]

Despite of Increased world's number of disasters, WHO global survey found that most countries had lacked trained personnel on disaster management in adversities and in emergencies ,as evidenced by WHO review of 2017, which showed low knowledge level and skills required for disaster management. [11,12]

2.2. Knowledge of disaster preparedness

Cross-sectional study conducted Among 168 health professionals in tertiary care, teaching, research & referral medical institute of south India in 2020, reflected the lack of sound knowledge regarding disaster preparedness. Nursing staff showed had higher knowledge ((60.9% of 46) level next to doctors (65.8 % of 38), followed by administrates and lastly technicians. [13]

A research study done on 150 nurses at Sabia General Hospital in Saudi Arabia in 2021 found that 79.3% had good knowledge regarding disaster preparedness. [14]

There was descriptive cross-sectional study conducted among Rwanda red cross society employees of headquarter Kigali in 2018 ,which showed that majority of respondents had deficiency in level of understanding as what disaster preparedness is (81.4%) , 57.1% of participants don't know what disaster plan is , 58.6% respondents do not know where to get disaster management plan, 75.7% of participants know what disaster drill is ,571% of participants don't know their function during disaster drill and around 81.4% of participants know what disaster preparedness is. [12]

Up on investigation conducted in different regions of Ethiopia, a significant number of health care providers working at frontline of emergency, had deficient perception to disaster & response to some certain specific disasters. About 29.4% of the respondents in Jimma thought as they have good knowledge & 51% of participants had overall inadequate knowledge on emergency and disaster preparedness done in referral hospitals of Amhara region(2021). [15, 16]

Also hospital based cross-sectional study conducted in Gondar zonal hospital implied that the knowledge level of participants regarding preparedness to disaster was 48.3% ,which was considered as low level. [17]

Another hospital based cross sectional study conducted in black lion specialized hospital in 2018 showed that around 50.8% of participants had adequate knowledge of disaster preparedness & disaster plan. [18]

2.3. Attitude of disaster preparedness

Study conducted in in two teaching hospitals in Lagos, showed that respondents' attitude toward emergency preparedness was generally positive (93.2%). [19]

A study involving 150 nurses at Sabia General Hospital in Saudi Arabia in 2017 showed that 1/3rd of respondents (51.3%) agreed that hospital must be prepared if the disaster should occur, while 39.3% disagree and 9.3% are not sure. [14]

A study conducted in south India in 2020 among 168 health care professionals in a tertiary care & teaching, research, and referral medical institute revealed almost all the healthcare professionals had favorable attitude towards knowing of disaster plan, updating disaster management plan frequently is necessary, that the hospitals need to be prepared adequately for any strike of disasters, and that training should be given for all (92%). Out of 168 HCWs, (66.7%) of respondents disagreed the that disaster planning is for the few in the hospitals. [13]

A study conducted in 2018 among Rwanda Red Cross employees of headquarter in Kigali, more than half (54.3%) of participants showed the need to know disaster plan, about (81.4%) of study participants agreed that management staff should be prepared and 54.3% of participants disagree that the disaster management is for few people. (54.3%) had favorable attitude towards disaster preparedness , disaster simulation(drills),first aid , disaster management &plan. [12]

In Ethiopia there was study on frontline health care professionals at emergency department of referral hospitals of Amhara regional state in 2021, More than half of respondents have positive attitude of disaster preparedness(57.8%). [16]

Hospital based cross sectional study done in Gondar zonal hospital showed that only 45.0% of the study participants had a favourable attitude of disaster/ emergency preparedness(2022). [17]

Also hospital based cross- sectional study conducted in Black lion specialized hospital in 2018 showed that the attitude of study participants towards disaster preparedness was largely favorable attitude(64.8%). [8]

2.4. Practice of disaster preparedness

Descriptive cross-sectional study on 168 health professionals in south India tertiary care & teaching, research ,referral medical institute in 2020,showed that 70% of study participants didn't know whether disaster simulations were conducted at their hospital or not and more than 2/3rd (80.3%) of study respondents didn't know what type of disaster simulation (drill) was conducted at their hospital ,and around 7% of said that earthquake mock drills were conducted followed by gas leak, fire and bomb blast. [13]

Cross sectional study on Mosul teaching hospital of Iraq on emergencies nurses in 2020 revealed that around 44.5% of respondents of study were conscious enough as that disaster drills were being conducted in their health care settings. Around 31.6% of participants reported as training was being given every three months. [20]

Another self-administered cross -sectional study on randomly selected 150 nurses at sabia general hospital in Saudi Arabia 2021.Responses of the respondents if the disaster drills done at your hospital, 32.7% said yes while 30.7% said no and the rest 36.7% did not know and 17.2% of participants responded that disaster preparedness training is continuous, while 37.0% said no and the rest don't know. 38.0% gave their answer as yes when asked if the disaster plan is periodically updated while 28.0% of them said no and the rest don't. [14 ,21]

A cross-sectional descriptive study reviewed in Rwanda red cross society headquarter employees in Kigali in 2018, showed that more than half of participants (52.9%) replied that disaster simulations were conducted in Rwanda red cross society ,(57.1%) didn't know the frequency of disaster drill and (60%) study participants didn't know the frequency of DM training, 41.4% were member of disaster response team and 52.9% of respondents gave first aid when disaster event had happened. [12]

In 2018 there was hospital based cross -sectional study conducted on 290 health care workers of black lion comprehensive specialized hospital in Addis Ababa. In this study low level of disaster preparedness practice was observed which was evidenced as 8.3% of practice score. [8]

2.5. Factors associated with Knowledge, Attitude and Practice of disaster preparedness.

Study on emergency medical care providers of east coastal regional hospitals in Malaysia in 2016, both gender and level of education were statistically associated with good level of practice & knowledge. Work experience ,previous exposure of disaster response and attending disaster management training were significantly associated with adequate practice level .but either of the socio-demographic characteristics didn't show any change on level of attitude. [22]

There was also study at sabia general hospital in Saudi Arabia 2021. Attending disaster drill and work experience of five years and above were significant factors for good knowledge. But in contrarily, Study conducted in Bangladesh city hospitals in 2018, educational level (postgraduates & doctors had been more knowledgeable than others) was a significant factor for the knowledge difference among participants regardless of their work experience.[14]

Institutional based cross-sectional study conducted in regional stat of Amhara frontline nurses working at emergency regarding emergency &disaster handling preparedness and associated factors in referral hospital (2021) implied receiving training on the subject ,respondents who took simulation of disaster and having professional work experience in disaster service were significantly associated. [16]

Institutional based cross sectional survey done in south west Ethiopia (Jimma) showed that except professional category and year of service in current organizations, all predictors variables showed to have no significant association with perceived poor knowledge level of health professionals. [15]

2.6. Conceptual frameworks

This conceptual framework is developed after reviewing related different literatures [8,12,13,15,16,20,21,23,23,24].This conceptual framework shows that sociodemographic factors like age, gender, educational level, professional category &year of experience) & organizational factors(training, disaster drill , disaster management plan & updating disaster management plan) directly affect knowledge, attitude & practice of disaster preparedness.

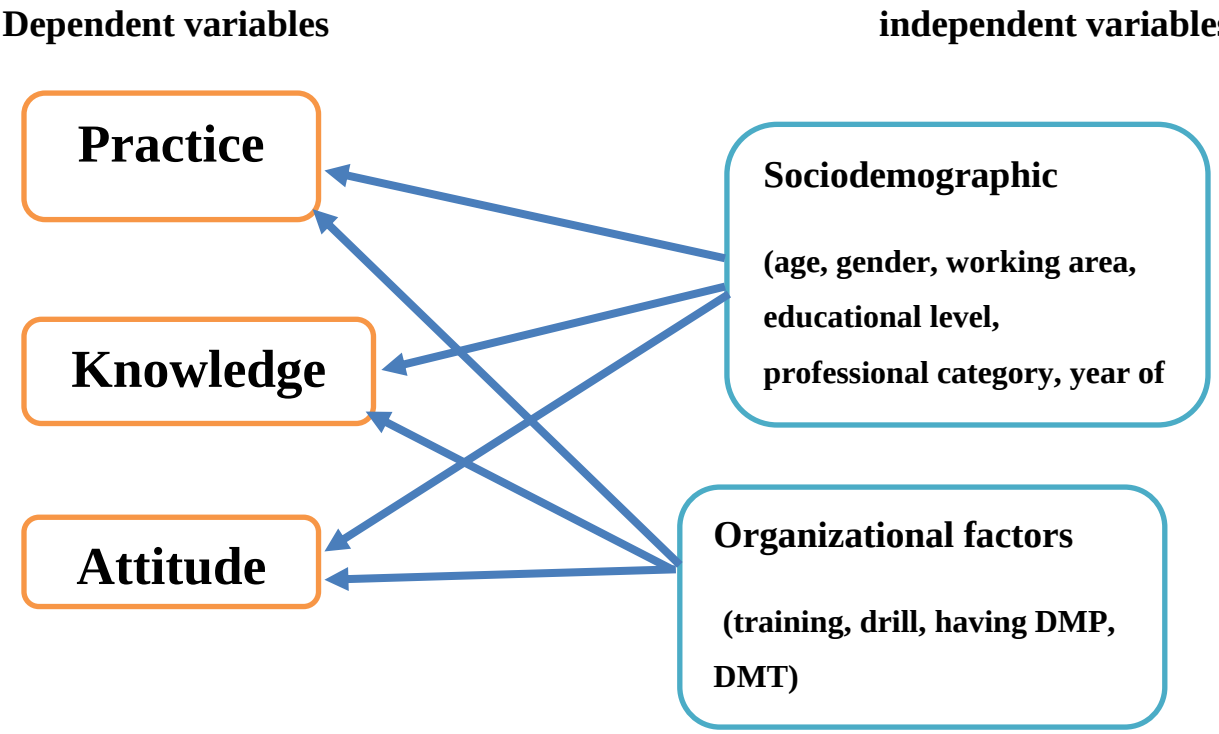

Figure- 1: - Conceptual framework*;* illustrates the predictors which influence knowledge, attitude & practice of disaster preparedness.

3. Objectives

3.1. General Objective

To assess knowledge, attitude, & practice of disaster preparedness & associated factors among Addis Ababa fire and disaster risk management commission and red cross society EMS employees, Addis Ababa, Ethiopia, from March 15-April 15,2023.

3.2. Specific Objectives

To assess knowledge of disaster preparedness of Addis Ababa fire and disaster risk management commission and red cross society EMS employees, Addis Ababa, Ethiopia, from March 15-April 15,2023.

To assess attitude of disaster preparedness of Addis Ababa fire and disaster risk management commission and red cross society EMS employees, Addis Ababa, Ethiopia, from March 15-April 15,2023.

To assess practice of disaster preparedness of Addis Ababa fire and disaster risk management commission and red cross society EMS employees, Addis Ababa, Ethiopia, from March 15-April 15,2023.

To identify associated factors with KAP of disaster preparedness among EMS employees of Addis Ababa fire and disaster risk management commission and red cross society, Addis Ababa, Ethiopia from March 15-April 15,2023.

4. Methods and Materials

4.1. Study Area and Period

There are two large governmental institutions in Addis Ababa such as AAFDRMC and RCS which are currently carrying out rescue, EMS and relief operations in the affected area where disaster occurs in Addis Ababa. This study was conducted in these two institutions of city. These two large institutions are selected for study because they are the institutions currently giving immediate medical service & relief operations in Addis Ababa when disastrous event happens. AAFDRMC and RCS are specifically selected based on their significant(substantial role) what they have during disaster/ emergency, as they deal being frontline with disaster situation. [25,26]

Ethiopian red cross society (ERCS); ERCS was started by government decree July 8,1935 after the second Italian invasion of the country which began by providing humanitarian services to wounded troops &Vic timed civilians. ERCS has served as pioneering humanitarian organization that has at times been in the fore front of disaster management service, national blood bank service, health services, volunteer service. Among the 11 regional branches Addis Ababa regional branch is one of it established in 1973 E.C. on front of emergency /disaster management service in Addis Ababa [11] . Currently there are 8 EMS employees giving emergency medical service currently.

Addis Ababa fire& disaster risk management commission (AAFDRMC); Addis Ababa Fire & disaster risk management commission is the main agency for preventing disaster, coordinating of responses**,** planning and leading chain of communication activities, signaling warns, transportation service during an emergency, relief operation, health and rehabilitation, public education, and auxiliary services such as firefighting and the police in the city. It comprises 8 Addis Ababa fire and disaster risk management commission execution branches in each sub cities with total 112 EMS employees. [26]

4.2. Study Design

Institutional based cross-sectional study design was used to assess knowledge, attitude & practice of disaster preparedness & associated factors in Addis Ababa fire and disaster risk management commission and red cross society EMS employees.

4.3. Population

4.3.1. Source Population

All Addis Ababa fire and disaster risk management commission and red cross society EMS employees were source population for this study.

4.3.2. Study Unit

All the individuals who fulfilled the inclusion criteria were study units.

4.4. Eligibility

4.4.1. Inclusion Criteria

EMS employees working in the Addis Ababa fire & disaster risk management commission & Red cross society who were available during the study period were included.

4.4.2. Exclusion Criteria

EMS Employees in maternal, annual &sick leave were excluded from study.

4.5. Sample Size Determination and Sampling Procedures

4.5.1. Sample Size Determination

There was no need to calculate the sample size because the Source population working in the Addis Ababa fire & disaster risk management commission & red cross society was modest (120). Therefore, all EMS employees who met the inclusion criteria were included in a study.

4.5.2. Sampling Techniques

All the EMS employees were assessed for knowledge, attitude and practice on disaster preparedness. Total number of EMS employees serving in the study areas were modest (120). Therefore, all EMS employees who meet the inclusion criteria were included in the study.

4.6. Variables

4.6.1. Dependent Variables

Knowledge, Attitude & Practice of disaster preparedness

4.6.2. Independent Variables

Socio demographic variables (Age, gender, educational level, year of experience).

institutional factors (drill, training, disaster management plan, updating disaster MGT plan).

4.7. Data Collection Tools and Procedures

4.7.1. Data Collection Tools

After in-depth review of literature from similar data, standard structured questionnaire were adapted from previous similar studies conducted under Addis Ababa health bureau hospitals, Black lion specialized hospital & Rwanda red cross society & modified to the study area.[8, 12,9] To the knowledge level of principal investigator, tool is prepared in English language. Pre-test was done in 5% in AAFDRMC clinic staffs & reliability of the tool for this study was checked & it was 0.740(average for knowledge, attitude & practice). It has a total of 42 questions. The instrument comprises 4 sections.

Part -1; comprises of socio-demographic characteristics of study units which accounts a total of 5 MCQs and 1 open ended question (age, sex, educational level, year of experience, current working place and professional category were included).

Part- 2; Assesses knowledge of participants on disaster preparedness. The knowledge question comprises 14 questions. from these questions, 12 of them have yes/no alternatives, and else two are MCQ alternatives for which Correct response was scored '1' and an option response was scored '0'. A correct answer about knowledge response was summed up accordingly and the mean score was calculated for knowledge questions. Score of mean and above the mean was labeled as adequate knowledge, while lower than mean score was labeled as inadequate knowledge.

Part -3; Assesses participant's attitude towards disaster/emergency preparedness. Part consists of 14 attitude statement rating check-lists towards disaster or emergency preparedness. Statement contains an agreement alternatives of Likert scale scoring of 1to5 points for each statement, where,1 is very much disagree ,2-disagree,3-neutral,4-agree and 5-very much agree. Score ranges from 14-70 from which mean value was calculated and the score of mean and greater than mean

was labeled as having favorable attitude and who scored lower than mean was labeled as unfavorable attitude.

Part- 4; Assesses practice of participants towards disaster preparedness. To assess participants' practice level regarding disaster preparedness part comprises seven yes/no questions. The question contains whether drills performed in their setting, ongoing disaster management training involvement, and whether disaster management plan was updated. All the questions ''have yes'' and ''no'' alternatives. For the participants' responses mean value was calculated and those scored the mean and higher than it was labelled as to have adequate practice of disaster preparedness and those whose score lower than mean value was labelled as inadequate practice.

4.7.2. Data Collection Procedures

List of EMS staffs from each branch were obtained from coordinators. Every respondent was told the importance of this research, how to respond and things to be expected from them during responding were also documented on the questionnaire. Questionnaire was addressed for participants by eight EMS coordinators from AAFDRMC, one from each branch & two from red cross society who were assigned for data collection by the principal investigator after orientation on elements of the study tools that require clarification. Finally, data was collected and checked for whether the data was complete, clean and appropriate by collectors then by principal investigator.

4.8. Data Quality Control

Pretest was done in 5% (6) of AAFDRMC clinic staffs prior to the actual data collection to assure quality of data. During data collection, data collectors collected the data and checked for whether completed, then after PI checked by calling & reviewed the completed questionnaires for completeness and consistency.

4.9. Data Processing and Analysis

Variables were coded and entered into epi-data version 4.6 and exported to the statistical package for social science (SPSS) version 27.0.1 for analysis. Descriptive analysis was done to analyze frequency, mean, and median. Frequency tables were applied for presenting processed data.

Knowledge of participant's preparedness to disaster was computed by adding all the item responses accordingly and participants response mean score was calculated. Finally whose score was mean and higher than it was labeled as to have adequate knowledge while score lower than mean value was categorized as to have inadequate knowledge of disaster preparedness. [20]

Attitude of participants regarding preparedness to disaster was calculated by adding attitude statement agreement points 1 to 5 for each agreements &according to their response mean value was computed. Then scores above & equal to mean value were taken as favorable attitude & scores below mean value were taken as unfavorable attitudes. [20]

Practice score of respondents was computed by adding all the practice assessment correct responses to items and mean value was computed. Finally those participants who scored the mean and higher the mean score were categorized to have adequate practice of disaster preparedness & those whose score lower than mean value were categorized as to have inadequate practice of disaster preparedness. [20]

Binary logistic regression was employed to identify factors associated with dependent variables. Multicollinearity between independent variables was checked for linear correlation of predictors (VIF=1.083-1.427)). Variables with a p-value of less than 0.25in bivariate analyses were imported into multivariable analyses. Hosmer & Lemeshow goodness of fitness test was checked for model fitness during multivariable analyses. Hosmer- Lemeshow's test was found to be p-value >0.05(KAP=0.549,0.119&0.981) which indicated that the model was fitted. In multivariable analysis, a p-valueless than 0.05 were declared as significant for the association between dependent and predictor variables.

4.10. Operational Definition

Adequate knowledge -implies respondents score which was equal to mean and higher than for knowledge assessment questions(mean =9.7). [20]

Inadequate knowledge – refers to score lower than the mean value for knowledge assessment questions. [20]

Unfavorable attitude- represents score of less than mean value of the attitude statements (mean=49.75). [20]

Favorable attitude- indicates score of mean and above mean value for attitude statements.[20]

Adequate practice– indicates score of mean and more than mean value of practice questions(mean=4.79).

Inadequate practice -refers to score of less than mean value of practice questions. [27]

4.11. Ethical Consideration

Ethical clearance and approval were obtained from Addis Ababa university, college of health science, department of emergency medicine & critical care research committee and a letter of permission was written to study area to get access of the actual data from the study subject. Participation was voluntary and information was collected anonymously after obtaining written informed consent from each respondent by assuring confidentiality throughout the data collection period. Voluntary participation was assured by signing on consent form and Participants also were told the objective of the study and their right to refuse to answer the questionnaires and given the right to stop or withdraw at any time of data collection. Confidentiality was maintained by omitting their personal identification.

4.12. Dissemination Plan

Findings of the study will be submitted to Addis Ababa university college of health science department of emergency medicine and critical care in hard and soft copy. It might also be submitted to FDRE MOH, Addis Ababa fire and disaster risk management commission and Red cross society in strengthening strategies that will reduce the loss of life and property through disaster preparedness. It will be presented to concerning bodies of AAU and be submitted to journals for possible publication.

5. Result

5.1. Socio-demographic characteristics of EMS employees of AAFDRMC &RCS

Out of 120 EMS employees 115 were actually participated in the study making the response rate of 95.83%. Out of these 68 (59.1%) were female respondents. Majority of the study participants 104(90.4%) were nurses followed by public health which were 6(5.2%) and the rest were midwifery. Majority age group of participants is 25-30 years which is 102(88.7%). Mean age of participant's was 28.57(SD= 3.618). Most of participants had experience years of 5-10 years in current working areas (41.7%). BSc nurses were majority 61(53%) of study respondents followed by diploma 46 (40%) and MSc 8(7%). Around 107(93%) of participants were from Addis Ababa fire & disaster risk management commission & remaining 8(7%) were from RCS.

Table - 2; sociodemographic characteristics of AAFDRMC & RCS EMS employees(n=115),2023.

Variable		Frequency	Percentage
Age	18-25 years	11	9.60%
	25-30 years	102	88.70%
	30-35 Ears	2	1.70%
	>35 years	0	0%
Sex	Male	47	40.9%
	Female	68	59.1%
Work place	Addis Ababa fire and disaster risk management commission	107	93.0%
	Red cross society	8	7.0%
Profession	Nurse	104	90.4%
	Midwifery	5	4.30%
	Public health	6	5.20%
	EMT	0	0%
Experience	<1 year	4	3.50%
	1-2 years	17	14.8%
	3-5 years	42	36.5%
	5-10 years	48	41.7%

	>= 10 years	4	3.50%
Educational level	Diploma	46	40.0%
	BSc	61	53.0%
	MSc	8	7.0%

5.2. knowledge level of disaster preparedness

About 77(67%) respondents knew what disaster is, only 52(45.2% of respondents correctly defined what disaster preparedness is,87(75.7%) knew about disaster plan ,88(76.5%) know as institution has disaster plan but 63(54.8%) respondents didn't know where a copy of disaster preparedness plan is found. Majority of respondents 89(77.4%) know what disaster drill is,88(76.5%) knew their role during disaster drill ,73(63.5%) know staff member's function during drill & their response team. 92(80%) know how alert status during disaster is activated and only 54(47%) of respondents knew that there is new disaster/emergency nickname in their working area.

Table 3; Below shows knowledge of AAFDRMC & RCS EMS employees towards disaster preparedness (n=115), (2023)

Question	Response	
	Yes	No
Defined disaster correctly	77(67%)	38(33%)
Defined disaster preparedness correctly	52(54.8%)	63(45.2%)
Know what a disaster plan is	87(75.7%)	28(24.3%)
Know that their institution has disaster plan	88(76.5%)	27(23.5%)
Know where to get copy of disaster management plan in your working area	52(45.2%)	63(54.8%)
Know what disaster drill is	89(77.4%)	26(22.6%)
Know as staff members know their functions during disaster drill	73(63.5%)	42(36.5%)
Know their role during disaster	88(76.5%)	27(23.5%)
Know when an alert status for disaster /emergency management plan in their working area is activated	92(80%)	23(20%)
Know place of evacuation for patients during disaster		

Know their disaster/emergency response team	61(53%)	54(47%)
Know when should first aid be given during disaster events	73(63.5%)	42(36.5%)
Know who should give first aid during a disaster	100(87%)	15(13%)
know whether disaster nick name(code) is available in their working area	100(87%)	15(13%)
	54(47%)	61(53%)

This study found that more than half of the participants 60(52.2%) at 95%CI (41.7%-62.7%) had adequate knowledge and 47.8% had inadequate knowledge regarding disaster/emergency preparedness based on the mean value (SD=3.24). Among respondents who had adequate knowledge ,56(48.7%) were from Addis Ababa fire & disaster risk management commission & the remaining 4(3.47%) were from RCS. Those who took disaster management training (AOR=4.644, 95%CI =1.574-13.705, p=0.005) and those who had disaster management plan (AOR=7.970, 95%CI=2.405-26.418, $p < 0.001$) were significantly associated with adequate knowledge of participants towards disaster preparedness respectively. Those who took disaster management training were 4.644 times more likely to have adequate knowledge than those of who didn't take disaster management training. Those who had disaster management plan were 7.970 time more likely to have adequate knowledge than those who hadn't disaster plan.

5.3. **level of attitude towards disaster /emergency preparedness**

This study showed that more than half of participants agreed 62(53.9%) that the setup should be adequately prepared to manage any type of disaster, 67(58.3%) of participants agreed that the drills should be conducted, more than half percent of respondents 60(52.2%) agreed disaster plan need to be updated regularly and 71(61.7%) need to know disaster & disaster plan.

Table- 4; shows attitude of AAFDRMC &RCS EMS employees towards disaster preparedness (n=115), (2023).

	Frequency & percentage				
Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
set up should be well prepared to handle any type of disaster/ emergency event occurrence	5(5.3%)	19(16.5 %)	17(14.8%)	62(53.9%)	12(10.4%)
Drills should be conducted in your department	2(1.7%)	8(7%)	18(15.7%)	67(83%)	20(14.4%)
AAFDRMC /RCS should have disaster plan to manage situations in which there is a sudden large disaster occurs.	1(0.9%)	7(6.1%)	16(13.9%)	63(54.8%)	28(24.3%)
Disaster plans need to be regularly updated	1(0.9%)	12(10.4 %)	18(15.7%)	60(52.2%)	24(20.9%)
AAFDRMC /RCS should assess the importance of vulnerability	4(3.5%)	5(4.3%)	22(19.1%)	62(53.9%)	22(19.1%)
Disaster planning is only for AAFDRMC/RCS administrative staffs & heads of departments	22(19.1 %)	26(22.6 %)	12(10.4%)	47(40.9%)	8(7%)
It is necessary to provide first aid immediately when disaster strikes	10(8.7%)	5(4.3%)	10(8.7%)	57(49.6%)	33(28.7%)

Disaster management is for doctors 7 nurses only	35(30.4 %)	32(27.8 %)	6(5.2%)	26(22.6%)	15(13%)
Training on disaster programs should be a part of curriculum	5(4.3%)	9(7.8%)	14(12.2%)	49(42.6%)	38(33%)
I need to know about disaster &disaster plans	1(0.9%)	5(4.3%)	12(10.4%)	71(61.7%)	26(22.6%)
AAFDRMC/RCS employees need training on how to manage patients during disaster if there is disaster strike		10(8.7)	25(21.7%)	52(45.2%)	28(24.3%)
The AAFDRMC/RCS has adequate staff compliment to deal with a sudden causality during disasters.	10(8.7%)	29(25.2 %)	13(11.3%)	44(38.3%)	19(16.5%)
AAFDRMC/RCS should conduct frequent disaster drills on how to handle a sudden casualty	4(3.5%)	18(15.7 %)	11(9.6%)	62(53.9%)	20(17.4%)
AAFADRMC & RCS are unlikely to be affected by disasters	16(13.9 %)	40(34.8 %)	20(17.4%)	34(29.6%)	5(4.3%)

Generally, this study showed that 87(75.7%) at 95%CI (66.9%-84.4%) of respondents have favourable attitude towards disaster preparedness based on mean score (SD=7.377). Among respondents who had favourable attitude, 83(95.4%) of respondents were from Addis Ababa fire & disaster risk management commission & the remaining 4(4.6%) were from RCS. Those who took disaster management training were 4.191 times more likely to have favourable attitude towards disaster preparedness than those of than who didn't take disaster management training.

5.4. Practice of participants towards disaster preparedness

This study showed that 82(71.3%) of participants had disaster simulation in the past 1 year and more than half of 76(66.1%) had ongoing disaster management & BLS training. More than 2/3rd of participants faced disaster in working area stay 94(81.7%) and 87(75.7%) had been worker of disaster management team in their working area stay & 50(43.5%) of participants didn't see that the disaster management plan was being updated.

Table- 5; practice of AAFDRMC &RCS EMS employees towards disaster preparedness(n=115) (2023).

Variables	Frequency (=115)	Percentage (%)
Who took part in drill on what to do in an emergency/disaster situation in past 1 year	Yes (82)	71.3%
	No (33)	28.69%
did you have ongoing disaster& BLS training in your institution?	Yes (76)	66.1%
	No (39)	33.9%
Saw whether disaster management plan has been updated periodically in their working area	Yes (50)	43.5%
	No (65)	56.5%
Those who ever faced any type of disaster in their working area stay	Yes (91)	79.13%
	No (24)	24.87%
Have been member of disaster management team in their working area	Yes (81)	70.43%
	No (34)	29.57%
When you met an event disaster what did you do?	Give first aid (89)	77.4%
	Transport to hospital (26)	22.6%
	Yes (82)	71.3%

Does your organization have disaster management plan?	No (33)	28.7%

Generally, this study showed that 76(66.1%) at 95% CI (57.2%-75.7%) of participants have adequate practice towards disaster preparedness based on mean score (SD= 1.847). 71((93.42%) of participants who had adequate practice were from Addis Ababa fire & disaster risk management commission & the rest 5(6.58%) were from RCS. 81（70.4%）of participants were who have been member of disaster management team ,while remaining 34 (29.6%) have been serving in ambulance. Those who had been worker of disaster management team are 7.472 times, updated disaster management plan are 10.191 times, those who took disaster management training are 14.638 times and those who involved in disaster drill are 4.446 times likely to have adequate practice of disaster preparedness than those of who didn't.

Table-6; Bivariate and multivariable logistic regression analysis showing predictors of adequate knowledge, favorable attitude &adequate practice levels towards disaster preparedness (n = 115), (2023).

Variables	Bivariate		Multivariable	
	COR at 95%CI	P-value	AOR at 95% CI	P- value
Bivariate & multivariable logistic regression analysis showing predictors of adequate knowledge				
Disaster MGT training: Yes [a]	8.396(3.361-20.972)	<0.001	*4.644(1.574-13.705)*	*0.005***
Who ever faced disaster	2.125(0.843-5.355)	0.110	*1.105(0.316-3.861)*	*0.876*
Have been drilled	3.594(1.513-8.534)	0.004	*1.492(0.488-4.565)*	*0.483*
Had been DMT	3.202(1.375-7.456)	<0.007	*1.561(0.478-5.100)*	*0.461*
Had been updating plan periodically	2.732(1.271-5.873)	0.010	*1.3(0.489-3.457)*	*0.600*
Professional category (2)	0.125(0.008-1.998)	0.141	*2.129(0.268-16.898)*	*0.475*
Organizations having disaster MGT plan: Yes [b]	8.676(3.207-23.483)	<0.001	*7.970(2.405-26.418)*	*<0.001) ****
Bivariate &multivariable logistic regression analysis showing predictors of favorable attitude				
Disaster MGT training: Yes [a]	7.072(2.770-18.055)	<0.0001	*4.191(1.414-12.422)*	*0.01**
Have been drilled	2.903(1.186-7.105)	0.02	*1.241(0.407-3.781)*	*0.705*
Organizations having disaster MGT plan:	3.579(1.457-8.790)	0.005	*2.242(0.789-6.367)*	*0.13*
Had been DMT	4.130(1.679-10.159)	0.002	*1.887(0.622-5.725)*	*0.262*
Had been updating plan periodically	2.333(0.929-5.864)	0.072)	*1.062(0.346-3.265)*	*0.916*
Bivariate & multivariable logistic regression analysis showing predictors of adequate practice levels				
Disaster simulation(drill): Yes [c]	7.647(3.111-18-797)	<0.001	*4.446(1.054-18.749)*	*0.042**
Disaster MGT training: Yes [a]	15.041(5.841-38.734)	<0.001	*14.638(3.329-64.357)*	*<0.001****
Had been worker of disaster MGT team: Yes [d]	13.294(5.115-34.549)	<0.001	*7.472(1.893-29.493)*	*0.004***

Disaster MGT Plan has been updated: Yes [e]	9.871(3.474-28.047)	<0.001	*10.191(2.302-45.113)*	*0.002 **
Organizations having disaster MGT plan:	3.486(1.496-8.121)	0.004	*1.351(0.342-5.341)*	*0.668*

*Note; COR=crude odds ratio, AOR =adjusted odds ratio, CI = confidence interval *=statistically significant, where, *=(p<0.05), **=(p<0.01), ***= (p<0.001), MGT=management, DMT= disaster management team*

[a] took disaster MGT training compared with who didn't take

[b] org. Having disaster MGT plan vs who don't have plan

[c] performed disaster drill compared with who didn't perform

[d] had been member of disaster MGT team vs who were not

[e] disaster MGT plan had been updated vs hadn't been updated

6. Discussion

Level of knowledge, attitude & practice of EMS health care workers serving in Addis Ababa fire & disaster risk management commission and RCS were described in this study. As disasters are a frequent event in the world, health care workers need to be knowledgeable and well prepared in all expected aspects for handling disasters/emergencies in worldwide. EMS health care professionals working in prehospital are frontlines during disaster. So, in order to preserve life, & encourage health during chaotic event, every individual health care provider need to be competent enough professionally, comprehend disaster management plans and they should build their capacity of knowledge & skill to handle disaster in their cross ponding working area.

Knowledge; In this study, total of (60)52.2% of the participants had adequate knowledge of disaster/emergency preparedness. Finding of this study was lower than from the study finding conducted in sabia general hospital, Saudi Arabia (79.3%). Possibly this difference might be contributed by difference in socio-economic status of country for standardized disaster preparation. [14]

An institutional based cross-sectional study conducted on health care professionals working in emergency units of Gondar zonal hospital showed that knowledge level of disaster preparedness was inadequate (51.7%). which is lower than this study finding (adequate knowledge=52.2%), discrepancy might be contributed by better training accessibility & attention for disaster in Addis Ababa than regional areas. [17]

Also there was hospital based cross-sectional study conducted in black lion specialized hospital in Ethiopia in 2018 which implied that about half of (50.8%) of the participants had adequate knowledge of preparedness which is almost comparable with this study finding (52.2%). [8]

In this study disaster management training & disaster management plan were associated with the good knowledge of EMS employees which was supported by research done in Tikur-Anbessa specialized hospital (2018), south west Ethiopia (Jimma) (2016), Nueva Ecija university nursing students in (2022). [8, 27,28]

Gender, educational level, disaster drills, professional category and experience year of more than 5 years were associated with knowledge of disaster preparedness in studies conducted in Malaysia, Iran and Bangladesh. [29, 30,31]

Attitude; In this study, 75.7% of participants has favorable attitude towards disaster preparedness which is lower in a study conducted in south India health professionals & Lagos hospitals that almost all had positive attitude towards disaster preparedness (92%) & 93.2% respectively. Discrepancy may be possibly due to low countries attention towards emergency /disaster & the era of disaster medicine being very young in Ethiopia. In this study Disaster management training was significantly associated with favourable attitude towards disaster preparedness which was supported by the study finding conducted in south India. [13]

There was institutional based cross-sectional study conducted in south Gondar zonal hospital knowledge, attitude & practice of disaster preparedness in 2020, age &professional category was significantly associated with positive attitude of disaster preparedness. [17]

There was study on frontline health professionals at emergency department of regional stat referral hospitals in Amhara region in 2021, Most respondents have positive attitude (57.8%) which is lower than this study finding. The probable reason for this discrepancy may be that health care worker working in AAFDRMC & RCS has chance of accessing frequent disaster management trainings in anticipation of possibility of disasters due to Public gatherings in various areas or services throughout the year such as epiphany & Ramadan which are celebrated publicly ,in rail services .in higher education institutions, industrial areas, recent evidences of flooding, currently geopolitical situations and in construction activities in the city. [16]

Another hospital based cross-sectional study conducted in black lion hospital in Addis Ababa in 2018 on health professionals working in emergency department indicated that the study participant's attitude level was considered as favorable (64.8%) but compared to this study it is lower. Possibly may be AAFDRMC& RCS employee's aim of care is prehospital emergencies & disaster victims which is their primary focus of care area. [8]

Practice; Cross-sectional Study conducted in black lion hospital in Addis Ababa in 2018, on health care providers working in ED indicated that study participant's practice towards disaster preparedness was generally too low (8.3%) which is almost around 8 times lower than the practice level of this study result. This discrepancy might be attributed by different disaster situations occurred in the city which alarmed Addis Ababa fire and disaster risk management commission & RCSs as being forefronts during disaster management necessitating professionals to have frequent disaster trainings &disaster simulations. [9]

There was an institutional based cross-sectional study conducted in south Gondar zonal hospital regarding knowledge, attitude & practice of disaster preparedness in 2020, inadequate practice of disaster preparedness was observed (67.5%), which is almost twice lower than this study finding (66.1%). Difference might be contributed by increased chance of accessing frequent disaster management trainings in anticipation of possibility of disasters.[17]

The cross -sectional study on randomly selected nurses at sabia general hospital in Saudi Arabia 2021, respondents answered yes (32.7%), whether the drills were performed at their hospital. In this study 71.3% of respondents answered yes when asked if disaster drills were done, which is higher than sabia general hospital in Iraq due to fact that working area encourages HPs to do more on cross- ponding activities & training is expected to have effect to change attitude towards disaster preparedness.[14]

In study conducted in east coast regions of Malaysia in 2016 ,attending disaster management training, educational level, gender ,year of experience were significant predictors of adequate practice but in this study disaster management training ,disaster drill ,updating disaster management plan & having disaster management plan were significantly associated with adequate practice of disaster preparedness.[31]

7. Conclusion & Recommendations

Almost 2/3rd of participants have favorable attitude towards disaster preparedness & more than half of study participants have adequate knowledge of disaster preparedness & 66.1% of respondents have good practice.

It is better to include training on disaster and emergency preparedness to be a part of health professionals' educational curriculum. Even if disaster preparedness knowledge, practice & attitude of study participants are good, still much effort is expected from all stakeholders to increase more ongoing emergency /disaster training for their staff professionals & check & evaluate level of their preparedness by enhancing frequent disaster simulations & trainings as well as making them to be familiarized to disaster preparedness via various practices, drills and trainings. EMS health professionals better to encourage themselves for more knowledge &art about preparedness to disaster, to have better role& responsibility during disaster through reading and practicing.

8. Limitation of the Study

The limitation of this cross-sectional study is that the temporal link between the outcome and the exposure cannot be determined because both are examined at the same time.

Hence data collection questionnaire administered to participants was open which leads to Response bias of participants.

9. Acknowledgement

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Annexes

Annex 1: Consent Form

Hello participant, I am Gizatu Alemu from Addis Ababa university department of EMCC (MSc) working on a research project on "knowledge, attitude and practice of disaster preparedness and associated factors on AAFDRMC and RCS EMS employees" for partial fulfillment of my post graduate training program in Emergency medicine and Critical care nursing.

Purpose of the study:

I believe that this research result will possibly initiate your institution to further interventions and help strengthen health professionals on identified weaknesses and greatly help in the improvement of your preparedness level for the occurrence of any disaster event outside of the hospital.

Participation is voluntarily

You are under no obligation to participate in this study.

If you Consent to Participate in the study please sign below:

I have been informed of the nature and significance of the study being undertaken and the potential risks explained to me. I have been reassured that I may choose to discontinue my involvement in the study at any stage without any explanation or consequences. I have also been reassured that my personal details and the information will relay will be kept confidential. I confirm that all my concerns about my participation in the study have been adequately addressed by the investigator and the investigator has asked me questions to ascertain my comprehension of the information provided.

Participant's Signature……. Date……

I confirm that I have clearly explained to the participant the nature of the study and the contents of this consent form in detail and the participant has decided to participate voluntarily.

Investigator Signature……Date.……

Tel; 0904628769

Thank you very much for your time and voluntariness!

Annex 2: Questionnaire

Part One: Socio-Demographics Information

Instruction: to complete the questionnaire, kindly place a cross in the appropriate block or complete where necessary

1 Age in years …….

2 sex 1) male 2) female

3) your current working place 1) AAFDRMC 2) ERCS

4) professional categories 1) nurse 2) midwifery 3) public health 4) EMT

5) educational level 1) diploma 2) BSc 3) MSc

6) work experience

1) < 1years

2)1-2 years.

3) 3-5 years.

4)5-10 years.

5)>=10 years

Part **Two: Knowledge, attitudes, and practices regarding disaster preparedness**

2.1 Knowledge regarding disaster/emergency preparedness

Multiple choices

1)what is disaster (only one answer

1) Serious disruption of functioning of a community or society causing wide spread human, material, economic or environmental loss which exceeds the ability of affected community or society to cope using its own resources.

2) An evaluation of probability of the occurrence and the magnitude of the correspondence of any given hazard i.e. how likely is a hazard and what consequences will it has?

3) Possible threat of sources of exposure to injury, harm or loss

2)what is disaster preparedness (only one answer)?

1) an action taken in anticipation of emergency to facilitate a rapid, effective and appropriate response to the situation
2) system of procedures, checks, audits and corrective actions to ensure that all testing, sampling, analysis, monitoring and other technical and reporting activities are of the highest achievable quality.
3) Process through which activities are undertaken at the most appropriate level and with most valuable execution.

Instruction: kindly place encircle in the appropriate block or complete when a necessary

Question	Response
1 do you know what a disaster plan is?	1 Yes 2 No
2 Do you know that your institution has an emergency /disaster plan?	1Yes 2 No
3 Do you know where to find a copy of the plan in your department	1Yes 2No
4 Do you know what disaster drills is?	1Yes 2No
5 In the past year, have you seen any emergency/disaster drills occurring in your institution?	1Yes 2 No
6 Do you know staff members know their functions during a drill?	1Yes 2 No
7 Do you know your role during disaster?	1 Yes 2 No
8 Do you know when an alert status for disaster/ emergency management plan in your working area is activated	1 Yes 2 No
9 Do you know the specific place for evacuation for patients during disastrous event?	1 Yes 2 No
10 Do you know your disaster/ emergency response team	1Yes 2No
11 When should be first aid given during disaster event?	1 Immediately

	2 In hospital
12 Who should give first aid during a disaster?	1 Healthcare worker 2 Bystanders including the community
13 Do you know that there is a new disaster /emergency code designation (Nickname) in your working area?	1Yes 2 No

2.2 Attitudes regarding disaster/emergency preparedness

2.2.1 Kindly place a cross (x mark) in the appropriate block where how much you agree with the following statements

Statements	Very much disagree	disagree	neutral	agree	Very much agree
1. your setup should be adequately prepared to manage any type of disaster/ emergency event occurs					
2 Drills should be conducted in your department.					
3 AAFDRMC /ERCS should have disaster plans, to manage situations in which there is a sudden large disaster occurs.					
4 Disaster plans need to be regularly updated					
5 AAFDRMC /ERCS should assess the importance of vulnerability					
6 The AAFDRMC /ERCS is unlikely to be affected by disasters.					
7 Disaster planning is only for the AAFDRMC/ERCS administrative staff and heads of departments.					

8 it is necessary to provide first aid immediately when disaster strikes.					
9 Disaster management is for nurses and doctors only					
10 Disaster training programs should be a part of education					
11 I need to know about disasters and disaster plans.					
12 AAFDRMC/ERCS employees need training on how to manage patients during disasters if there is disaster strike					
13 The AAFDRMC/ERCS has an adequate staff compliment to deal with a sudden casualty during disasters/emergencies					
14 AAFDRMC/ERCS should conduct regular drills on how to manage a sudden, casualty during emergencies/disasters.					

2.3 Regarding practices on disaster /emergency preparedness

Instruction: Please encircle your answer honestly.

1) In the past 1 yr. have you practiced /drilled on what to do in an emergency /disaster situation?

1 yes 2 n o

2) did you have ongoing disaster management & BLS training in your institution?

1)Yes 2) no

3) have you seen or heard the disaster plan being periodically updated in your working organization?

1) Yes 2) No

4) have you ever faced any disaster in your working area stay?

1) yes 2) no

5) have you ever been a worker for disaster management team in your work area?

1) yes 2) no

6) When you met an event of disaster what did you do?

1) Given first aid

2)Transported to hospital

7) Does your organization have disaster management plan?

1) yes 2) no 3) I don't know