COVID-19 Emergency Risk Communication Practices and Challenges in Ethiopia

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A Final Research Report Submitted to Adama Science and Technology University

Adama, Ethiopia
May, 2021

Abstract

This research was intended to identify the existing problems regarding the practice of Public Health Emergency Risk Communication in Ethiopia in response to COVID-19 by examining the communication practices in the process of fighting the pandemic. An exploratory research design has been applied for the study. Using key concepts, data have been gathered from publicized news, press releases, messages publicized, and advertisements about COVID-19 from the websites and online versions of selected media and institutions. Face to face and telephone interview has been held with selected experts from FMOH/EPHI and editors in media organizations. Data were gathered and transcribed and actions, opinions or concepts were 'labeled, 'coded' or 'indexed' with key words or phrases and then categorized and analyzed thematically. The findings indicate that the government has made appreciable efforts to contain the threats of the pandemic through designing emergency risk communication schemes and strategies, yet, there are major gaps. The emergency risk communication plan itself suffers a number of shortcomings. In addition, the PHERC strategies employed have gaps as a bulk of messages disseminated through a host of diverse media outlets have been publicized with major gaps in their effectiveness in achieving public health emergency risk communication targets. Furthermore, the PHERC strategy has been facing a serious challenges to correct infodemics mainly due to its rapid and uncontrollable nature and as a result of its fast and automatic spread through the social media.

***Key Words**: Emergency, Risk, Crisis, Communication, Public*

Acknowledgments

This research have been accomplished with the indispensable cooperation and support from various individuals and organization. First, the research team would like to thank the Office of Research Affairs of ASTU for approving and allowing the research to be conducted. Our appreciations also go to offices out of ASTU which have been very cooperative in providing us information. Furthermore, we are grateful for various individuals who have participated in various roles for the completion of this research.

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List of Acronyms and Abbreviations

CLEME……...Community Led Ebola Management and Eradication

DRC……Democratic Republic of Congo

EAS……Emergency Alert System

EOC…… Emergency Operation Center
EPHI.....…Ethiopian Public Health Institute

FDRE……... Federal Democratic Republic of Ethiopia

FMOH…….....Federal Ministry of Health

NCP……..…Novel Coronavirus Pneumonia

PAHO……. Pan American Health Organization
M&E……...Monitoring and Evaluation

PHERC……. Public Health Emergency Risk Communication

SOP ……... Standard Operation Procedure

RCCE……..Risk Communication and Community Engagement

SEMA…. ……...…….Sweedish Emrgency Management Agenecy

UNDGC……... United Nations Department of Global Communications

UNICEF…….. United Nations International Children's Emergency Fund
US CDC ……..United States Center for Disease Control and Prevention

WHO…..…….....World Health Organization

WHO/ EHA …… Environmental Hygiene Agency

Chapter One

Introduction

Effective Communication plays crucial roles during the outbreak of a pandemic. During public health emergencies, people need to know what health risks they face and what actions are they required take to minimize the crisis they may face as the result of this pandemic (WHO, 2008). All these steps demand effective communication strategies. In fact, in 2003, World Health Organization (WHO) has already acknowledged its vital role by creating 'communication guidelines" under the International Health Regulations (IHR) so as to better communicate with the public during a pandemic. This research aims to evaluate the risk and crisis communication practices of COVID-19 in Ethiopia. To this end, communication practices of Ethiopia applied via various media ever since the outbreak of COVID-19 in Wuhan, China on 31 December, 2019 has been examined. After WHO declared the outbreak as a pandemic, on 30 January, 2020 following its spread across different nations, COVID-19 has been the priority agenda for almost all media outlets in the world. Similarly, the pandemic has been communicated via various media outlets in Ethiopia.

As the main purpose of the study is to explore the problems, interpret and understand them with regard to the issue under investigation, an exploratory research design has been applied for the study. Data have been gathered using document analysis and interviews. In order to evaluate the communication practices on COVID-19 in Ethiopia so far, '*Outbreak communication guidelines"* of WHO (2003), US CDC guidelines and the '*Emergency Risk Communication Conceptual Model*' of Seeger et al. (2018) have been applied as guiding frames. For this end, data which include released news through various media, media conferences, advertisements and messages released via media (video and visuals), planned pandemic policy documents have been assessed. Out of these data cases have been identified and analyzed based on the guidelines and the conceptual model selected.

The study is expected to examine the emergency risk communication practices applied in the country in response to COVID-19 and identify the challenges and the gaps. The findings will be significant for various stakeholders such as policy makers, health experts, communicators and journalists.

1. Background of the study

1.1. Crisis and Emergency Risk Communication

The terms disaster, crisis, risks and emergencies are interdependent and are usually used in the main stream literature interchangeably even though they do not exactly have equivalent conceptions. These terminologies have common notion as they refer that something bad that is unexpected has happened or is happening and when this happens, it may be called an emergency, a disaster, or a crisis depending on the magnitude of the event and the current phase of the event (Reynold, 2002, p. 6). Crisis has been defined in various ways depending on the situations encountered. It is an incidence with a damaging effect on a special organization, general publics(Fearn-Banks, 2011) or an occurrence which is triggered by various factors and can affect the lives of many people and large parts of society physically, emotionally or financially (SEMA, 2008; Reynolds, Crisis Emergency Risk Communication, 2014; Sellnow, Ulmer, Seeger, & Littlefield, 2009). Similarly, disaster can be defined as a prevalence that disrupt the normal condition of a living and cause a misery which cannot be handled in a normal capacity (WHO/EHA, 2002). On the other hand, risk has been defined as the expected impact of a crisis. In this regard, the Royal Society Study Group in (1983) as cited in (Berry, 2004, p. 9) defined risk as the 'probability that a particular adverse event occurs during a stated period of time, or results from a particular challenge.

Though the terms 'crisis communication' and risk communication seem similar, there are clear distinctions between them. The term "crisis communication" refers to the communication activities of an agency or organization during a sudden crisis which needs an immediate intervention. It is, therefore, related with the information management system in the process of informing and alerting the public about the incident. On the other hand, risk communication aims to provide the target public with information regarding the expected adverse impact of an identified crisis and promote proposed cares to be taken ahead (Reynolds, Crisis Emergency Risk Communication, 2014; Reynold, 2002; Sellnow, Ulmer, Seeger, & Littlefield, 2009). Risk communication seeks to influence behavior and policies so that a crisis situation can be averted. Thus, the main purpose of risk communication is to avoid crises (Sellnow, Ulmer, Seeger, & Littlefield, 2009, p. 4).

1.2. Public Health Emergency Risk Communication

Public health emergencies refer to the outbreak of a particular disease caused by an infection, transmitted through person-to-person contact, animal-to-person contact, or from the environment or other media(WHO, 2008).During health emergency outbreaks, there has to be communication in form of warnings, risk messages, evacuation notifications, messages regarding self-efficacy, information regarding symptoms and medical treatment, among many others. When applied in in the context of health emergency cases, 'risk communication' is intended to provide necessary information for the public so that they can have knowledge of the outbreak and can make informed decisions to minimize the risks. Risk communication in the case of public health emergencies most often involves the production of public messages regarding health risks and environmental hazards. It is the real-time exchange of information, advice and opinions between experts, community leaders, or officials and the people who are at risk. In general risk communication is a primary commponent of health emergency reponse. The messages publicized are intended to induce behavioural change to minimize the potential threat of the outbreak (WHO, 2017; Reynolds & Seeger, 2005).

When a public health emergency outbreak occurs, people need to be informed about the nature of the outbreak, the risk they may face, and what actions they are required to take in order to protect themselves. For this end, there must be an accurate information that has to be provided early, frequently, and in preferred languages and channels of the public, so that individuals can make choices and take actions to protect themselves, their families and communities from threatening health hazards. Thus, during epidemics and pandemics, effective risk communication allows people who are highly at risk to understand and adopt protective behaviour. Besides, it allows key stakeholders to listen to and address people's concerns and needs so that the advice they provide is relevant, trusted and acceptable (WHO, 2017).

Throughout history, human beings have experienced various health related crises such as pandemics of cholera, plague, influenza, typhoid, tuberculosis, and other infectious maladies so widespread that most people rarely survived into middle age (Reynold, 2002). According to the definition of WHO, a pandemic is a new disease spread worldwide affecting an exceptionally high proportion of the population. It is not the first time when our world has faced a pandemic. There have been several pandemics which have caused major psychological, social, economic,

and geopolitical disruption. Infectious diseases existed even before human beings started an agrarian lives 10,000 years ago. However, the growth of crowded cities and the intensification of transportation which enabled people to move from place to place pandemics became more common (Jarus, 2020).

Each plague or pandemic affected human beings in many ways though the magnitudes vary vis-à-vis human civilization and environmental changes. On the December 31, an unknown a pneumonia case was reported to the WHO China Country Office which was detected in the city of Wuhan in Hubei province, China. Following the first case report from Wuhan-China, the outbreak was given various names including, 'Wuhan virus" "Wuhan coronavirus" "Wuhan pneumonia" "China virus" and "Chinese coronavirus" until it was finally officially named as COVID-19 based on the initials of Corona, Virus, Disease and the year 2019 (WHO, 2020). What is special about COVID-19 is that it has spread worldwide very fast and the new media platform, especially social media, have delivered latest information instantly at a time causing panics and uncertainties (St.Amant, 2020). Since COVID-19 was declared as a pandemic by WHO on 30 January, 2020, huge amount of information engulfed the world via various media. Besides, health professionals, politicians, communication experts and the public in general have been overwhelmed by the dynamic information updated daily(Poonia & Rajasekaran, 2020).The COVID-19 pandemic has infected, to date, over 4.3m people, and killed above 297,000 people worldwide(JHU, 2020). This pandemic has shocked the world business impacting, the production and the total market chain of the world. In response to these crises, various approaches, models and channels of communication have been implemented. The communication used during these incidents have been termed as 'crisis communication', 'disaster communication' or 'risk communication' coined with the concepts.

1.3. Theoretical Frameworks and Models

In order to evaluate how the pandemic COVID-19 has been communicated to the public, the "outbreak communication guidelines" of WHO, 'principle of best practices for effective communication' of WHO, 'Guidelines of Crisis Emergency Risk Communication in an Infectious Disease Outbreak' of US CDC and the 'Emergency Risk Communication Conceptual Model' of (Seeger, et al., 2018) have been applied as guiding models.

The guidelines of WHO consist of five principles to manage communication during outbreaks and other emergencies. These are: (i) *building trust*: An effective outbreak communication has to be planned to communicate in ways that build, maintain or restore trust between the public and outbreak managers. (ii) *Announcing early*: During a public health emergency threat it is necessary to communicate proactively to alert the public and key stakeholders and minimize the spread of frightening numerous. (iii)*Transparency*: In order to maintain public trust and smooth relationship among key stakeholders, an outbreak communication systems has to be transparent providing timely and complete information. (iv) *Listening*: It is important to listen to people to know how they understand and perceive a given risk and what their existing beliefs and practices. This helps to outline necessary behaviour changes ahead and reduce crises. (v) *Planning*: To adhere to the principles described above, a rigorous planning involving key stakeholders is required (WHO, World Health Organization outbreak communication planning guide – 2008 edition., 2008, p. 5).

Similarly, the US CDC has identified six guidelines of Crisis Emergency Risk Communication in an Infectious Disease Outbreak. These are: i) *Be First*: sharing information about a disease outbreak right away can help stop the spread of disease, and prevent and reduce illness and even death; ii) *Be right*: An accurate information enhances credibility. Thus, fact check with subject-matter experts can avoid harmful behaviour among the public and build trust; iii) *Be credible*: Honesty, timeliness, and scientific evidence encourage the public to trust your information and guidance; iv) *Express Empathy***:** Trying to understand what people are feeling and their challenges shows that you are considering their perspectives when you give recommendations, especially at the time of outbreaks when people are filled with fear and uncertainties; v) *Promote Action*: During outbreaks, public understanding of the disease and appropriate actions are very important, so promote simple, short, and easy to remember action messages in different ways for different audiences; vi) *Show respect*: Respectful communication is particularly important when people feel vulnerable as it promotes cooperation. Hence, listen to ideas from the local people and acknowledge culture, beliefs, religion and any difference.

As per the '*Emergency Risk Communication Conceptual Model*' proposed by Seeger et al. (2018), an effective emergency risk communication process has to be planned and implemented taking the following (9) principles into considerations which are referred as 'key risk communication processes'. The first are related to the nature of the messages. (1) *Scientifically*

*Accurate Messages***:** As soon as the emergence of a pandemic is made public, people rush to different media outlets to get answers for their enquiries regarding the new health threat. On the other hand, a lot of information start to be released from various sources. Unless proved and accurate information is updated on time, the public will be in a panic filed with uncertainties. Hence, emergency risk communication messages publicized from the pandemic team need to be based on the most accurate information which has been reviewed and approved by professionals and before it is made accessible for release. *(2) Clear Messages***:** One of the challenges of communication among experts and lay persons is the use complicated and technical jargons. Though message verification and approval of professionals is very important, the language should be very simple that any lay person can understand. Emergency risk communication messages should be prepared in a clear and easy language so that the information can be shared, received, and interpreted by the public. (3) *Actionable Messages:* The primary aim of emergency risk communication is to create awareness among the public and take measures before the pandemic exerts its effect and create crisis. However, the recommendations suggested by the team of a pandemic should be proved to be realistic and practicable. For example, it is meaningless for street children to wash their hand s from time to and wear gloves or masks as these people cannot afford to do so. Instead, it is better to make messages contextual and propose alternative precautions.

Besides the risk communication has to plan messages well. The principles proposed for planning effective messages are: (4) *Message Sufficiency***:** All people who are targeted for the emergency risk communication, may not have equivalent knowledge about the pandemic declared. Accordingly, 'message sufficiency' refers to the amount of the information each individual perceives they need to take care of themselves from the health crisis. In order to identify the 'sufficiency threshold' communication experts need to conduct assessment regarding the knowledge level of the public about the pandemic. Naturally, people are interested to get more information if their knowledge is lower than the minimum threshold. As a result, instead of planning messages for the public just as prescriptions, it is better to know what people already know would like to know. (5) *Open and Transparent Messages***:** During a pandemic, information related to the new public health threat has to be made accessible to communication personnel, to the public and other stakeholders who need the verified information in a transparent way. The emergency risk communication messages that are open and easily accessible can avoid

the impact of rumours and unverified information on the public. Most importantly, the public can have trust on the communication systems and rely on it. *(6) Messages Tailored to Target Audiences*: Tailoring messages refers to designing and delivering messages based on the needs of special groups of a society. Some groups of a society such as, disabled people, children, pregnant women, migrants, street children aged people etc… may need special messages with regard to the emerged public health pandemic. Thus, it is necessary to conduct pre-assessments whether the pandemic affects the public similarly or the impact varies vis-à-vis the physical, social, economic and cultural status of each person. A well-planned emergency risk communication taking this into consideration can enhance efficient behavior changes and immediate actions among the diverse public.

The remaining principles are related to message delivery. Accordingly: (7) *Consistent Messaging***:** During a pandemic numerous messages are released across various media channels by different members of the team of emergency risk communication. However, the public may be confused and lose interest to follow up the advice if the messages publicized across these media are inconsistent and contradict each other. Hence, it is necessary to monitor and check the consistency of the messages released about the pandemic. Health professional, communicators, journalists and other concerned stakeholders need to create coordination to update consistent messages. (8) *Timely Dissemination of Messages:* It is obvious that in an emergency situations, audiences need information very quickly. In fact, messages that are released on time are perceived as more important than the messages disclosed after waiting for long. Delivering necessary messages to the public on time is mandatory, especially in this when people are can shift their attention to informal alternative information sources. Unless the team organized for the emergency risk communication provides verified messages on time, people may gather unverified messages and get confused. It is true that the messages to be released to pass via standardized procedures for verifications, but they have to reach to the public on time as much as possible. (9) *Messages Disseminated through Multiple Channels:* In order to communicate with the target audiences about the emergency situation, it is better to apply various communication channels. The most common communication channels which have been applied to deliver messages to the public during pandemics include, radio, Television, newspapers, flyers/brochures/posters, telephone, SMS and internet (websites, social media). Even though

application of multiple channels is necessary, environmental, social and cultural situations have to be considered when selecting the media outlets.

1.4. Statement of the Problem

The first case of COVID-19 in Ethiopia was confirmed by the Federal Ministry of Health (FMOH) on March 13, 2020 from Addis Ababa. As soon as the COVID-19 case confirmation announcement was made public, FMOH/EPHI in collaboration with WHO country office, started to aware the public about the pandemic and about necessary cautions that should be taken to contain the spread of the virus (WHO, 2020). The government then has been updating the public about the daily facts through press conferences, including the sign lanaguge, which is made by both FMOH and EPHI together. The press release is publicized everyday through various media including the mainstream online media. Most importantly, in response to COVID-19 based on an established standardized procedures and principles, the Federal Ministry of Health (FMOH) prepared a national guideline which is supposed to serve as a frame of reference for policy makers and helath professionals at all level(FMOH, 2020). This national guideline of Ethiopia for COVID-19 incorporated the Risk Communication and Community Engagement (RCCE) 2019 novel corona virus (Covid-19) disease preparedness in section XIV (pp.88-102). The objectives set in this section include: to establish effective risk communication, to build engagement among leadership, community and health work force, to promote informed decision, to ensure public trust and to ensure information consistency (FMOH, 2020, p. 88).

Different measures have been taken including the constant reminders from the government, health experts, communication experts, journalists, artists and other stakeholders that the risk of the pandemic is yet to come. Thus far, (until May 15, 2020) a total of 287 confirmed cases and five deaths have been reported by FMOH. At the early stage of the pandemic announcement, people were shocked and were very cautious. The government shut down schools and universities and restricted large gatherings. Besides, on April 8, 2020, the FDRE Council of Ministers declared state of emergency, which was endorsed by House of Representatives on April 10, 2020, in order to coordinate the implementation of the measures necessary to minimize the effect of the pandemic. Despite the various measures taken by the government, the daily

updates and warnings of experts and communicators, expected behavioral changes are not noticed among the public.

Based on WHO recommendations, different advices have been promoted to the public as preventive measures against COVID-19. However, the recommendations have to be suggested taking the actual realties on the ground. For example, 47% of the Ethiopian population have no access to water around their premises; people have to travel a 3o minutes round trip to get water (53.9% in rural and 13.8% in urban areas) and only 20.8% of the population have electricity at home. In addition, in Ethiopia, only a total of 23.1% citizens (15.5% urban men, 5.3% urban women, 2.1% rural men, 0.2%, rural women) have access to newspaper, radio and television at least once a week (Baye, 2020; UNICEF, 2020). According to the 2019 report of Trading Economics (2020), in Ethiopia the unemployment rate is 19.2% and 86.2% out of the total employed people are self-employed citizens. During pandemics like COVID-19 people have to be provided with latest and reliable information so that they can make informed decisions. Nevertheless, planning an emergency risk and crisis communication without considering the realities in the actual settings is useless.

In its April 3, 2020 report, Africa Center for Strategic Studies provided a review of relative risk factors associated with the novel coronavirus so as to supplement generating potential insights into the varied and at times overlapping levels of vulnerability faced by each African country. According to this analysis nine 'Vulnerability Risk Factors' have been identified. These key factors include: international exposure, public health system, density of urban population, total population in urban areas, population age, government transparency, press freedom, conflict magnitude and forced displacement. Each risk factor is given a 5 scale value (1 less risk and 5 most risk) and then countries are examined out the total value (maximum 9x5=45). Accordingly, the 5 top countries with high risk factors are South Sudan (37), DRC (36), Nigeria (35), Sudan (35) and Cameroon (32). Ethiopia stands 7th with a sum of 31/45 risk factors (Africa Centerfor Strategic Studies, 2020). However, as far as our review is concerned, there is no pre-assessment report which can provide the basic information with regard to the Key Risk Factors in the nation in general and in each regional area in particular. This could have served as a frame of reference for planning necessary health emergency measures including the risk and crisis communication.

This study aims at examining the COVID-19 pandemic risk and crisis communication which have been implemented since the confirmed cases were reported in the country. The assessment focused on the emergency risk and crisis communication planning process, the stakeholders in the planning process, the selected channels and emergency risk and crisis message delivery procedures. . Thus, assessing the risk communication plans and progress is a both timely and relevant. The findings can serve as basis for further plans and measures.

1.5. Objectives

The general objective of this study is to examine the practice of health emergency risk communication of COVID-19 in Ethopia vis-à-vis the *Outbreak communication guidelines"* of WHO (2003), US CDC guidelines and the 'Health *Emergency Risk Communication Conceptual Model*' of Health Security (2018).

1.6. The specific objectives:

- To analyze the Public Health Emergency Risk Communication (PHERC) schemes planned and applied in Ethiopia in response to COVID-19;
- To examine the effctiveness of the public health emergency risk communication parctices vis-à-vis the guideline of FMOH and WHO and *Health Emergency Risk Communication Conceptual Model*.
- To identify the practices and challenges so as to propose possible way outs.

1.7. Research Questions

Based on the objectives identified above, this study aims to answer the following research question.

1. What are the Public Health Emergency Risk Communication (PHERC) schemes planned and applied in the country to response to COVID-19?
2. How much effective are the PHERC strategies in terms of engaging the key stakeholders,ensuring public trust and shaping behaviors of the community?
3. What are the major challenges encountered and the limitations while practicing the PHERC activities?

1.8. Significance of the Study

This study aims to examine the emergency risk and crisis communication planning and implementation in Ethiopia in response to the COVID-19 pandemic. The study was expected to identify the major gaps in the process of planning and applying the communication practices. Besides, the study has pinpointed the challenges encountered since the emergency risk and crisis communication has been launched in the country. The findings of this study will have a vital contribution for various stakeholders. Policy makers who have direct or indirect roles in the process of applying the emergency risk and crisis communication can use it as an input and evaluate their practices. In addition, it can supplement the health experts, communicators and journalists in examining their communication planning and applying procedures.

Chapter Two

2. Literature Review

2.1. Communication during a Pandemic

During the pandemics of modern history, communication has been playing key roles. The media serve as an important emergency information system during a crisis. The practice of using broadcast media in emergency risk and crisis communication was began in 1963 known as 'Emergency Broadcasting System' and later as, in 1997 it was renamed as 'Emergency Alert System' (EAS). This system was set up to inform the public about a new threat and stay alert for more information. In addition, EAS guides the public to the right sources of reliable information so that they can take necessary measures (US CDC, 2014, p. 2)

Furthermore, media plays a vital role by informing the public about the nature of the pandemic, the possible risks and enable informed decision to reduce the impacts. In this regard, Sellnow, Ulmer, Seeger, & Littlefield (2009, p. 9) state that 'individuals who have a strong sense of risk about a given subject are more likely to respond to messages they believe provide a reasonable strategy for personally reducing their level of risk.' As soon as a pandemic is identified and publicized, people start searching for various information regarding the identified health threat. In this regard, a survey result conducted on German National Pandemic Plan showed that when a pandemic was recognized, people got scared, potentially overreacting and panic due to, among others, lack of knowledge and media coverage. Emergency risk and crisis communication strategies should, the researchers conclude, target this affective register of the population by working on calming', 'familiarizing' and 'understanding risks'(Hall & Wolf, 2019)..

Whenever an emergency health threat arise, the risk and crisis communication team can apply a variety of approaches to enlighten the public to make informed decisions. One of these approaches is called message-centered approach. When risk communication is viewed from the perspective of interacting arguments, messages *is* a primary focus (Sellnow, Ulmer, Seeger, & Littlefield, 2009; Zhang, Li, & Chen, 2020). However, this approach may be manipulated unless it is applied cautiously. Under a cover of 'controlling the message centrally' politicians may intervene and abuse the whole risk and crisis communication system. A case in point is the Wuhan's case in China in which the government controlled the information flow in a monopoly

and made it difficult to access the information on time depriving the right of citizens (Zhang, Li, & Chen, 2020).

An effective emergency risk and crisis communication needs to be managed properly. Once a pandemic is identified, the risk communication strategy should start from building trust and community engagement. 'The failure to establish trust makes risk communication futile' (Sellnow, Ulmer, Seeger, & Littlefield, 2009, p. 9). Building trust can be achieved only if the risk communication process is interactive. The interaction has to involve all stakeholders, a group of people whose lives are impacted by the risk in one way or another, in a risk setting (Sellnow, Ulmer, Seeger, & Littlefield, 2009). In principle, communities should be given a chance to participate in assessing the situations, planning communication strategies, monitoring and forwarding feedbacks. Local leaders including the group of religious and traditional leaders, authorities, and women's groups, youth groups, traditional healers, associations like taxi drivers, market groups and others play vital roles in building trust and engaging the community. These local groups of people can foster trust during risk communication as they share common experiences, norms and values that built bonds among them (Toppenberg-Pejcic, et al., 2019). The community engagement has to start from discussion the situation with community leaders and members and conducting an initial assessment (Toppenberg-Pejcic, et al., 2019). As it has been learned from the experience of Ebola pandemic, when the risk communication was applied involving the local communities in the context of their culture, the society responded very well showing commitments and for necessary measures (Toppenberg-Pejcic, et al., 2019).

2.2. Effective Public Health Emergency Risk Communication

When planning and implementing an emergency risk and crisis communication, it is better to adapt the communication interventions considering gender, language, local cultural nuances, and circumstances in order to strengthen the communities' engagement (Toppenberg-Pejcic, et al., 2019). During the Ebola outbreak, the people of Guinea, Liberia, and Sierra Leone displayed strong mistrust of government and outsiders. These countries all experienced devastating civil wars and passed through post colonialism periods in which the community lost their local values. Thus, the community were suspicious towards whatever their government tried to say (Toppenberg-Pejcic, et al., 2019). At the beginning of the outbreak communication process of COVID-19 in China, the experts failed to provide tailored messages to diversified population

using vivid and simplified explanation about the virus so that each group of people could have understood the epidemiological characteristics. As a result, the public could not form necessary perception of risks of the virus and did not react accordingly (Zhang, Li, & Chen, 2020). On the other hand during the Ebola crisis, an effective crisis communication approach known as Community Led Ebola Management and Eradication (CLEME) was applied to involve the local groups, adapt the communication strategies and maintain symmetrical communication. The CLEME started with situations analysis and community mapping and proceeded with tailored message addressing and following ups and gathering feedbacks (Toppenberg-Pejcic, et al., 2019).

Media can also play destructive roles during pandemics. One of the destructive roles of media the release of too much information that confuse the audience. WHO explains that infodemics are an excessive amount of information about an emergency threat and that can make it difficult to identify a solution. In this information era with various media platforms, infodemics can spread misinformation, and rumours. Unless these are tackled with effective risk and crisis communication strategies, they can hamper the whole public health response and create confusion and distrust among people (UNDGC, 2020). In the process of an emergency health risk communication, things can go very wrong because of poor risk communications and misinformation. Firstly, it can initiate unnecessary measures on various sectors which result in different consequences. For instance, the Egyptian government killed all 300,000 of the country's pigs in May 2009 in a rush to control the 2009 H1N1 pandemic flu based on wrong assumption spread across media. In addition, many countries banned imports of pork from Mexico and the US and as a result, in the US alone, more than $1 billion losses in the pork sector in seven months, even though there was apparently no flu infection risk from pork and related products (Jonas, 2013).

Similarly, inappropriate official nomenclature might cause misinformation which may in return be followed by confusions and uncertainties among the public. A case in point is the unintentional social and economic impacts via stigmatizing some communities and industries as the result of flawed names such as '*Middle Eastern Respiratory Syndrome*' and '*Swine flu*' much worse. In the current infodemic, during the COVID-19 pandemic, the Corona Beer factory has announced that it has stopped production due to the name's similarity to the deadly coronavirus though the Mexican brand originated back in 1925 before coronavirus was discovered and

named, which has nothing to do with coronavirus or virus (WHO, 2015; Hu, Yang, Li, Zhang, & Huang, 2020).

The 2019 novel coronavirus is thought to have originated in China, which led to it being frequently named '*Chinese coronavirus*', '*China coronavirus*' or '*Wuhan coronavirus*'. The geographical google data surveys results clearly show that people in Egypt, Greece, New Zealand, United Kingdom, United States, Canada, Finland, Russia, Philippines, Denmark, Vietnam, Nepal and Mexico would prefer to use stigmatized monikers against Chinese, in comparison with other counterparts. As a result, people have negative perceptual bias stigmatizing China and everything attached with the nation (Hu, Yang, Li, Zhang, & Huang, 2020). The communication challenges related to the naming of the pandemic has not resolved even after its official nomenclature. WHO officially named pandemic of 2019 as '*2019 novel Corona Virus Disease '2019-nCoV*'on 12 January 2020; nevertheless, China's National Health Commission (CNHC) decided to temporarily call the disease "Novel Coronavirus Pneumonia" or "NCP" on 7 February. These official names have raised serious debates both outside as well as inside the scientific community (ibid).

One of the drawbacks of internet is that it is difficult to control the flow of information. Now media organization or governments have no power to act as gatekeepers of information or news. Citizens have open access to any information from the internet. As a result, the public face uncertainties and ambiguities in search of open information. Unverified message or misinformation has been causing panic shopping; buying medical supplies or drugs, and, even worst, taking drugs without a medical prescription. It is good now that people can have easy access to latest information about COVID-19 from various sources but the information needs to be interpreted and updated regularly to avoid confusions (Cuan-Baltazar, et al., 2020). In order to alleviate the uncertainty and ambiguity problems during a pandemic, an emergency risk and crisis communication has to assess and generate credible evidences and interpret the available information(Sellnow, Ulmer, Seeger, & Littlefield, 2009).

With regard to 'transparency' and 'accurate information' key stakeholders have to open their doors for information and provide relaible information about the pandemic. However, there are stll problems in filling this gap. For example, the Chinese government in general and the Wuhan provinve in particular did not report the real situations about COVID-19. Besides, the the

government of China failed to provide clear messages about COVID_19 based on scientific analyses and this resluted in the spread of rumour informally creating confusions and uncertatinities. As there were no timely explanations reported to the public, the whistleblowers continued privately spreading informal information about the clinical characteristics of the coronavirus on social media (Zhang, Li, & Chen, 2020). This lead to uncessary risk perception and wrong measures. For example, based on the informal infromation, people believed that COVID-19 had not a natureof human-to-human trasnsmission and they did not take care for themselves (ibid).

Furthermore, emergency risk and crisis communication strategy need to respond instantly and stay alert. As the facts about COVID-19 pandemic continue to evolve, key stakeholders, especially health professionals should be provided with verified and consolidated information (Poonia & Rajasekaran, 2020). One of the principles outlined in the WHO guideline is '*Announcing Early'*. As soon as an emergency threat is recognized, governments have to communicate to all stakeholders proactively. With regard to COVID-19 pandemic many countries did not react on time. For example, at the initial stage of the outbreak, the Wuhan government showed reluctance in communicating the emergency for proactive measures. The cases reported were seen as common public health cases with critical investigations about the epidemiological features of virus. This shows that there was no adequate preparedness for outbreak management, including a timely warning to the public and active countermeasures for the risk (Zhang, Li, & Chen, 2020).

To sum up, though our world has faced several pandemics in history, the challenge is not over yet. As world population keeps rising and movement of people from place to place becomes more sophisticated enhanced by globalization the spread and the impact of pandemics have become faster and vast. In order to minimize the effects, emergency risk and crisis communication has to be planned and implemented appropriately. As we have seen from the review, poor risk and crisis communication systems have caused various impacts. As saying '*it is not possible not to communicate'*, it is impossible to handle the pandemic issue without communication. In short, effective emergency risk and crisis communication is the mediator that facilitates interactions among the stakeholders, especially during the time of emergency health threat like COVID-19.

The researchers aim to identify the existing problems regarding the practice of Public Health Emergency Risk Communication in Ethiopia in response to COVID-19 by examining the communication practices in the process of fighting the pandemic. As the main purpose of the study is to explore the problems, interpret and understand them with regard to the issue under investigation, an exploratory research design has been applied for the study. As Kumar (2011) states the main focus in qualitative research is to explore, discover, understand, explain, and clarify situations, practices and experiences. In qualitative exploratory research design, data are gathered from multiple sources, such as interviews, observations, documents, and audiovisual information. The researchers build their patterns, categories, and themes from the bottom up by organizing, reviewing, making sense of the data, and organizing them into categories or themes (Creswell, 2014, p. 234).

2.3. Studies on Health Emergency Risk and Crisis communication

The application of scientific knowledge into useful constructs or concepts so that nontechnical audiences can understand has long been a major concern of the risk communication field. Research with regard to the risk communication field mainly focuses on social, cognitive, and economic psychology and their organizational and community-based applications. These studies suggest people's responses to events that put their health and safety at risk induce a diverse array of emotional, cognitive, and behavioural responses (Covello, 2003; Fischoff, 1995). Risk perceptions, which is the subjective assessment of risk, becomes diverges, especially when the hazard is manmade. When the risk is localized in one geographic area, the source of disagreement among experts, is difficult to detect in regards to exposure, and is out of a person's control. Thus, understanding a lay audience's cognitive beliefs about risk has also been a concern in risk communication. The logic is that if common interpretations of reality are understood, then risk communicators can better convert technical and scientific concepts into comprehensible messages (Fischoff , Bostrom , Quadrel, 2002).

There are various models in health emergency risk communication researches. The mental models approach gives emphasis for understanding of specific health emergency related risks the data explored using in-depth interviews (Morgan, et al., 2001). The information gathered is then used to tailor and focus health risk messages, similar based on the standard audience research in social marketing. The other approach is called knowledge networks adapted from the area of human development and human learning (Keselman, Slaughter, Patel, 2005). The main premise

of this model is that as people learn about their world, they can establish mental maps or knowledge networks that serve as heuristic devices to organize information. People learn through understanding a phenomenon in its entirety. Facts are organized in ways that make sense conceptually to the individual. Accordingly, when new knowledge is presented, the knowledge must resonate with people's background knowledge and so that they can analyze how that knowledge is organized and linked to personality, experience, and culture, before it can be assimilated into that individual's working memory (Keselman, Slaughter, Patel, 2005; Morgan, et al., 2001).

Other related to crisis risk communication practice focused on health promotion and communication (57, 130). Research in health promotion and communication has addressed how the use of planned, persuasive messages and communication campaigns can change awareness and health behaviours within populations (Glik, Halpert-Schilt, 2001; Witte, Meyer, Martell, 2001). The planning and testing of messages developed for such purposes have passed through a long history of researches related to marketing and persuasive appeals with both commercial and social objectives. A great deal of research on message development and media effects has been generated within academic and field settings as well (Bryant, Zillman, 2001). Based on the experience and research in creating mass media messages and campaigns, it is assumed that certain elements can create more effective communications including a credible source; clear, concrete, and consistent messages and suggested actions; and messages that resonate or "converge" with a target audience's perceptions (Witte, Meyer, Martell, 2001).

Chapter Three

3. Methodology

3.1. Research Design

The researchers aim to identify the existing problems regarding the practice of Public Health Emergency Risk Communication in Ethiopia in response to COVID-19 by examining the communication practices in the process of fighting the pandemic. As the main purpose of the study is to explore the problems, interpret and understand them with regard to the issue under investigation, an exploratory research design has been applied for the study. As Kumar (2011) states the main focus in qualitative research is to explore, discover, understand, explain, and clarify situations, practices and experiences. In qualitative exploratory research design, data are gathered from multiple sources, such as interviews, observations, documents, and audiovisual information. The researchers build their patterns, categories, and themes from the bottom up by organizing, reviewing, making sense of the data, and organizing them into categories or themes (Creswell, 2014, p. 234).

3.2. Data Sources and Sampling

Data have been gathered from various sources for this study. Data have been gathered from publicized news, press releases, messages publicized, and advertisements about COVID-19 from the websites and online versions of selected media and institutions. Using key concepts and terms such as: ‘COVID-19 in Ethiopia, corona virus, quarantine, COVID19 test, corona virus infection, COVID-19 prevention measures data have been gathered from the websites and documents of Federal Ministry of Health (FMOH), Ethiopian Public Health Institute (EPHI) and selected media organizations.

In addition, face to face and telephone interview has been held with selected experts and editors in media organizations. To this end, two experts were selected from EPHI and FMOH and interviewed. Similarly, 5 media experts (editors) were selected from EBC, FBC, Walta, OBN and AMMA. The interview was conducted face and through telephone.

3.3. Tools of Data Collection

3.3.1. Document Analysis

Since the first case was confirmed in Ethiopia on March 13, 2020, various messages have been broadcasted for the public through different media outlets. On the one hand, FMOH together with EPHI have been dealing with press conferences on latest updates about COVID-19 daily. The press release includes the test results, the details of the infected people, the status of quarantine procedures etc… Besides, the questions raised by journalists and communicators are answered during the press conferences. The press conference is then publicized through different channels including Tv. channels, radio, online media (website pages, telegram, You Tube, Facebook). On the other hand, short messages of opinion leaders (religious people, government officials, political leaders, artists and other influential people) are released via Tv. radio and social media in order to warn and advise the public. Furthermore, different media outlets have designed various promotions which contain short messages, visuals, and video clips to aware and warn the public about the pandemic.

Using qualitative content analysis method, all publicized messages regarding COVID-19 have been examined for close and detailed inspection and get rich discussion of portrayals and specific structures (Lockyer, 2008). Qualitative textual Content-analysis consists of analyzing the contents of documentary materials such as news, press conferences, primed messages, advertisements and other verbal materials which can be either spoken or printed (Kothari, 2004).

3.3.2. Interview

In order to triangulate the data gathered from various documents, interview was held with individuals who have key roles in designing, editing and delivering publicized PHERC messages. Accordingly, 5 individuals from the mainstream media and 2 individuals from FMOH and EPHI were interviewed. The interview focused on the process of planning, practicing and evaluating of PHERC in response to COVID-19. An interview, which included open ended questions, has been applied to collect data through face –to face interactions with participants and via telephone. Interviews are very effective for qualitative research as they help the researcher to elicit views and opinions from participants employing flexible questions (Creswell, 2014; Kumar, 2011).

3.4. Data Analysis and Interpretation Procedure

The researchers followed the following steps for qualitative data analysis. First, data were gathered and transcribed. Then, the transcribed data were read thoroughly and key texts or sections of the transcription which contain actions, opinions or concepts were ‘labeled, ‘coded’ or ‘indexed’ with key words or phrases. The criteria to code are based on ‘recurrences of the concept’, ‘relation with the literature reviewed or the theoretical framework selected, (Lofgren, 2013). The codes were then categorized using key concepts. In order to ensure reliability and validity, the researchers used: rigorous analysis and interpretation, code negotiation in groups strategies. The analysis was made based on the theoretical and conceptual frameworks identified for this study.

Chapter Four

4. Data Analysis

4.1. Analysis of Ethiopian National Risk Communication Plans for Covid-19

The Federal Ministry of Health (FMOH) of Ethiopia has prepared a National Guideline entitled '*National Comprehensive Covid-19 Management Handbook'* in response to the pandemic. The guideline has been planned in 15 sections. The 'Risk Communication and Community Engagement (RCCE) 2019 Novel corona Virus (Covid-19) Disease Preparedness' has been included in section 14 (pp.88-102). In order to evaluate this guideline, rubrics have been adopted from various sources (US CDC, PAHO). The rubrics have been planned to be rated in 5 scales as: *5=Extraordinary; can serve very well; 4= Adequate with minor improvements; 3=Good but needs more improvements; 2=unsatisfactory; has to be replaced; 1=poor; has to be rejected.* In addition, an interview was held with Public Health Emergency Management experts of Ethiopian Public Health Institute (EPHI).

The RCCE guideline has been prepared incorporating various contents including: *Purpose, General objectives, Situation Analysis, Preparedness team, Responsibilities, Guidance, RCCE Partners, Strategies and communication stages.* As it has been stated in the introduction section of the document that the purpose for designing RCCE tool is 'to support risk communication, community engagement staff and responders working with national health authorities, and other partners'. Similarly, the general objectives of the guideline have been stated as:

- *To establish effective emergency risk communication;*
- *To build leadership, community and health care work force engagement effectively;*
- *To mitigate COVID 19 disease outbreak by promoting informed decision*
- *To ensure that health authorities maintain public trust as a source of COVID-19 information and guidance;*
- *Ensuring consistency between public health recommendations from health authorities and other partners, being pro-active in monitoring, detecting, and preventing the spread of COVID-19.*

The documents have not incorporated some points. As an illustration, the final goal is not set. Though the guideline has stated the intended aims, there is no indication how these intentions are

going to be accomplished. For example, the expected behaviors from the public as the result of the activities to be performed through this guideline could have been set. Similarly the objectives have some limitations. First, they lack clarity as they are stated without specific procedures and outcomes. For example, '*To establish effective emergency risk communication'* is not clear and specific. Second, some of the objectives are not aligned with the function of communication. All in all, the objectives have some gaps as they are not set with identified goals and as they do not focus on the role of communication and the expected outcomes.

The RCCE guideline contains situation analysis. The situation analysis is not complete and comprehensive. On the one hand, opportunities and challenges related to resources, actual contexts, (politics, economy culture, religion…) are not identified in detail. On the other hand, important components such as, *Risk communication system'*; '*Internal and partner coordination'*; '*Public communication for emergencies'*; '*Communication engagement with affected communities*' and '*Addressing perceptions, risky behaviors and misinformation*' have not been included in the situation analysis section of this guideline.

The next section of the guideline deals with the RCCE teams. As it has been stated in the document (RCCE, Section IV, p.90), there are three main members included in the RCCE team. The team members have been identified as 'The Incident Manager (IM), EPHI/PHEM and MOH/RHB, the Public Information Officer (PIO**)** and Technical working group for risk communication. The responsibilities of these teams have been just indicated in short. Accordingly, the IM, EPHI/PHEM and MOH/RHB leadership should meet every week, and on an ad hoc basis as needed, to monitor progress of the response. The Public Information Officer must share updates and situation reports which have been approved by the IM to a list of pre-identified and approved partners and stakeholders on a weekly basis. Technical working group for risk communication to meet and provide technical clearance for messages and products needed for relevant target audiences and develop SOP and timeframe to product timely messages.

The RCCE guideline has no any clarification how the team is organized. More importantly, some other important teams from diversified sectors including: '*Content and Messages Coordinator', 'Media Coordinator', 'Direct Public Outreach Coordinator', 'Partner/Stakeholder Coordinator', and 'Rumor Control Coordinator*' should have been included. On the other hand,

the functions of each team have not been identified in detail. There is a guidance listed in the RCCE entitled '*Guidance for all the Task forces to communicate risk with target persons, families,*
communities' This guidance contents sub-divided into 6 sections as: *Leadership, case management, Infection Prevention and Control (IPC), Point of entry, Surveillance and Partner coordination*. These sub sections of the guidance discuss the risk communication activities and procedures at various stages and situations. The guidance does not include communication system identified to exchange information in the established team. For instance, there is no 'Joint Information Center (JIC) that can link the teams for information exchange. In addition, the chain of command is not identified clearly.

During the interview session the experts of EPHI/FMOH was asked about establishing teams for the pandemic risk communication purpose. The interviewee indicated that initially a team was set up as Communication and Community Engagement under the operational sections together with risk communication, case management and surveillance involving 3-5 experts drawn from UNICEF and various stakeholders. Then the team was reestablished in three sub-teams. The interviewee elaborated the team established in EPHI/FMOH for the Covid-19 risk communication as:

> *In its current structure, the team has three sub-teams. The first is content level and production team, which produces messages and audio and video spots and disseminates via different channels. The second team is called mass media and social media team. It is a team engaged in media and communication responsible for preparing messages which are disseminated through mass media, panel discussions, news, and documentaries. The third team is community engagement team responsible for community engagement works by engaging various community-based organizations, Idir leaders, religious leaders, and influential people.* (Expert-Interviewee1).

With regard to the composition of the sub teams, the respondent stated that the first sub team (content development) includes graphic designers, public relation officers, health promotion specialists, psychologists, and public health experts. The second sub team (mass media and social media) involves public relation experts and generally manages and monitors media contents including social media posts and the last sub team is comprised of leaders in the community such as Idir, religious leaders. As the respondent elaborated further, each sub team has its own section chief, team leader and a focal person in a hierarchy.

The participant was also asked if there was a guideline prepared which can be used as a frame of reference for the teams. The respondent stated, "We have prepared different guidelines such as message development guide, community engagement guide, volunteers guide (under community engagement), and special people (e.g. elderlies) guide, communication protocol, spokesperson guide, and others" (EPHI/FMOH-Interviewee1).

Furthermore, the RCCE guideline of Ethiopia, prepared for covid-19 pandemic, has not listed all the potential target audiences under the '*Guidance for all the Task forces'* section. The RCCE just outlined the communication guidance with affected families, health professionals, travelers and the community. Potential target audiences including, (i) *residents*; rural villages, town villages, camps, centers, apartments; (ii) *Civil servants in different areas; (iii) researchers; (iv) opinion leaders; (v) vulnerable communities* such as, street children, bar ladies; (vi) *students* and (vii) business people should have been listed.

The communication systems are not set for specific audience separately. For instance, the communicating mechanism to reach the vulnerable populations (elderly, disabled…) have been not been identified in the RCCE in order to ensure that they will have access to health protection information. The communications have been indicated under 'surveillance' rather as approaches. In this regard, the experts of EPHI/FMOH were enquired to explain how special groups were addressed in the pandemic risk communication. As the respondent illustrated, there are different groups which have been identified as specific groups. The first specific groups include the elderly with mental problems who are support in Mekodonia Home. The second targeted area is the industrial parks as they have a large number of workers including foreigners especially at the beginning. The third special group targets orphanages who were being supported through a special team called protection team within Emergency Operation Centers (EOC) which include women and children. Under the fourth category Internally Displaced People (IDP) sites, refugee camps, police camps and prison centers were also targeted as special audiences. Moreover, long distance truck drivers, especially those along the Ethio-Djibouti highway, were considered as special target group. As per the respondents' explanations, activities such as disseminating different messages and giving training for their experts were carried out for these specific audience (EPHI/FMOH-Interviewee2).

The expert was also asked if specified communication channels have been planned and applied for specific groups, especially those with impairments. As per the respondents' illustrations there was an attempt to deliver messages for deaf people using special methods. "A sign language is used when cases are notified and when the minister makes statement. We have also produced and disseminated especial videos for this group on how to make and use home-made masks" (EPHI/FMOH-Interviewee).

The RCCE included '*Partners (internal & external coordination*)**.** As it has been stated in the document, the partners include 'list of partners within government, NGOs, WHO, UNICEF, CDC (focus on communication partners) and 'External partners (donors) (RCCE, Section IV, p. 98). As it can been seen, enough stakeholders are not identified. Potential stakeholders including; Ministries, Federal Bureaus, Regional Bureaus, Town Administrations, Public Health Centers and Hospitals, Media and other external stakeholders should have been listed in detail. On the other hand, there is no communication system identified how to involve the stakeholders in all the risk communication activities. In other words, clear objectives, roles and responsibilities and the partnership guidelines are not set for partnerships. As an illustration, the RCCE document indicated communicating with traditional healers, community leaders and influencers. But the strategies how to identify influential people and how to build relations with these people are not clarified. Similarly, no specific guidelines have been outlined for the relation with media. The relation has been indicated under the guidelines for all task force as '*leadership-public communication and media handling'.* The linkage with media is not clear as there is no identified media coordinator who can serve as a liaison for stockholders under the Joint Information Center (JIC).

Similarly, the interviewee indicated that there have been both external and local stakeholders identified as partners. As per the respondents' elaborations, the external stakeholders include, John Hopkins University, UNICEF, Red Cross, World Vision, UN, BBC, World Bank and WHO. These partners have been supporting them in communication including technical, message production dissemination, by providing financial support and assigning professionals. For the local stakeholders participation, as the interviewee stated, there is multi-sectorial team, which is a national task force team ensuring the involvement of every sector office. Religious institutions are also the other stakeholders which are involved under the national and regional religious councils. Furthermore, medical associations such as physicians association …

midwives association, nursing association, cancer association and diabetic association are the stakeholders (EPHI/FMOH-Interviewee).

The RCCE guideline of Ethiopia prepared for Covid-19, has stated some activities in order to outline the phases in communications for the pandemic. Some activities are identified as communicating early, communicating in uncertainty and communicating to lower fear. However, the communication activities planned are not set in phases as per the guidelines of WHO. The communication activities could have been set in Phases as-Pre-risk, Outbreak, Crisis and Resolution stage.

The document has not included plans of monitoring and evaluation schemes. This section has been stated as 'to be linked with EOC-planning & M&E'. In fact, it has identified few strategies for managing '*Infodemic'*. This section has been discussed under a sub-tittle 'SOP for Managing Misinformation and Rumours'. For this activity, only few checklists and procedures have been listed as strategies for managing misinformation and rumours. There are no 'Media Coordinators' established who can assesses media needs and organizes mechanisms, triages the response to media requests and inquiries, ensures that media inquiries are addressed as appropriate, supports spokespersons, produces and distributes materials such as fact sheets, monitors, analyzes trends, concerns and misinformation in media and reports for diagnosis.

4.2. Analysis of Mass Media Emergency Risk Communication Plans

In order to assess the practices of mass media organizations in response to Covid-19 pandemic, semi-structured interviews have been held with media experts. The interview focused on general preparedness and response for the pandemic including establishing special task force, designing editorial guidelines, planning trainings and orientations and setting specific programs for the pandemic and panning the news and program contents. In addition, an in-depth interview was held with experts from EPHI/FMOH with regard to media relations, planning messages and reporting. The reflections of the interviewees have been taped, transcribed and put into the QDA Miner software. Then the qualitative data have been categorized, coded and analyzed thematically.

The first item of the interview focused on '*news planning'* practices. As it has been learned from the participants' responses, there are various channels that are used to publicize news for the public. "There are three radio channels and three television channels, which disseminate

information in some eight different local and foreign languages" (Editor-Interviewee 2). Similarly, the editor of another media stated that there are alternative channels for news transmission.

> *We have both TV and radio channels including the online version. We have 12 FM channels including the national radio programs. We transmit in 9 languages. We also have social media channels: Facebook, Twitter, telegram and you tube in different languages.* (Editor-Interviewee1).

In order to get background for the practices of Covid-19 media coverage, the experts were asked about the '*editorial procedures'* that are practiced for their daily routines. Both the interviewees indicated that they have normal editorial procedures and guidelines established for the regular routines. As per their reflections, these editorial procedures and regulations are applied every day. Accordingly, editors and other staffs have briefings for news planning and priorities. "Each department will have its own briefing time for proofing or approving something to be sent to the main editorial" (Editor-Interviewee 3). He also stated that each content of the news and programs are evaluated based on the standards set in the editorial policy and style books. Similarly, interviewee from another media organization responded that the news and programs are controlled under the guidelines and editorial policy of the corporation. "We usually have briefings before the live transmissions. We raise the topics of the discussion and agree on the information to be publicized" (Editor-interviewee 5). The interviewees were also asked how they identify priorities for media coverage.

The interviewee from one media stated: "All the time we give priority for political themes. Whenever there is a story from the Prime Minister that is the first story and then the president's. The issue itself would be prioritized" (Editor-Interviewee 2). As he elaborated further, the priority is given for an issue based on its impact. The interviewee from another media on his part stated:

> *We base our news on current affairs. This is an expected happenings/emergency cases. The other is the developing story of issue which happened earlier. For example, war case. The audience experts developing stories about the war. The third type is called project news which is based on plans. Moreover, there are editorial news which focus on government directions identified as priorities*. (Editor-Interviewee1).

Based on their responses for the general editorial processes, the interviewees were enquired to reflect on the planning news of Covid-19 pandemic. The first question focused on '*Preparedness*

for the pandemic'. The interviewees were asked to discuss how their organization commenced on the planning of the pandemic communication activities. Their responses have been taped, coded and analyzed. The analysis came up with four emerging codes; '*committee, guideline, preventive supplies* and *trainings'*. The interviewees indicated that a committee has been formed for the pandemic. "We established a COVID prevention committee which has five members. I am the chair of this committee and I'm deputy CEO responsible for training and research' (Editor-Interviewee 2). The interviewee from another media on his part stated that they have established a special team for Covid-19. With regard to preparing guideline, the interviewee of one media stated that 'we have not prepared our own guidelines for our reporters. We just applied the guidelines of WHO' (Editor-Interviewee 4). The interviewee from another media on the contrary responded that they have prepared their own guideline for the pandemic.

> *What we did with the training and research department is, we developed a guidance, a guideline, on how to report the language, everything that guides journalists, like thirteen or more pages manual, which was translated into Amharic and distributed to journalists. We brought the guidance on how journalists should prevent themselves and how they should report from WHO, Johns Hopkins and Associations of Journalism and then contextualize them according to our own situation.* (Editor-Interviewee 2).

The experts of EPHI/FMOH were asked if they prepared guidelines and provided for media organization. It has been learned from their explanations that they prepared the guidelines for their internal pandemic communication activities. "We have prepared different guidelines such as message development guide, community engagement guide, volunteers guide (under community engagement), and special people (e.g. elderlies) guide, communication protocol, spokesperson guide, and others" (EPHI/FMOH-interviewee1).

The interviewees were also asked about the supplying necessary materials for the staffs. The respondents pointed out that they have provided their staffs with safety supplies such as masks and sanitizers. "Our organization has provided the staffs with necessary protection resources such as masks and sanitizers" (Editor-Interviewee4). Similarly, the interviewee from another media stated that the corporation supplied safety materials for the staff in two ways; by asking from donors and by purchasing. "We asked responsible organizations such as MOH, EPHI, and other donors. We also bought alcohol for sanitization and from the factories. We tried to distribute about 10,000 masks for our staffers" (Editor-Interviewee 2). With regard to the trainings, interviewee from one media organization responded as.

> *We arranged trainings in collaboration with EPHI. The trainings were given for all staffs. This is because all staffs have roes directly or indirectly. As a reporter is not writing that the technician has to be given trainings and orientations. Thus, trainings were given for two weeks in 4 rounds. Trainings also incorporated the safety measures.* (Editor-Interviewee1).

The editor from another media on his part, stated that 'we give reporters prior information all the time in the tutorial session' (Editor- Interviewee2). The experts of EPHI/FMOH were asked about providing trainings for media professionals. One of the interviewees, illustrated this as:

> *In accordance with Directive 6 and Directive 13, as which were developed during the state of emergency, trainings were given for government and non-governmental media experts taking into consideration physical distancing, acceptable number of participants, and 100% utilization of masks. The training was initially given at the national level and was later cascaded to regions. After the training was given for media workers, a Telegram group was created for them for continuous communication. Agendas have been sent to them on news production and preparation of various programs.* (EPHI/FMOH-Interviewee2).

The interviewees were then asked about planning news and reports of Covid-19 on their media outlets. First, they were asked about '*framing the pandemic'*. Various codes have emerged out their responses. The first one was '*naming covid-19'*. As it has been learned from their responses, there was inconsistency in using the terms for the pandemic. As an illustration, terms such as, *Novel Corona virus, Corona, Corona Virus, Corona pandemic* were used at the beginning. Then, they began to use 'Covid-19' as an official terminology following the declaration of WHO. "We have not prepared any module to be used as guide for our staffs. But we applied the guidelines of WHO. First, it was called corona virus. Then we started to use Covid-19 officially following the declarations of WHO" (Editor-Interviewee1). The interviewee from one media organization on his part stated:

> *What we were thinking was that what type of terms we should use. We are not, you know, in health profession, and we are simply reporters. Look, in the morning we do have briefings. In the afternoon, there's a big editorial where everything is decided. So, as that time we even try to give them a language, a word, and how to use it.* (Editor-Interviewee 2).

On the other hand, the interviewees were asked how much they were cautious in reporting news using appropriate words. The respondents indicated that the news items are usually approved at the editorial stages. Accordingly, as they stated, there must be c consensuses among the staffs on what and how to report.

> *In the morning we do have briefings. In the afternoon, there's a big editorial where everything is decided. So, as that time we even try to give them a language, a word, and how to use it. We inform them not to use a word like crisis. And it's not a crisis; it is a type of risk at its first stage. We try to show that there is hope. We do not release devastating news by reporting that everybody has been infected by the disease.* (Editor-Interviewee 3).

Similarly, the participants from EPHI/FMOH stated that at the beginning people who were found Covid-19 positive faced stigmas. Hence, they had to secure the confidentiality of individual cases. As the public was in a complete panic, they started to minimize horrifying messages including naming the pandemic with less terrifying terminologies.

> *Training was given for media experts on message development and the use of language, for example, 'Corona positive', rather Corona affected'. Covid itself was initially called 'Corona'. It was later decided to use 'Covid' and to replace words which create confusion and which have psychological impacts on people with appropriate ones such as using 'physical distancing' instead of 'social distancing', which had created misconceptions in the society. So, training was being given for Medias regarding such issues.* (EPHI/FMOH-Interviewee1).

Moreover, the participants indicated that they were very careful not report crisis in the other countries to avoid consequences. An interviewee form one media organization stated:

> *By the way, we didn't report COVID-19 as a crisis in Ethiopia. It has a risk on economy, on politics, on families, and it may bring social crisis if we're not preventing it. Hence, we were not reporting COVID-19 as a crisis in Ethiopia; that would be very devastating for the nation and for everything. So were not saying like that.* (Editor-Interviewee 2).

The respondent was asked the side effect of avoiding reporting the crisis of Covid-19. As per the view of the participant, they are careful because they have responsibilities as they are 'state media'.

> *We are federal state media, we are responsible for all people; we have to think of the economy, the public, the social bonding, everything. So what we tell them is, this disease is very difficult, and it will have a devastating effect on economy, politics, and our daily social interaction. So that's what we do. We are not going to horrify people. If not, those people who are infected by the disease will not reunite again back to the public, like the case of HIV during the beginning time.* (Editor-Interviewee 2).

This study used 'outbreak communication guidelines" of WHO and 'Emergency Risk Communication Conceptual Model' in order to evaluate how health emergency risk communications have been planned and applied for Covid-19. Accordingly, mass media editors

and EPHI/FMOH experts were asked how they have planned the risk communication strategies in terms of '*transparency, Immediacy, Accuracy, Diversity, Empathy, Trust* etc…

When the media experts were asked about releasing reports for the public on time (immediacy), they indicated they have been eager to report on time as there is a competition among various media out lets. So we try to be the first and to take the fact before any other media to grab the attention of audience towards ourselves. All the time we try to do our best to report it immediately" (Editor-Interviewee 3). However, they have to wait for the report from FMOH and EPHI. "Sometimes we are eager as there is sometimes competition in media. "We have to wait for the reports of MOH. If we get the report at news time, we release it right away. Otherwise, we cover it in our programs. We also give priority for other programs that are related to Covid-19" (Editor-Interviewee1). Similarly, the expert from another media organization stated that they have been unable to report on time as they do not get approved information immediately.

> *The reports of the COVID-19 were centrally managed. They were not online kind of platform like Johns Hopkins. At the beginning we were telling the public at midday, and then they were not able to do it. We started to report it at 7pm in the evening, and there was a fluctuation of time. We are not doing like what the Western people are doing. As a national a national broadcaster, public media, we are waiting for the confirmation from the ministry of Health. (Editor-Interviewee 3).*

The expert from EPHI/FMOH were asked about the procedures of releasing case reports. It has been learned that the reports of daily cases pass through various stages before they are publicized. The elaborated the process as:

> *We have laboratory and surveillance teams here in EPHI. The laboratory team sends test results to the surveillance team workers, who have detailed and already collected data about cases or suspected individuals. After the news on the number of cases has been written, the report will be sent to a loop that consists of our section chiefs, our incident manager, EPHI director, and the Minister and her social media managers. They will look into the report and send it back to us with comments and corrections, if any. Then it will be posted on the Minister's social media page, or presented on a press release by the Minster herself. After the news has been posted or delivered on a press release, it will be sent to various Medias for broadcasting. It will also be posted on the Ministry's and EPHI's social media pages. This is the procedure we follow practically. It is also available on the protocol.* (EPHI/FMOH-Interviewee2).

The participants were also asked how they work on the accuracy of the messages developed and released to the society. They indicated that they have been experiencing accuracy problems in

two ways. Some of the accuracy problems are related to verification gaps. The news of the traditional medicine for Covid-19 from Ethiopian Ministry of Innovation and Technology as a case in point.

> *The news about the traditional medicine, was released just like an infodemic. The guy who was disseminating this information is working here as an anchor in a part time. We asked them how they proved it and why they just released the news like that. We were trying to push them to give us the answer. But nobody was giving us the right response. At the beginning even people were very hopeful. But this hope will have a negative impact. And then they were unable to answer for the public later on.* (Editor-Interviewee 2).

The respondent also indicated that there were a rush to release information about the pandemic without thorough verifications. "If you remember, the first news was broken out by Takele Uma, the former mayor of Addis Ababa, and we didn't report it. But we did not release the news right away. Because we had to wait for the responsible bodies to approve the case" (Editor-Interviewee 2).

On the other hand, there accuracy problems related to errors that occur in the process of producing and releasing news.

> *Everything is sensitive in media and communication activities. In this regard, the technicians have great impacts on news coverage. For example, the captions texts which are displayed at the bottom of the screen may create huge impacts if there are error. Similarly, calling names wrongly are common errors. There are errors, but it is a matter of correcting them on time and the type of the errors.* (Editor-Interviewee1).

When the experts form EPHI/FMOH were asked what strategies have been applied to ensure the accuracy of messages and reports, the respondent stated that the 'centralized risk communication approach' has been applied in for such purposes.

> *It was controlled with the intention of avoiding rumors. If any experts reflect their own opinions freely on the media, they may disseminate not information but also misinformation. The reason why only selected experts appear on the media is to avoid misinformation that may lead to the creation of rumors and to follow institutional working guidelines. It is more appropriate to seek information about Covid-19 from a medical expert working on Covid-19 rather from someone working on any other medical field who is likely to spread misinformation knowingly or unknowingly. I think this also helps to avoid or minimize the creation of rumors.* (EPHI/FMOH-Interviewee1).

The next issue raised during the interview session was '*Clarity'* of messages and reports. The respondents indicated that there have been 'grey areas' in some information with regard to the nature of the pandemic and preventive measures.

> *Some informations were not clear. For example, the information regarding the life expectancy of the virus on different objects have been varied. This has created a huge confusion and panic among the public. Similarly, there has been inconsistency in using sanitizer. Some people used the sanitizer by mixing it with water. Others tried to produce sanitizer at home using alcohol. Some others sell it in the streets without appropriate packaging. Furthermore, some people believe sanitizer replaces washing hands using soap and they started to stop washing using only sanitizer.* (Editor-Interviewee1).

The experts from EPHI/FMOH on her part admitted that there have been confusions as result of discrepancies among released information about the pandemic. The interviewee illustrated this as:

> *Media use various sources based on their search. But using different sources may result in some gaps and confusions. At the beginning there was a clarity problem whether the virus transmits through breathing, physical distancing or social distancing, hand-washing time and the standards of physical distancing; to apply 2 meters or two steps.* (EPHI/FMOH-Interviewee2).

On the contrary, the editor of on media organization stated, "the media were not allowed to publicize any information without consulting FMOH" (Editor-Interviewee 4).

As the participants pointed out, various strategies have been tried to minimize confusions as a result of lack of clarity.

> *We believe that evidences have to be incorporated. Thus, we provide the public with multi versions of information in wider contexts. We do not limit them to specific facts or standards. We advise the public to take the maximum cares. We do not conclude on hypothesis such as whether Covid-19 is airborne or not.* (Editor-Interviewee1).

The participant from ANOTHER MEDIA ORGANIZATOPN on his part stated that they have been tackling clarity problems by inviting professionals for explanations and producing animations and video clips that can demonstrate messages such as, 'social distancing' for the public practically.

Similarly, the EPHI/FMOH expert stated that they have been taking various measures to avoid confusions related to the released messages.

> *We have been using a variety of methods to solve these problems. For example, we have been advocating in our messages following the WHO guideline steps when washing hands to help guess the 40-second timing. In the Telegram group for media workers, we have been correcting things by promoting the right procedures such the use of 'two meters' rather than 'six feet' washing hands for 40 seconds rather than for 20 seconds, etc...* (EPHI/FMOH-Interviewee1).

The participants were asked to reflect on the 'sufficiency' of information related to Covid-19 which has been publicized to enlighten the public. The EPHI expert indicated that providing information about the pandemic have not been similar at different stages.

> *At the beginning, because there were fewer cases to be reported, an extensive press release that includes detail data (number of positive cases, age range, contact history, whether the case is from abroad or not, etc.) was delivered by the Minster of Health. Later, however, as the number of cases increased, the responsibility was handed over to the various media and respective regions.* (EPHI/FMOH-interviewee2).

The media experts on their part pointed out that they have been working hard to inform the public various messages and information in different methods so they can act appropriately. "Because of COVID, our television format has been changed. So we leave other programs, and we were focusing all the time on COVID-19" (Editor-Interviewee 5). The expert from another media stated:

> *We feel that the public is exposed to various messages from different sources. Thus, we have been careful not to create boredom. I can't say we have done enough for the pandemic as there have been overlapping issues. We have not conducted a survey on audience satisfaction. We have a research section. We have a plan to work on assessing feedbacks.* (Editor-Interviewee1).

In addition, the experts pointed out that they have been inviting professionals to their programs explanations about the pandemic. The expert from one media organization indicated that they have been inviting experts to their programs so that they can provide professional explanations for the public. .

> *We have been trying to invite people from the field. Those people who were invited from universities and from MOH tried to give an example of scientific journals and new findings, like for instance, which blood type is more effective than the other, the nature of the disease, how experts are identifying the nature of the vaccine for the disease, when it can be here in Ethiopia, and sorts of things like these were delivered, actually.* (Editor-Interviewee 2).

The interviewees were asked how they select the experts and invite them to their programs. They pointed out that the experts are invited to media programs as per the directive of MOH/EPHI. The editor of one media illustrated this procedure as follows:

> *We invite health experts in two ways. First, there is a media consulting team under MOH. This is because there is a direction from the government that any information should not be publicized unless approved centrally. The media were not allowed to publicize any information without consulting MOH. Thus, we had to request an approval from MOH when we invite guests to our programs. We also asked the ministry to suggest us experts to give explanations about Covid-19. Then we invited health experts based on the suggestions of MOH. In the second method, we invite experts who have been working with our organization. In both ways, we get approval from MOH.* (Editor-Interviewee1).

In this regard, the EPHI/FMOH expert stated, "In addition to providing training for them, we assign experts to the media as many of them request experts who provide them with information and help them with panel discussions and so on" (EPHI-Interviewee).

Furthermore, the media experts stated that they have been trying to teach the public by making people affected by Covid-19 share their experiences.

> *At the beginning people perceived quarantine centers as 'hells'. For this reason the media tried to change perceptions showing good sides in the centers. For example, we tried to show people playing games and relaxing in the centers. However, this media coverage created another perception among the public. People began to perceive the pandemic as a simple issue. This is the challenge of communication. It may transmit unexpected message*. (Editor-Interviewee1).

Similarly, the expert from another media organization stated that it had been very difficult to reach affected people at the hospitals, the Millennium Hall, Eka, and other recovery sites though they had tried to teach the public by sharing experiences of affected people.

In relation to informing the public, the participants were asked about addressing the specific groups in terms of age, gender, economic status, disabilities, living or working environment etc… The respondents stated that they tried to address such people in special programs. "We even have started the news for the disabled with a sign language in the main news channel. So we try to be inclusive, but if you ask me if it is enough for more than 100 million people, it is not enough" (Editor-Interviewee 2). As it has been discussed above, the expert of EPHI/FMOH indicated that they have identified elderly with mental problems, workers in industrial parks, children in orphanage centers and long distance truck drivers in their emergency risk

communication plans. The participants were also asked if the messages they developed and publicized were all actionable. The expert from another media organization stated that there was a problem in planning activities that are authentic and relevant.

> *Sometimes, there are activities that are planned for just the sake of annual reporting. There are people who want to take an advantage whenever there is a pandemic or whatever. Even government institutions are doing like this. They write a proposal saying that they are going to give sanitizer for those people on the streets and the like. And then they will get their money and they will invite us to cover it for their own reporting sake. We do not do that, by the way. We ask them, 'if you are going to give sanitizer for these people, do they have home? Do they have water? What is their basic need? We to report this as it is not effective. This is like joking on their poverty, you know.* (Editor-Interviewee 2).

In fact, the EPHI/FMOH expert reflected on the experience in regards to informing people in unfavorable environment.

> *When we communicate risks in an unsuitable environment, it is a big challenge to execute an action in addition to people's perception. Besides informing people to wear masks, you need to identify those who do not have masks and you should provide them with masks. Before telling people to use sanitizers, you need to ensure that they can get sanitizers. In the absence of sanitizers, you cannot blame people for not showing behavioral changes.* (EPHI/FMOH-Interviewee2).

As per the expert's explanation, mitigating interventions have been planned after it has been learned that only delivering preventive messages is not effective in unfavorable environments. Accordingly, the EPHI/FMOH task force have proposed possible solutions to create favorable conditions to promote preventive measures. Some of these include, mobilizing donors for mask donations and setting up mask banks. The other is to plan for alternative water supply for areas where shortage of water is a challenge in collaboration with water and sewage authority.

On the other hand, the respondents indicated that some messages that are publicized to the public are not practical as they are not planned considering the actual contexts. In this regard, one media expert stated:

> *We started working on spots that show actual practices such as showing when famous people are washing their hands. But there was a comment from the audience. Some people criticized that it was not good to show wasting much water flowing from taps. Then we demonstrated washing hands using jugs. The messages were prepared considering the urban population.* (Editor-Interviewee1).

In this regard, the EPHI/FMOH expert stated, “At the beginning, it was just 'blanket coverage', an attempt to disseminate messages for all. Later on, however, problems encountered were identified and target groups for engagement and support were also identified gradually” (EPHI/FMOH-Interviewee2).

The participants were also asked to reflect on approaching people affected by Covid-19. As the EPHI expert indicated, there was a cautious start to approach people affected by Covid-19 and make them share their experiences for the public at large. “There was great media interest to produce testimonial videos and news for the public. But affected people had fears as there was stigma initially. They also preferred radio programs and print media due to the stigma. So we had to maintain confidentiality of patients” (EPHI-Interviewee). The media experts stated that it had been very challenging to reach people affected by Covid-19 at the beginning. On the one hand, it was difficult to get permission to go into recovery centers and talk to people to share their experience for the public. On other hand, the affected people themselves were not willing to appear on media afraid of stigmas and discriminations (Editor-Interviewee1).

> *There was a stigma and discrimination. So people were scared of presenting themselves on television or radio, or whatever. But gradually, we were able to get some people and they were able to speak in front of people and people were trying to learn how devastating it is, especially if you do have another disease like HIV.* (Editor-Interviewee 2).

For this reason, as the respondents elaborated, they had to apply various methods. “We keep their dignity, their individual rights, and at the same time, we try to report using different techniques such as, using radio programs and different camera techniques to cover their faces and make them speak their story to the public” (Editor-Interviewee 2). Similarly, the expert from another media stated, “we change their names and let them share their experiences through radio programs. Most of them have been willing join the radio programs and share their experiences”. For those who were voluntary to appear on Tv. and tell their stories, we just contact them and invite them to our programs (Editor-Interviewee1; Editor-Interviewee 2).

The interviewees were asked if they have counselling sessions for people who have been affected by the pandemic. The expert form the ONE OF THE MEDIA ORGANIZATOPN stated that they invite external professional counsellors. , we invite a counselor. “Whenever we go to people affected by Covid-19 and make stories, we take a counselor with us” (Editor-Interviewee 2). But the editor of another media indicated that they do not have counselling sessions.

> *We do not have professional counsellors assigned for this purpose. We just follow our own normal media procedures to invite on programs. The media programs are important for the victims, too. When they appear on media, they feel confident to join the community. The public can also minimize stigma once the recovered people appear on media.* (Editor-Interviewee1).

During the interview session the participants were asked to reflect on their experiences in regards to '*Infodemic'*. The interviewees were enquired to discuss on the prevalence of *misinformation, rumours, myths* and the impacts and strategies they applied to tackle the infodemic in general. The expert of EPHI/FMOH illustrated the overall problem related to infodemic as follows:

> *There are so many challenges in relation to infodemic. As you know, emergency by its very nature involves many public questions. If these questions are not answered properly, they lead to rumors and speculations. There were, in fact, many rumors especially in relation to Mask and 666. Some religious leader were also advising people to use a mixture of honey, 'feto' (Garden cress), and onion as traditional medicine that prevents or cures Covid-19. There was also a wrong assumption that blacks and Ethiopians are not infected by the virus. So, there were so many rumors. Now there is a tendency to politicize Covid-19 with assertions widely heard that it does not exist and that the campaign about wearing masks is a mere political agenda. There are also rumors that associate the vaccine with 666.* (EPHI/FMOH-Interviewee 2).

Similarly, the media experts stated that there have been a lot of rumours, myths and misinformation that have been circulating among the public and creating confusions and panic. The respondents indicated the most common myths and rumours. As per their illustrations, some believe that living in a hot area, drinking alcohol, traditional herbs and spices such as, garlic, 'feto' (garden cress), pepper etc… kills the Covid-19 virus (Editor-Interviewee 3). "Some of these myths were disseminated as messages from monks of monasteries which orders people to use traditional methods such as 'eating garlic" (Editor-Interviewee1). Another editor stated that there are some people who disseminate 'beliefs' related to religion. As per his illustration, people think Ethiopia is like a blessed country but Western countries are full of evil people who do things that are not allowed by God. But here in Ethiopia, the people are good, so they are protected from Covid-19.

They also pointed out that there have been various rumours that have been creating suspicions, distrust, frustrations and panic. As they elaborated, there were rumours that Ethiopian Airlines is transporting infected people from China and Duba to Addis Ababa without any control. In addition some people disseminated the misinformation stating there was no any pandemic and as

if ‘Covid-19’ was just a politics. “People were arguing it was even like political benefits because the PM doesn't want to make the election, so he closed schools and the likes but the disease is not there” (Editor-Interviewee 2). As an editor explained, the root cause is related to traditional beliefs.

> *Look, unfortunately, Ethiopian people are oral society. They believe more what you tell them than what they read. Rumours prevail more than the facts, and it is gossip that prevails in this country. It actually related to our literacy level and maybe 50 percent still do not read and write. So these things are common.* (Editor-Interviewee 2).

The other main factor for the infodemic is social media as the participants indicated in their responses for the interview questions. The expert from another media illustrated this as:

> *The main challenge related to the infodemic and myths is the social media. Any person may release an infodemic or myth on social media. This information is disseminated at large in just few minutes. As the information is fresh, it is accepted as a first impression. Then it will be hard to reverse it.* (Editor-Interviewee3).

In this regard, the expert from EPHI/FMOH indicated that ‘centralization of the information’ its own contribution for the infodemic.

> *Centralization has its own limitations. Because both the media and the community had hunger of information, the community may create its own information when it couldn't find someone who provides it with the right information. It is believed this is a useful lesson for the future in handling outbreaks, and it is necessary to provide media briefings periodically through literacy communication team and by engaging spokespersons. As you said, details about the disease are not provided usually other than notifying cases. I think we should draw lessons from this experience and identify what we should correct for handling breakouts in the future.* (EPHI/FMOH-Interviewee 1).

As the participants stated the infodemic has been affecting the communication activities which have been intended to inform the public for appropriate behaviors to fight the pandemic. “Some of the infodemic that have been disclosed are very terrifying. More importantly, it has been a serious challenge to correct these infodemic and convince the public. Because of these infodemic, the public have been in a panic” (Editor-Interviewee1). Another editor on his part stated that there were unverified news released on social media that terrified the public. “For example, there was a news that declared about 30% of the people are infected by COVID-19 in Addis Ababa” (Editor-Interviewee 2). On the other hand, as the participants pointed out, unverified rumours have been influencing various organizations. “Sometimes the rumours are deliberate, I think. Some people

want to diminish the Ethiopian Airlines so that it won't be competitive in the future" (Editor-Interviewee 2).

The participants were then asked about the strategies they planned and applied to tackle the infodemic. As the expert of EPHI/FMOH stated the first measure is to collect the infodemic from various sources so as to develop diagnostic messages to tackle the infodemic.

> *We collect rumors from social media manually, and there is also a system that collects negative news together. People also call and inform us about what is going on and we use this as a way of gathering rumors. Furthermore, our workers inform us what they hear in the community in which they live. These are the ways through which we collet rumors and feedback. The rumors collected are then registered in our database and we use them as input in our message production.* (EPHI/FMOH-Interviewee 2).

The media experts on their part stated that they have tried various methods to tackle infodemic. As the editor of one media stated, caution is necessary when handling misinformation. As per his explanations, media may introduce the infodemic itself during advising the public about the infodemic. "We try to handle these myths carefully. We have been careful not to introduce the myths themselves while trying to teach the public. Sometimes media may diffuse the myths themselves in the process of warning people about informal rumours. This is called the inevitable evil of media" (Editor-Interviewee1). Similarly, another editor stated, "Deliberately we omit some of the news that may create some kind of panic or that may damage the reputability or dignity of the organization" (Editor-Interviewee 2). The other method is publicizing only verified information. "We prohibit them not to use any data unless it is provided by Ministry of Health, Pasteur, and internationally from Johns Hopkins and CDC" (Editor-Interviewee 2).

The media experts were asked how much they have been working on providing timely information by following up updates. As the experts indicated they follow up updates about Covid-19 from two sources; local and international sources. The international sources they often follow up are WHO, US CDC, John Hopkins, Metro and African CDC. They also follow up FMOH, EPHI and PMO reports of the local sources. Moreover, they monitor the release from the Minister of MOH on social media (Editor-Interviewee 2; Editor-Interviewee 3). "We get information mainly from the websites FMOH and EPHI. We also get information from the Ministry's social media page. The minister, Dr Lia, has been disclosing latest news daily. Sometimes we get additional information from other Offices such as PMO" (Editor-

Interviewee1). The other editor from another media on his part stated that we have assigned journalists as focal persons who are responsible to follow up and report from MOH/EPHI".

With regard to monitoring media, the experts indicated that there are no any media monitoring personnel assigned specifically for the pandemic. "There has not been any formal media monitoring team established for this purpose. We have a digital media section which work on media monitoring in general. Thus, we get inputs from this digital team indirectly' (Editor-Interviewee1). The experts were also asked if they have been following up research out puts from medical journals or other sources released about the pandemic. They pointed out they do not have such practices so far. "We do not have the practice of following up study findings released on medical journals" (Editor-Interviewee2). Similarly, another editor replied, "No, not on COVID". The editor of one media elaborated about providing timely information by following updates as follows:

> *The nature of the virus itself and the context of media usage have been very complex. It has been very difficult to apply risk and crisis communication strategies in phases. For example, though our country was not at the crisis stage, people followed up the news online from all over the world and were in a panic. What happened in other countries created crisis in our country. Thus, it was the context of the information sharing that created the crisis.* (Editor-Interviewee1).

The participants were also asked to reflect on 'transparency' and 'Trust'. When they were asked how much they are open and accessible for the public, they stated that they have their own organizational regulations. As per their explanations, some information or data are open but others are restricted for the sake of ethics and business principles (Editor-Interviewee 2; Editor-Interviewee1). The editor of one the media organizations selected elaborated this as:

> *It depends on the type of information. We are careful not to leave everything open as we are private organizations competing with others. The information we leave open may hurt the organization. Thus, we are transparent based on the type of information. Once the issue is publicized, we are open to receive feedbacks through SMS, telephone calls and interne.* (Editor-Interviewee 1).

With regard to 'Trust', one editor stated, "People say they do not believe in our media organization because they think that we are the mouthpiece of the government". As per his explanation, people want our organization to report all what has been disclosed in social media. They feel our organization deliberately omits some issues. In fact, as a state organization, the media reports issues that do not have consequences in the future. As a result, their organization is

always criticized just because it does not report as per the interest of some people, especially activists (Editor-Interviewee 2). Similarly, the editor from another media organization stated, “Trust is not constant as the public has options. In general, there was a study conducted on our organizations that indicated it is the most attended media. With regard to covering Covid-19, we do not have a study that assessed the 'Trust' we have built” (Editor-Interviewee1).

Finally, the participants were asked to enlist the major challenges they have encountered amidst the pandemic. As the experts discussed, the first challenges related to getting enough information about the pandemic. At the beginning there was no clear system for getting information. The second challenge is getting the reports on time. As they elaborated, reports have not been delivered for the media on time. The third challenge the identified is the inconsistency contradiction in applying procedures and media coverage by government officials and journalists. As per their explanations, journalists and officials have not been role models in applying standard procedures such wearing mask, using sanitizers, keeping their distances. Moreover, they indicated that there has been staff resistance, especially from state media to work the pandemic programs. In fact as they pointed out their journalists have been facing stigma and discriminations at their woks. “Our staffs faced challenges, especially in regional towns. In some cases our staffs even faced attacks” (Editor-Interviewee1). “People were not able to approach our journalists because they fear” (Editor-Interviewee 3). The fourth challenge they indicated is the perception and resistance of the public. It has been very difficult to persuade the public to follow the preventive measures act appropriately.

The EPHI/FMOH expert on her part identified major challenges encountered. The first challenge as per her reflection is budget constraint. “The big challenge on communication was the very high cost on production and editing. It demands high cost in order to produce messages, texts, videos, and dramas in an entertaining way” (EPHI/FMOH-Interviewee2). She indicated that government and NGO support which was promising at the start is getting cold from time to time. The other major challenge identified by the expert is lack of law enforcement. “The law enforcement has completely stopped operating following the end of the state of emergency”. Finally, the expert pointed that lack of “National Risk Communication Strategy” has been the main challenge that has been hampering the fight against the pandemic. The expert elaborated this challenge as:

I think this should be taken as a good opportunity Covid could leave behind for us. News communication and community engagement must be well structured for all outbreaks and a communication system that extends up to grassroots level should be established. I think this is a lesson that we should draw from Covid experience and plan for the future. The absence of communication and community engagement system before Covid was a big challenge especially at the beginning of the outbreak in the country because we hadn't experienced such a situation from which we could have learned. The occurrence of Covid in the country gave us a useful lesson and a learning opportunity as we were dealing with the pandemic. Risk communication is essential in preventing any disease and it is a useful health promotion activity, and community engagement is necessary for any intervention. Thus, I strongly recommend working on it with due emphasis from now onwards. More than any other job, risk communication is a job in which you mostly see the effect. Because you save not only one person's life, you also save the lives of many. Therefore, I recommend that attention be paid to risk communication from now on and as a structure be installed in all health systems. (EPHI/FMOH-Interviewee1).

4.3. Analysis of Information Publicized in Mass Media

In order to examine the communication strategies and practices applied for Covid-19 pandemic in Ethiopia, various data including, Videos, Dashboards, Visual Displays and Short Messages have been collected so far from different sources. After these data have been collected, they have been organized and categorized. Based on the categories, themes have been identified and the contents have been analyzed as follows.

Type of Data	Category	Number of items	Percentage
Audio-Video	Reports	25	41.7%
	Innovations	11	18.3%
	Educational messages	8	13.3%
	protocols and procedures	6	10%
	Campaigns	5	8.3%
	Tailored messages	5	8.3%
	Total	60	100

Table-1: Audio-video data

As we can see from the table, the majority of the video clips prepared and publicized for the fight against Covid-19 are reports. The themes of the reports are related to: daily reports of covid-19, status of the pandemic since the first case, progress of preventive measures in regions, worldwide pandemic status report, impact of Covid-19 pandemic, PM's report to the parliament, report evaluation of the string committee, launching of the national Testing campaign, five months report, report from the diaspora agency about the participations of Ethiopians, mobilization of stakeholders for participation in raising fund and resource, monitoring and checkups at Bole Airport, trainings for health professionals etc…

The second category of the videos contain 11 clips of innovations made for the pandemic. The innovations are related to hand wash machines, mobile shops, making face masks at home, sanitizer holding bottles, social distance tracking mobile app, preparing sanitizer at home and drawing as engaging activity at home.

The third category contain 8 video clips intended for providing educational messages for the public. The themes of the educational messages include, common care messages for house renters, messages for each citizen to be responsible to apply precaution methods, story of a man who died of Covid-19 as a lesson, musical drama demonstrating community cooperation, a story of recovered old man, home exercise demonstrations, gratitude message for the health professionals and precaution advice of renown people for the public.

The videos gathered also contain 6 clips that have been utilized for demonstration of protocols and procedures of the pandemic. The themes of the protocols and procedures are about the prerequisites procedures for arrivals from abroad at Bole Airport, procedures, precautions and regulations for deaths out of health institutions, precautions and procedures for treating covid-19 patients at home, instructions and steps how to use sanitizer for cleaning hands, instruction on how to wear masks; Rule of DON'Ts and precautions when and how to wash hands; removing ornaments, cleaning them.

The fifth category of the videos contain campaign messages. The messages in these videos are about a month lasting National Community Mobilization and Testing, outdoor public awareness campaign on sanitation and public behavioral change, outdoor public awareness campaign by health professionals, national campaign on "M" rules, testing for vulnerable communities and

executing regulations under state of emergency and about call for the public to support intuitions that work on children at risk.

The last category of the videos contain clips of tailored messages for specific groups in the community. The clips includes themes on precaution to be applied by people who support the disabled, advice for the disabled how to clean their crutches and their hands, message for Muslims to take care when celebrating the holiday, preparing a mask that can help communication in sign language and message for mothers how to take care.

In order to evaluate the audio-video messages displayed rubrics have been prepared to be rated out of 5% as: *5=Extraordinary; can serve very well; 4= Adequate with minor improvements; 3=Good but needs more improvements; 2=unsatisfactory; has to be replaced; 1=poor; has to be rejected.* The summary of the results of the evaluation has been depicted as follows.

Category and Description	**Score (5%)**
1. Content /theme	$\bar{x}$ = 2.75
• *The material has a clear focus related to the chosen topic*	2
• *The campaign material gives complete message for the audience*	3
• *. The item has a rich variety of supporting information that can contribute to the understanding of the main idea.*	2
• *The information shared are not too new nor too outdated to be included in this advocacy campaign.*	4
2. Target Audience	$\bar{x}$=3
• *The messages included in the video clip/audio have been designed considering general public*	4
• *The messages included in the video clip/audio have been designed considering specific group*	2
3. Audience appeal	$\bar{x}$=3
• *The material has been designed well with rich visual/audio aids to attract attention*	2
• *The public awareness campaign are interesting; catch the attention of everyone in the audience*	2
• *The messages engages audiences and maintains interest from beginning to end of broadcast*	3
• *The message conveyed is powerful and can stimulate expected behavior changes*	3
• *The voices of the people who talked in the TV/radio ad are loud and clear*	4
• *Facial expression and gestures (for TV), tone of voice and intonation (for radio)keep audience focused on the ad.*	4
• *There was effective background music or sound effects which made the ad more* • *interesting than confusing*	4
4. Clarity and accuracy	$\bar{x}$=2.6
• *The content includes a clear statement of purpose or theme and is creative, compelling and clearly articulated*	3

• *The campaign item has been produced from the combination of creativity, technical skill, and audience appeal*	3
• *The messages disclosed or demonstrated have been edited well and convey clear and accurate information to the audience*	3
• *The messages are presented in a logical order.*	2
• *The presentation of information was easy to understand at the level of the target audience since simple words were used and concepts were clearly explained.*	2

Table-2: Assessment of audio visual messages

As it has been summarized in the table, the evaluation indicates that the audio-videos publicized have some limitations. Most of the audio-video clips are long. Some last up to 7 minutes. The audience may not have patience to attend these long ads or messages. Most of the audio-video clips are intended for the general public. There are very few messages that have been planned and publicized targeting specific groups. On the other hand, some messages conveyed are impractical. For example, there are street announcements planned for the 'wash hands campaign', 'wear masks' and 'keep your distance.' However, it is not meaningful to advise people who have no even anything to eat and drink to wear masks, keep distance and wash hands. A case in point is the street announcement in 'Merkato' where people struggle for daily bread in a crowded situations.

In terms of audience appeal, the clips prepared involving influential people are limited. Besides, the clips are not focused. Various messages are incorporated in one message and presented to the public at once.

The other items gathered include info graphics including dashboards and visual displays such as photos and drawings.

Type of data	**Category**	Number of items	Percentage
Dashboards	Daily reports	90	72.6%
	Summary reports of 30 days	2	1.6%
	Summary reports of 100 days	2	1.6%
	Reports of neighbouring countries	30	24%

Table-3: Data of dashboards

As we can see from the table the majority of the dashboards were daily reports of Covid-19 pandemic. The second most publicized dashboard is contain Covid-19 pandemic status reports of neighbouring countries of Ethiopia. Summary reports on covid-19 pandemic status report in 30 and 100 days has very few items.

Type of Data	Category	Number of items	Percentage
Visual displays	Instruction and Procedures	10	35.7%
	Information	9	32.1%
	Campaigns	5	17.9%
	Tailored Messages	4	14.3%
	Total	28	100

Table 4: Data of visual displays (images, photos...)

The visual displays publicized to the public contain 4 categories of items. The first category (35.7%) of the visual displays contain instructions and procedures. Instruction on how to wear face masks properly. The thematic areas under this category include: instruction on when to wear face masks, instruction on how to keep face masks clean, instruction how to put off shoes and clothes outside before entering the house, a photo and text demonstrating how to avoid greeting via handshake when meeting people, drawings and highlighted messages demonstrating how to keep social distance, drawing and text demonstrating washing hands before wearing face masks, picture displaying home isolations care, pictorial demonstration how to check temperature using infrared tool and picture demonstrating checkups controls of arrivals at airports.

Under the information category which covers 32.1% of the whole visual displays, include 9 thematic areas. The themes under this category are: Contact address in Amharic for questions such as, *what is Cvid-19? What are the symptoms? What are the prevention methods*?; short explanations in Amharic on covid-19; symptoms, measures to be taken and prevention methods; brief explanation on age groups that can affected by covid-19; how to sneeze covering nose and mouth; life time of covid-19 on various objects and human body; myths and facts about Covid-19; measures to be taken when symptoms are noticed; prevention methods for Covid-19 pandemic and identified symptoms of covid-19.

The third category under visual displays is campaigns which has got 5 items. Under this category, five themes have been disclosed. The themes are: Highlighted texts and drawings on'Call for blood donation, Call for HIV-AIDS patients take their medicine properly, Call for blood donation in Amharic, English, Afan Oromo and other languages, Amharic Slogan 'Mikniat Alihonem! and Call for the public to participation on both GERD and the fight against Covid-19.

The last category under the visual displays contain tailored messages which focus on: Holiday wishes (Arefa) and cautions during gatherings for the Muslims Community, Holiday wishes (Buhe) for Christians and cautions during children's and adults' gatherings, Mask wearing and cautions (me) message for policemen at work and Cautions for civil servants during service delivery at work.

In order to evaluate the messages displayed on dashboards and visual displays rubrics have been prepared to be rated out of 5% as: *5=Extraordinary; can serve very well; 4= Adequate with minor improvements; 3=Good but needs more improvements; 2=unsatisfactory; has to be replaced; 1=poor; has to be rejected.* The summary of the results of the evaluation has been depicted as follows.

Category and Description	**Score (5%)**
1. Displayed Content	
• The visual includes all information on the topic in an organized fashion. • Information is presented clearly and displays a complete understanding of information.	**3**
2. Usability	**Score (5%)**
• It necessary to have special skill to use the dashboard; • Anyone who can read and write can access it and get info;	**3**
3. Clarity	**Score (5%)**
• The data displayed are clear and visible • The typography of the display is eye catching/appealing; • The terms/dictions are simple and understandable • The data are presented in a clear and concise manner with full understanding of the subject	**3**
4. Data Quality	**Score (5%)**
• The data displayed are validated and verified • Sources are made available with clear addresses • All the necessary data are included; the display gives sufficient information	**3**

5. Data Type	Score (5%)
• The information on the dashboard is interactive/static; • The information displayed on the dashboard is updated in some time intervals • The information is online and displays real-time data	**2**

Table-5: Evaluation of data of visuals and dashboards

The design of the case reporting dashboard has been inconsistent. Initially, the report had been disclosed on a letter format page incorporating detail information of the person with confirmed test results including; Citizenship, address, age, sex, abroad travel history and any contact with confirmed case. Then new dashboards were introduced. In the new dashboards, information such as total testing, persons in ICU, recovered, dead and confirmed cases. The items are not arranged in a logical order. For instance, after the total testing, a reader expects confirmed cases, but here the number of people in ICU comes next. The third dashboard has been revised with better logical flow information. On the other hand, there is a gap in reporting the trend of the spread of the pandemic on the dashboards. There are very rare cases of reporting monthly trends. There is also an attempt to report the status of neighbouring countries in comparison, but it was not regular.

There are many visuals (drawings, photos…) that have been used to display various messages. The contents disclosed through visual displays have some gaps. Firstly, the colours applied for the displays are not consistent and visible. Some of visuals have been displayed with very deep backgrounds. Most of the visual displays are drawings and cartoons. Some visuals are presented with vast information and cannot be caught at glance. Some messages conveyed are not practical. For example, the message “stay away from people have symptoms of Covid-19” and “keep a 2 meters distance from people who sneeze and cough” are impossible to practice. It is very unlikely to identify a person who has symptoms or sneezes and coughs at distance. The contents included also contain inconsistent message. As an illustration, symptoms of Covid -19 are not similar.

Textual messages publicized via social media and websites have also been gathered for analysis.

Type of Data	Category	Number of items	Percentage
Short Messages (**PM**)	Gratitude	5	33.3%
	Reports	4	26.7%
	Reminders	3	20%
	Campaigns	3	20%
	Total	15	100

Table-6: Short messages of the PM

The PM of Ethiopia has been disclosing various short messages related to Covid-19 pandemic. The messages have four major categories which have been coded as: 'Gratitude', 'Reports', 'Reminders' and 'Campaigns'. The short messages under 'Gratitude' category which cover 33.3% of all the messages disclosed, contain various themes such as, Expression of gratitude to President Xi Jinping, Cyril Ramaphosa and Macky Sall for proposing the Extraordinary China-Africa Summit on Solidarity against COVID-19, Expression of gratitude for international support, Expression of gratitude for international support-Qatar and Gratitude to Ma Huanteng of Tencent Foundation for supporting #Ethiopia in efforts to curb the #COVID19 pandemic by providing testing kits.

The second category which covers 26.7% is reports. Under 'reports' category, various themes including, Report about the support of testing Kits and plan for producing these kits locally, Report about telephone call conversation with President Emmanuel Macron on development issues, Ethiopia-France relations and work on #COVID19 response, Report about the telephone conversation with Canadian Prime Minister Justin Trudeau on global and aligned leadership to bridge the nations over to a post-COVID19 world and Report on efforts and progresses of the government before the first case of Covid-19 and call for the citizens to keep their cooperation.

The 'Reminders' category, which contains 20% of the messages publicized, focused on the thematic areas especially on Reminder for the public to implement all the prevention methods and help each other, Reminder for the public to take serious care in applying preventive methods as Covid-19 pandemic is spreading fast and Reminder about the rise of covid-19 cases and call for caution for the public. Similarly, the 'Campaigns category covers 20% of the whole messages

disclosed. Under the 'campaigns' category themes such as, Campaign call for the public to cooperate for the implementation of one month testing campaign of FMOH, Short inspiring poem about the importance of GREENLEGACY campaign and Call for the youth to participate in Jack Ma shared the African Business Heroes initiative in responding to the call to innovate during the #COVID19.

Type of Data	Category	Number of items	Percentage
Short Messages (Minister, FMOH)	Gratitude	21	43.7%
	Reminders	7	14.5%
	Reports	7	14.5%
	Campaign	3	6.3%
	Tailored Messages	2	4.2%
	Explanation/clarifications	2	4.2%
	Updates	2	4.2%
	Condolence	2	4.2%
	Error correction	2	4.2%
	Total	48	100

Table-7: Short Messages of the Minister (FMOH)

Ever since the report of the first case of Covid-19 in Ethiopia, the Minister (FMHOH), has been disclosing various messages to the public via broadcast and social media. The short messages disclosed have been categorized as: 'Gratitude', 'Reminders', 'Reports', 'Campaigns', 'Tailored Messages', 'Explanations/clarifications', 'Updates', 'Condolence' and 'Error correction'.

The majority (43.7%) of the short messages disclosed contain 'gratitude' messages. Under the gratitude category various themes of gratitude have been publicized. These messages have been forwarded to express appreciations for donations of equipment; (1) Appreciation to the United States Government and the American people for the generous donation of 250 ventilators and other critical care equipment; (2) Appreciation for the Qatar government for donating 8.5 tone medical supplies; (3) Gratitude to ElsMed Business PLC for the generous contribution of 50,000 N95 face masks, Pediatric beds and Infusion pumps worth of 330,000US; (4) Appreciation to Ethio-American Doctors Group #EADG for donating 135 complete sets of powered air purifying

respirators, 285 hoods & 17,340 bacterial/viral filters for mechanical ventilators worth $300,000; (5) Gratitude for EHPSA and Care for Ethiopia for the valuable donations made to our Health centers; (6) Gratitude to EngenderHealth for their generous donation of 15.5 million birr worth of Personal Protective Equipment, IR thermometers, and hand sanitizers, (7) Gratitude to Guyya manufacturing for donating 40,000 pcs of medical facemasks in three different colors today which they produced in their new plant locally, (8) Gratitude to Direct AID for generously donating 1,096,981 birr worth of Personal Protective Equipment, IR thermometers, and hand sanitizers, (9) Appreciation for Jack Ma foundation for donating personal protective equipment, thermometers & mechanical ventilators worth 88,000 USD, (10) Gratitude to Ethiopian Students and Community in China for donating 50 patient monitors worth 20,000 USD, (11) Appreciation to Ethiopian Community and Partners in the General Consul of Frankfurt for donating 82,247.75 Euro worth of medical equipment and PPE, (12) Appreciation to Lions Club International Foundation for donating 500,000 ETB worth of Isolation gowns, (13) Appreciation to Bytedance, TikTok for their generous donation of 100,000 COVID-19 testing kits worth 1.3million USD, (14) Appreciation to Ethio-Trust Fund and Ethiopian diaspora for donating 40 Million Birr worth protective equipment and medical supplies.

The messages disclosed also contain expressions gratitude for supports including (1) Appreciation for the PM Dr. Abiy for visiting Eka Kotebe hospital and presenting Id alfetir holiday gifts and encouraging the health staff; (2) Gratitude to @MarieStopesEth for their generous donations to help support our fight against COVID19Ethiopia; (3) Gratitude for the Ethiopian inter-faith Forum(EIF) for mobilizing communities to pray staying at home and implement the preventive measures; (4) Appreciation to the Eka Kotebe Hospital team for making Ethiopian Youth Sports Academy ready to receive 300 patients; (5) Gratitude to all members of the Joint Professionals Advisory Council, both in country and the diaspora, for their dedication and invaluable support in bringing their expertise & experience to guide and support our efforts in the fight against #COVID19Ethiopia so far; (6) Gratitude to HE President Sahle-Work Zewde, for launching the #MaskEthiopia ET Campaign.

The second category of the short messages disclosed by the minister is coded as ‘reminders’ which contain 14.5% of the messages. Under this category various themes of messages have been disclosed to the public. Some of the themes under this category include, Reminder for the

community to implement all the preventive methods, Reminding the public to keep implementing the preventive measures as the spread of the pandemic and number of the patients ICU is getting higher though the number of recovery is good, Reminder for the public to take care for their beloved ones; 'Mikniat Alihonem" and Reminder on the rise of Covid-19 spread before and after the national testing campaign. Similarly, the 'Reports' category contain 14.5% of the whole messages. Under this category themes such as, Field visit conducted in Tigray region focusing on Testing centers, ICU rooms in Mekele University discussions with respective stakeholders, Field visit report in Yekatit 12 medical college; admiration for the staff for their efforts to work on Covid-19 in addition to their regular services, Field visit report of Addis Ababa Covid-19 field hospital, Report on the launch of the campaign on 'Mask Ethiopia' nationally as part of WearAMask challenge of WHO, Report of meeting discussion on the progress of the national testing campaign and continuing the public mobilization for the implementation of the preventive methods, Report on the weaknesses in implementing the preventive methods despite enough awareness and Report of meeting with Regional Health Bureau Heads & Agencies and discussion on protecting our health workers, and ensuring access & continuity of essential health care services.

The messages under the '*Campaign'* category are only 6.3%. Under this category, three main themes including Campaign call for the pubic to donate blood applying identified procedures, Campaign call for citizens to donate blood pointing out it is a precious gift symbolizing solidarity for common safety and Campaign call for participation of citizens in the national campaign on 'Mikniat Alihonem' and Mask Ethiopia have been publicized. The remaining messages have been put in 'Tailored Messages, 'Explanation/clarifications', 'Updates', 'Condolence' and 'Error correction'.

The messages under '*Tailored Messages'* category two main themes, 'Reminder for Christian children during celebrating Buhe holiday together and 'Expression of holiday best wishes for the Muslim community and reminder to pray at home and take care' have been included. Similarly, the 'explanation/clarification category contain major themes related to 'Clarification on the misinformation on whether young people are or are not invincible for Covid-19 and reminder for the public that 'Young people can get infected, can transmit and can die' and Explanation about the purpose of a one month national testing campaign'.

The messages under the 'Updates' category are: 1) Protocol update of Covid-19- Ethiopia **A)** after sample are taken all deaths at home or health facilities, funeral & burial arrangements to be held by family at their preferred burial ground with not more than 50 attendants and with precautions. **B)** All travelers arriving at Bole International airport who can bring certificate of negative PCR SAR-CoV test done up to 72 hours before arrival to Ethiopia, is required mandatory 14 day self-quarantine at home after giving sample upon arrival. **C)** All travelers with NO certificate of negative PCR SAR-CoV test results as well as returnees are quarantined for 7 days in the designated sites, tested, and then self-isolate for additional 7 days at home. **D**) Individuals suspected for COVID-19 or who tested positive with mild or no symptoms will be asked to self-isolate at home if they have the resources, the support, are willing and fulfill the criteria. Individuals who do not meet self-isolation criteria will be isolated in non-clinical facilities. The detailed protocol will be made available soon; 2) Update on Covid-19 treatment: The study report from the UK about Dexamethasone use for Covid-19 patients has been reviewed. Thus, FMoH recommends the emergency use of low dose Dexamethasone for COVID-19 patients who require oxygen and/or mechanical ventilation for treatment.

The 'Condolence' category includes messages including 'Condolence message for the passing away of a medical doctor in Tigray Regional State and 'Expression of condolence for citizens died of Covid-19 and reminding advice for the public to apply preventive measures seriously. The last category is the 'Error Correction' which contains two corrections for mistaken messages displayed. Accordingly, the first message is about the 'Error correction on the report of June 3, the total case is 142-85 males and 57 females' and the second is 'Error correction on the report of____, the total case is 99 Ethiopian and 1 Burundian citizen not 98'.

Type of Data	**Category**	**Number of items**	**Percentage**
Short Messages, articles, Researches etc… (EPHI	Reports	14	38.8%
	Reminder	6	17%
	Campaigns	6	17%
	Tailored Messages	5	13.8%

/FMOH)	Updates /protocols/procedures	3	8%
	Researches/innovation	2	5.5%
	Total	36	100

Table-8: Short Messages and articles from other people and websites

The summarized data in the table shows that both EPHI and FMOH have been disclosing various messages for the public during the selected time frames of Cocid-19 pandemic periods (June1-August 30). As it has been depicted in the table, the whole messages publicized have been condensed into 7 categories-*Reports, Reminder, Campaigns, Tailored Messages, Updates /protocols/procedures, Trainings and Researches*.

The '*Reports'* category, which covers 36%, contains major themes such as, Report on the weaknesses in implementing the preventive methods despite enough awareness; Report on a two day training on Covid-19 pandemic for media professional; Awareness training for public relations and communications experts and office heads; Report of a visit at EPHI by Dr. Lia minister of FMOH and HE James Direj, Minister of African Affairs in UK, Report of a visit at EPHI by Dr. Lia minister of FMOH and HE James Direj, Minister of African Affairs in UK, Report on the resource donation of solar powered mobile tablets which worth 235,000 USD for EPHI from UNFPA, Report on the welcoming the health staffs returning after completing their mission of supporting regional health centers; Report on the resource donation of solar powered mobile tablets which worth 235,000 USD for EPHI from UNFPA and Report on the first case of Covid-19 in Ethiopia and measures taken since the news of the outbreak in China. Report on the weaknesses in implementing the preventive methods despite enough awareness.

Both the '*Reminder'* and '*Campaign'* categories cover 17% for each. Themes such as, Reminder about contact address, Reminder for the public to keep applying the preventive methods, Reminder for the public to wear mask and Quote of a message delivered by deputy PM Demeke Mekonen- "Keeping ourselves from Covid-19 is keeping our country safe!" have been disclosed under the '*Reminder*' category. The themes under the 'Campaign' category include: Call for the national campaign 'mikniat alihonem and Mask Ethiopia'; the launch of the campaign 'Mask Ethiopia by HE Pr. Sahilework; Call for the public to participate in actualizing the community

based testing campaign; Explanation on the purpose of campaign of Community mobilization and Testing. Campaign call for the launch of a home based isolation and care and Call for public to participate in the campaign of Mask Ethiopia.

The messages under the '*Tailored Messages'* category contain various themes including, Reminder for the Christian community to avoid gatherings during Buhe Holiday; Reminder for children to celebrate Buhe at home; Reminder for the policemen to apply all the preventive methods while at duty and Reminder to for ATM users to clean their hands before and after using ATM machines. The 'Updates /protocols/procedures' category also includes various thematic areas including, Protocol procedures for people who come from abroad; Protocol explanation about Home Based Isolation and Care; Directives of the new protocol for the new arrivals via Bole Airport. The 'Research and Innovation' category contain two message disclosed related the Launch of a survey to assess public awareness about Covid-19 and development of new website in Amharic and English by EPHI that can serve to provide information about Covid-19 for the public.

In order to evaluate the short messages and articles displayed rubrics have been prepared to be rated out of 5% as: *5=Extraordinary; can serve very well; 4= Adequate with minor improvements; 3=Good but needs more improvements; 2=unsatisfactory; has to be replaced; 1=poor; has to be rejected.* The summary of the results of the evaluation has been depicted as follows.

Category and Description	**Score (5%)**
1. Content of the message	
• *The messages is rich in content and provides much informational material on the selected topic* • *Information is thoroughly grounded in facts and evidences* • *The messages includes all required elements as well as additional information.*	**3**
2. **Organization**	
• *The message has been condensed containing key messages;* • *The message is coherent and flows logically;* • *All information is clearly organized in a professional and appealing way.* • *Information was fluent and easy to navigate* • *Method of communication is professional, appealing and fluent* • *The message displayed has been designed in unique creativity to avoid boredom*	**3**
3. **Clarity and accuracy**	
• *The message has been well prepared and articulated and can be comprehended easily* • *There are no ambiguities or confusing data/information included*	**3**

• *The language (terms and expressions) used is easy and understandable for the audience* • *Proved, updated and accurate information has been displayed*	
4. **Actionable messages**	
• *The messages have been planned considering audiences* • *The messages publicized can be put into practice; actionable, can be done* • *Key messages have been prepared considering the diversities in audiences – gender, religion, culture, feelings, perspectives, economic status*	**3**
5. **Timeliness**	
• *The messages are disclosed on real time when audience are in need of them* • *The themes of the key messages by the key people have been planned considering the contexts*	**3**
6. **Accessibility**	
• *The key messages have been planned to be displayed in multiple channels* • *Various audiences can access the key messages through alternative channels*	**3**

Table-9: Evaluation of short messages and articles

As we can see from the evaluation results the messages disclosed for the public via various channels need improvements. Some messages lack clarity. For instance, the message 'we should apply all the measures without choosing is not clear. "We should apply all the measures without choosing in order to stop the spread of the pandemic being part of the campaign. In the meantime, we should support the National Testing." (Lia, Tweet 1:26 PM · Aug 8, 2020. Similarly, the message "Children have to celebrate Buhe at home" is a vague message. People may assume that they can gather as long as they are at home. "Keeping our physical distance, keeping our hygiene and helping each other let's save Ethiopia from Covid-19." (PM, Abiy). 'Keeping our hygiene' is a vague phrase as it does not specifically refer washing hands.

Some messages may create unnecessary reluctance as the messages lack accuracy. "The number of people who have recovered from Covid-19 is promising." (Lia, Jun 25, 2020). This does not consider the testing magnitude into consideration. The recovery is seen from few number of people tested. On the other hand, some messages contain errors and correction are given after messages are publicized. "Correction: The report that states 98 Ethiopian has to be corrected as 99 Ethiopian and I Citizen of Burundi." (Lia, June 3). Furthermore, the messages have gaps vis-à-vis the parameter: '*actionable messages'*. Some campaigns are prepared without considering all people. For example, "Mask Ethiopia" was promoted for all Ethiopians to wear masks every time outside. How about people who cannot buy masks? This message may not be actionable for all.

Chapter Five

5. Discussion and Summary of Findings, Conclusions, Recommendations, and Implications of the Study

5.1. Discussion and Summary of Findings

This section deals with the summary of major findings based on the analysis in the previous chapter. The summaries are categorized into three parts using the research questions identified for this study. Accordingly, the first part focuses on the emergency risk plans, strategies and practices in response for Covid-19 pandemic. The second part deals with the evaluation of the 'emergency risk communication strategies' planned and implemented for the pandemic. The third part includes the major challenges and limitations of the emergency risk communication plans.

RQ#1:- *What are the Public Health Emergency Risk Communication (PHERC) schemes planned and applied in the country in response to COVID-19?*

In order to assess the emergency risk communication plans and strategies of Ethiopia which have been intended for Covid-19, two methods have been applied. First, documents prepared for such purpose have been gathered and analyzed using rubrics which have been adopted from various sources (US CDC, PAHO). The rubrics have been planned to be rated in 5 scales. In addition, an in-depth interview was held with experts from EPHI with regard to media relations, planning messages and reporting. Furthermore, media experts were interviewed about the overall plans and preparedness in response to the Covid-19 using semi-structured interview. The interviewees were asked about their general preparedness and response for the pandemic including establishing special task force, designing editorial guidelines, planning trainings and orientations and setting specific programs for the pandemic and panning the news and program contents.

The contents in the documents gathered were read thoroughly and coded. The codes were then categorized under themes for analysis. The reflections of the interviewees were transcribed and put into a QDA Miner software. Then, each segment of the participants' responses was coded. The codes were then grouped into categories. The analyses were made based on the categories. The analyses are supported by paraphrases or direct quotes from the responses.

In the first place, the country did not have any established Emergency Alert System (EAS) to inform the public about a new threat and stay alert for more information. The RCCE was just drafted just after the news of Covid-19 became popular all over the world. The public did not have any initial knowledge from the government how to stay alert and get the right sources of reliable information so that they can take necessary measures (USCDC, 2014, p. 2).Though the Federal Ministry of Health (FMOH) of Ethiopia has prepared a National Emergency Risk Guideline entitled '*National Comprehensive Covid-19 Management Handbook'* in response to the Covid-19 pandemic, the emergency risk communication plan has major gaps. The Emergency Risk Communication guideline which has been entitled: "Risk Communication and Community Engagement (RCCE) 2019 Novel corona Virus (Covid-19) Disease Preparedness' contains 14 sections (pp.88-102).

As the results of the rubrics evaluation indicate, the emergency risk communication plan has not clearly set the expected outcomes. The intended aims are listed out in the introduction section, but there are no parameters and strategies identified to check the accomplishments. As an illustration, the expected behaviors of the audience or the public as the result of the communications are not listed out. In fact, the guideline has not been planned based on comprehensive situation analysis. Important contents such as, *Public communication for emergencies'*; '*Communication engagement with affected communities*' and '*Addressing perceptions, risky behaviors and misinformation*' have not been included in the situation analysis section of this guideline. The RCCE guideline has incorporated the establishment of teams organized under FMOH and EPHI. However, the team has not been organized from diversified sectors involving various stakeholders with specific roles and responsibilities. As an illustrations, '*Content and Messages Coordinator', 'Media Coordinator', 'Direct Public Outreach Coordinator', 'Partner/Stakeholder Coordinator', and 'Rumor Control Coordinator*' should have been included in the team.

In addition, the information exchange system among the teams and taskforces has not been clearly identified. For instance, there is no 'Joint Information Center' (JIC) that can link the teams for information exchange. Furthermore, the chain of command is not identified clearly. It has been learned from interviewees' explanations that they prepared the guidelines for their internal pandemic communication activities. On the other hand, some media organizations have not prepared their won guidelines for communication activities during the pandemic.

The response of the interviewee also indicated the gap in the establishment of the team. In fact, media experts stated that they have established a special team or task force for the pandemic. However, the teams were not set up with sufficient plans and inputs. As per the illustration of the respondent from EPHI, the team was initially created involving few experts. Then the team has been reestablished involving '*content level and production', 'mass media and social media team' and 'community engagement team'.* This reestablished team has better composition as various experts and stakeholders have been involved. In addition, guidelines have been prepared for each task under each team.

However, the target audiences have not been identified comprehensively in the RCCE. Only few target audiences such as, affected families, health professionals, travelers and the community. Potential target audiences including, (i) *residents*; rural villages, town villages, camps, centers, apartments; (ii) *Civil servants in different areas; (iii) researchers; (iv) opinion leaders; (v) vulnerable communities* such as, street children, bar ladies; (vi) *students* and (vii) business people should have been listed. The interview respondent from EHPI on her part indicated that there are audiences that have been identified as 'special groups'. These 'special groups' include, elderly with mental problems, workers in industrial parks, orphans EOCs, displaced people, prisoners and long distance drivers. However, still these target groups are not enough as they have been picked from spot areas such as Mekedonia Home and EOCs. With regard to communication strategies, the RCCE guideline has not specifically identified unique methods of reaching specific audiences applying special mechanisms. The participant at the interview pointed out that there were some special communication channels tried to reach special groups such as hearing impaired people. However, there were no planned communication channels to deliver messages for various special groups.

As it has been pointed out in the RCCE, various partners such as 'list of partners within government, NGOs, WHO, UNICEF, CDC and External partners (donors) have been targeted. The gap here is that there is no clear hierarchal relationship and information exchange system stated with clear objectives, roles and responsibilities and the partnership guidelines. For instance, it has been stated communicating with traditional healers, community leaders and influencers, but the strategies how to identify influential people and how to build relations with these people are not clarified. Similarly, the interview respondent elaborated that internal and external stakeholders have been identified as 'partners'.

Some communication activities including, ‘communicating early’, ‘communicating uncertainty’ and ‘communicating to lower fear’ have been outlined in the RCCE. However, the communication activities have not been planned in phases as per the status of the pandemic in detail. For instance, the communication activities have not been planned as ‘pre-risk’, ‘Outbreak’, ‘Crisis’ and ‘Resolution stage’ as per the standards of WHO. More importantly, the RCCE guideline has not incorporated detailed plans of media monitoring and information management. The guideline listed some schemes of managing ‘infodemic’ or ‘misinformation’.

RQ#2 *How much effective are the PHERC strategies in terms of engaging the key stakeholders,ensuring public trust and shaping behaviors of the community?*

In order to examine the effectiveness of communication strategies and practices applied for Covid-19 pandemic in Ethiopia, the data gathered (documents, print outs, audio-videos, text messages and interview data) have been evaluated using ‘*Outbreak communication guidelines of WHO*’, ‘*Guidelines of Crisis Emergency Risk Communication in an Infectious Disease Outbreak’ of US CDC*’ and the ‘*Emergency Risk Communication Conceptual Model’ of (Seeger, et al., 2018)* as frameworks. To this end, rubrics have been used to evaluate the messages of each category.

As it has been displayed in the previous chapter, messages have been disclosed to the public via various methods such as audio-video clips, visual displays, dashboards and short messages. The majority of the messages disseminated through audio-video clips are dedicated to reports. The most important contents related to educational messages, tailored messages and campaigns have been given less coverage. As the summary of the evaluation rubrics show, the messages publicized through audio-videos have some gaps. Firstly, they are not simple, short and attractive. Hence, the messages may be boring for the audience. On the other hand, the messages are not planned considering the actual situations and special groups. As an illustrations, some campaigns such as ‘wear masks’, ‘wash hands’ and ‘keep distance’ are not planned considering people who are extremely poor without shelter and food.

The majority of the messages disclosed via dashboards contain daily reports. The information containing summaries of progresses and comparisons with other countries are less emphasized. The dashboards have been inconsistent especially in terms of design. The case reporting dashboard had been presented in a letter format containing detailed information. Then, new

dashboards which have been revised so often have been introduced. Thus it has been effective in calling attention of the audience easily.

The visual displays have been presented to the public carrying mainly messages related to instructions and procedures. Other equally important messages including campaigns and tailored messages are given minimum coverage. Likewise, the visual displays publicized have some limitations. Some visual displays are not attractive as they are presented with unclear backgrounds and graphics. More importantly, some messages disclosed via visual displays are confusing and impractical. For example, the message "stay away from people have symptoms of Covid-19" and "keep a 2 meters distance from people who sneeze and cough" are impossible to practice. It is very unlikely to identify a person who has symptoms or sneezes and coughs at distance. Some visuals are also presented with vast information and cannot be caught at glance.

Furthermore, short messages of the PM, Minister (FMOH) and other influential people have been disclosed through both the mainstream and social media and websites. The majority of the messages from the PM and the Minister (FMOH), are disclosed to express gratitude (appreciation) for donations and supports. The other focused area of the messages is about the reminders for the public. Under this theme both the PM and Minister of FMOH have forwarded messages related to implementations of prevention measures. They also disclosed messages of reports about field visits, inauguration and meetings. Similarly, the majority of the short messages disclosed from other people through mainstream media, social media and websites focus on reports. Other important messages such as, tailored messages, updates /protocols/procedures and researches/innovations have been given less coverage.

Some messages lack clarity. For instance, messages such as 'we should apply all the measures without choosing', 'Keeping our physical distance, keeping our hygiene and helping each other let's save Ethiopia from Covid-19' and 'Children have to celebrate Buhe at home' are confusing. It is not clear if it is possible to implement all precaution measures at anytime and anywhere. Similarly, the phrase 'Keeping our hygiene' is not clear as it does not refer washing hands specifically. Furthermore, advising children to celebrate 'Buhe' at home is a typical example of confusing message. It does not emphasize 'keep your distance'. In short the messages conveyed in texts in the fight against the pandemic need clarity. On the other hand, the information presented in the textual messages have limitation in terms of accuracy. The testing magnitude in

Ethiopia is very limited. Hence, it is not logical to make inferences and generalizations about the trend of the pandemic based on this limited testing results. However, there have been messages that can create unnecessary perceptions. For example, the text "the number of people who have recovered from Covid-19 is promising' forwarded by the Minister (FMOH), has not considered the testing capacity. In addition, textual messages have errors and the errors are usually corrected after they have been disseminated at large. Furthermore, some messages conveyed through the texts are impractical as they have been disclosed without considering the actual contexts.

In addition to evaluating the data gathered from documents, print outs, audio-videos and text messages, the communication routines have been examined through semi-structured interview with experts from media organizations and EPHI. As it has been learned from the respondents, there has been even confusion how to name the pandemic until WHO declared official nomenclature for the pandemic. News, reports, messages and reminders were first disclosed to the public using various naming including 'THE PANDEMIC, 'CORONA' "CORONA VIRUS', 'NOVEL CORONA VIRUS', 'CORONA PANDEMIC etc… Inappropriate official nomenclature might cause misinformation which may in return be followed by confusions and uncertainties among the public. A case in point is the unintentional social and economic impacts via stigmatizing some communities and industries as the result of flawed names (WHO, 2015; Hu, Yang, Li, Zhang, & Huang, 2020). As the media did not provide consistent and approved naming, the public was in dilemma about the pandemic.

With regard to planning the news and reports of the pandemic, it has been learned from the interviewees indicated that they have orientation and briefings sessions before they are engaged in the preparing news and reports. In addition, trainings have been given for reporters and anchors how to 'frame the pandemic' using appropriate dictions. It has also been learned from the responses that the media were very cautious not to exaggerate crisis reports of the other countries in order to minimize panic among the public. The media practices in covering news and reporting have been assessed in terms of the standards and models identified for this study.

In terms of '*immediacy*', there have been competitions among various media outlets to release fresh reports on time and grab the attention of the public before reports are disseminated via social media. However, they have to wait for the report from MOH and EPHI as reports are centrally managed and released from FMOH and EPHI. In fact, the media have been challenged

as they could not access reports online. This has been confirmed from the information gathered from EPHI experts. It has been learned that the case reports have to pass through various stages involving the laboratory and surveillance teams in EPHI before they are released for media. In order to deliver timely information, the experts indicated they follow up updates about Covid-19 from two sources; local and international sources. The international sources they often follow up are WHO, US CDC, John Hopkins, Metro and African CDC. They also follow up MOH, EPHI and PMO reports of the local sources.

With regard to '*accuracy'*, it was found that there were accuracy problems. Some of the accuracy problems were related to lack of verification before releasing reports or news. A case in point is the news of the traditional medicine for Covid-19 from Ethiopian Ministry of Innovation and Technology which was publicized in a rush with scientific verifications. Besides, there are accuracy problems related to errors that occur in the process of producing and releasing news. As it has been learned from the responses of the expert from EPHI that was why the government applied 'centralized risk communication approach' which has been applied for such purposes. Accordingly, the reports have to pass through a long verification processes. In addition, explanations about the pandemic have been given only by the experts who have been suggested by EPHI or FMOH. This implies that the government applied the 'Message centered Approach' for the pandemic communication. Message-centered approach of crisis communication may be manipulated unless it is applied cautiously. Under a cover of 'controlling the message centrally' politicians may intervene and abuse the whole risk and crisis communication system. A case in point is the Wuhan's case in China in which the government controlled the information flow in a monopoly and made it difficult to access the information on time depriving the right of citizens (Zhang, Li, & Chen, 2020).

Third, the media practices have been assessed vis-à-vis '*clarity'*. The respondents indicated that there have been some 'grey areas' in information with regard to the nature of the pandemic and preventive measures. These grey areas are related to life expectancy of the virus on various objects, ways of transmission, preventive measures and symptoms of the pandemic. For instance, there has been disparities in stating physical distance, in the major symptoms, the transmission methods of the pandemic which have been creating confusions.

With regard to '*tailored messages'*, it was found that there were some attempts to prepare news, reports and ads considering special groups. For instance, some messages were prepared to reach hearing impaired people by using sign language. However, these tailored messages were limited. Many other special groups such as, street children, civil servants who have frequent contacts with many people, people with other illnesses have not been addressed. On the other hand, the respondents indicated that some messages that are publicized to the public are not practical as they are not planned considering the actual contexts. This has been confirmed by the EPHI expert that at the beginning, the emphasis was given for just 'blanket coverage'; an attempt to disseminate messages for all.

It has also been learned that there was a big challenge to approach people who have been affected by the pandemic and produce testimonial teaching experiences. As people were afraid of stigma and isolation, they were not willing to appear on media and share experiences, especially on TVs. Hence, the media experts used radio programs using anonymous identities. However, there were not sufficient counselling services for the affected people before the media programs.

The study also assess the problems encountered related to '*infodemic'* and '*misinformation'*. It has been learned from the participants' responses that there have been a lot of rumors and myths that have been creating suspicions, distrust, frustrations and panic. These include the belief that Covid-19 is a '666'. Hence, there were 'traditional cures' suggested by 'cultural or religious people'. There were also myths that state "the pandemic is weak in hot weather" and 'black people are resistant to the pandemic". In contrast, there were rumours that state "There is no such a pandemic; it is just a political conspiracy." In addition there was misinformation that stated "Ethiopian Airlines transports infected people and there are corruptions to leave the infected people without keeping them in quarantine". These have been creating a lot suspicions and distrusts and these in turn led to panic, stigmatization and isolations. More importantly, social media have been the major factor for infodemic. A lot of myths and misinformation are released on social media in a very short time without any verification or reliable evidences. Hence, it has been a serious challenge to correct these infodemic and convince the public. Though the government tried to control the reports related to the pandemic centrally, this had contributed for prevalence of 'infodemic' through social media. As the information from the government sources and mainstream media are too late, people opt to get 'fresh information' on social media.

One of the drawbacks of internet is that it is difficult to control the flow of information. Now media organization or governments have no power to act as gatekeepers of information or news. As a result, the public face uncertainties and ambiguities in search of open information. It is good now that people can have easy access to latest information about COVID-19 from various sources but the information needs to be interpreted and updated regularly to avoid confusions (Cuan-Baltazar, et al., 2020).

The 'infodemic' tackling methods have also been assessed. The EPHI has been gathering various versions of the infodemic related to the pandemic and put them in a data base. Then, diagnostic messages have been developed to tackle the infodemic. The media experts on their part stated that they have been careful while handling the infodemic. They have been reserved to talk about all the infodemic as they may diffuse the infodemic itself during advising the public about the infodemic. Hence, they applied the deliberate '*omitting'* method for some infodemic. The other method applied is publicizing only verified information. "We prohibit them not to use any data unless it is provided by Ministry of Health, Pasteur, and internationally from Johns Hopkins and CDC. When the media experts were asked about monitoring media, they indicated that there are no any media monitoring personnel assigned specifically for the pandemic. It also been learned that the media experts do not have the practice of searching of research articles related to covid-19. In fact, they have confirmed that there are no any teams organized for this purpose. It has also been learned from the responses of the EPHI/FMOH experts that there is no survey conducted so as to tackle 'illusions' and 'confusions' based on empirical evidences. They have been just collecting information from calls. In order to alleviate the uncertainty and ambiguity problems during a pandemic, an emergency risk and crisis communication has to assess and generate credible evidences and interpret the available information (Sellnow, Ulmer, Seeger, & Littlefield, 2009).

With regard to, transparency, they stated that they have their own organizational regulations. Some information or data are open but others are restricted for the sake of ethics and business principles. In terms of 'trust', it has been learned that the media experts, especially the public media, are aware that people do not have full trust as they feel our organization deliberately omits some issues. In fact, the editor of the media admitted that they report issues selectively. They are careful not to report issues that may create 'unnecessary' consequences. Key stakeholders have to open their doors for information and provide relaible information about the

pandemic. Otherwise, the whistleblowers will privately spread informal information about the clinical characteristics of the coronavirus on social media, as there are no timely explanations reported to the public (Zhang, Li, & Chen, 2020). This lead to uncessary risk perception and wrong measures.

RQ#3-What are the major challenges and the limitations encountered while practicing the PHERC activities?

As it has been learned from the participants, there have been various challenges and limitations encountered during the communication practices of the fight against the pandemic. The first challenge was lack of clear system for getting information about the pandemic. It was difficult to get the reports on time. Building trust can be achieved only if the risk communication process is interactive. The interaction has to involve all stakeholders, a group of people whose lives are impacted by the risk in one way or another, in a risk setting (Sellnow, Ulmer, Seeger, & Littlefield, 2009). In principle, communities should be given a chance to participate in assessing the situations, planning communication strategies, monitoring and forwarding feedbacks.

As soon as an emergency threat is recognized, governments have to communicate to all stakeholders proactively. With regard to COVID-19 pandemic, many countries did not react on time. This shows that there was no adequate preparedness for outbreak management, including a timely warning to the public and active countermeasures for the risk (Zhang, Li, & Chen, 2020).

On the other hand, the social media have been challenging the mainstream media by releasing information every time. Now media organizations or governments have no power to act as gatekeepers of information or news. Citizens have open access to any information from the internet. As a result, the public face uncertainties and ambiguities in search of open information. One of the destructive roles of the media is the release of too much information that confuses the audience. WHO explains that an infodemic is an excessive amount of information about an emergency threat and that can make it difficult to identify a solution. Firstly, it can initiate unnecessary measures on various sectors which result in different consequences. Unless these are tackled with effective risk and crisis communication strategies, they can hamper the whole public health response and create confusion and distrust among people (UNDGC, 2020).

The other challenge the was identified is the inconsistency and contradiction in applying procedures and media coverage by government officials and journalists. This implies that

journalists and officials have not been role models for the public in applying standard procedures such as wearing mask, using sanitizers, and keeping their distances. There was also lack of law enforcement. On the other hand, journalists had faced challenges to be engaged in their daily activities as there were victims of stigmas and isolations. Besides, it has been very difficult to persuade the public to follow the act of preventive measures appropriately. Furthermore, budget and resource scarcity has been a great challenge to produce messages and reach the public using multiple channels.

Media plays a vital role by informing the public about the nature of the pandemic, the possible risks and enabling informed decision to reduce the impacts. “Individuals who have a strong sense of risk about a given subject are more likely to respond to messages they believe provide a reasonable strategy for personally reducing their level of risk” (Sellnow, Ulmer, Seeger, & Littlefield, 2009, p. 9). However, the Ethiopian media, especially the mainstream media, have not been able to play crutial crucial roles due to lack of preparedness with reagrd to emergency risk communication and clear system of information exchange during the pandemic.

5.2. **Conclusions**

Risk communication and community engagement is a vital part of any emergency response to an outbreak such as the COVID-19 pandemic. In the wake of the outbreak of this pandemic in China in December 2019, following its declaration as a pandemic by WHO in January 2020, and upon confirmation of the first case of the outbreak in Ethiopia, attempts have been made by the government of Ethiopia to deliver appropriate and timely emergency risk communication to alert and aware the public at all levels of the health risks of this global pandemic.

In the light of this brief, this study set out to evaluate the risk and crisis communication practice employed in Ethiopia in response to COVID-19. Drawing on ‘Outbreak Communication Guidelines’ (WHO, 2003), US CDC guidelines, and ‘A Conceptual Model for Evaluating Emergency Risk Communication in Public Health’ (2018) as frame of reference, the study aimed to examine the COVID- 19 risk and crisis communication practice applied through multiple media outlets. In particular, it sought to assess the effectiveness of public health emergency risk communication schemes and practices, thereby elucidating the multiple challenges, limitations, and gaps identified in the process of combating the pandemic through emergency risk

communication. Based on the qualitative analysis of data, the study yielded useful findings consistent with the formulated research questions.

5.2.1. Public health emergency risk communication (PHERC) schemes

Primarily, it can be concluded that the government has made appreciable efforts to contain the threats of the pandemic through designing emergency risk communication schemes and strategies as depicted in various documents and revealed during interviews with key informants. Yet, the findings indicate major gaps that require closer attention when dealing with an outbreak such as COVID-19.

First of all, with respect to planning and preparedness strategy in response to COVID-19, there is a major gap as manifested in the absence of established Emergency Alert System (EAS). The emergency risk communication plan itself suffers a number of shortcomings as can be observed from the Emergency Risk Communication guideline.

For instance, there is no comprehensive situation analysis in the guideline and the strategic objectives of the RCCE are not spelt out very clearly as they lack specific procedures and outcomes (no indication of planned strategic interventions and implementation schemes for translating specific objectives into action).

The target audiences have not been identified comprehensively (e.g. in terms of primary audience, secondary audience, and tertiary audience and vis-à-vis most at-risk and vulnerable population within each category of audience), and methods of reaching out specific audiences have not been identified (e.g. what channels of communication are appropriate for various targeted audiences).

The guideline does not also indicate clearly the proper strategy and plan designed in terms of engaging key internal and external stakeholders. There is a clear lack of identifying potential and relevant stakeholders comprehensively, and there is no inclusive approach on how to engage them in various phases of RCCE activities. What is more, there is no clear hierarchal relationship and information exchange system among stakeholders.

The RCCE guideline outlines certain responsibilities to be assumed by different stakeholders during preparedness stage for COVID-19. It also enumerates the nature of communication

activities when ‘communicating early’, when ‘communicating in the midst of uncertainty’, and when ‘communicating to lower fear’. However, it does not indicate detailed communication plan and activities for the entire outbreak response phases in accordance with WHO guidelines. In other words, there is no clear indication of planned strategic interventions and implementation activities during the preparedness phase, during the outbreak phase, and during the post-out break phase. Above all, the RCCE guideline has not incorporated monitoring and evaluation schemes, which are important aspects in successful management of any outbreak.

5.2.2. Effectiveness of PHERC strategies

Attempts were made to gain an understanding of the effectiveness of PHERC strategies in terms of engaging the key stakeholders, ensuring public trust, and shaping behaviors of the community. To this end, messages delivered through multiple media platforms and data secured from interviews were examined. The madia practice in handling communication activities related to the pandemic was also assessed in accordance with the standards and models identified for the study. Further, the practice of the media and EPHI in dealing with infodemics was explored.

The findings indicate a bulk of messages disseminated through a host of diverse media outlets with major gaps in their effectiveness in achieving public health emergency risk communication targets. In the face of a pandemic like COVID-19 and in the context full of infodemics about the pandemic, the primary purpose of such messages is to promote educational campaign and awareness creation among the public at large and within specific groups of population. To best serve this purpose, such messages need to be produced and dissemined with utmost care and scrutity. They also need to be well contexualized, pragmatic, inviting and engaging as much they should be clear, conicse, specific and accurate. While considerable number of the messages are, by and large, appropriate and suitable for their intended purposes, it is regrattable that these important aspects of effective risk communication are found to be missimg in most of the massages assessed in the study.

For instance, in terms of priority, some messages disseminated by the media seem to be more interested in less important issues such as daily routine news reports. Some of the messages delivered by highlevel authorities and influential people are diplomatic messages manifested in the form of expression of gratitude for aids and donations. Other messages covered news of field visites of officials, inaguarial ceremonies, and meetings. In terms of clarity and accuracy, the

findings have revealed some confusing messages, unfeasible messages, unreasonable messages, and even erroneous messages.

There are appreciable efforts exerted by the media in covering COVID-19 news and reports, but it is important to highlight certain limitations observed during the study with a view to improving their practice in delivering effective public health emergency communication. In terms of 'message immediacy', the media are impacted by the hurdles of centralized risk communication approach. On the one hand, this is approach is appropriate in the sense that it ensures the accuracy of messages as they pass through proper administrative channels and scrutiny both during production and dissemination. On the other hand, it involves lengthy process which leads unwanted delay in delivery of important messages and this in turn may lead the aduience to search for information from unreliable sources. More importantly, it may be subject to abuse and manipulation of information by officials or individuals who control the system. Lack of 'message accuracy' was found to be a common problem earlier, a situation which led to the application of a centralized risk communication approach in order to avoid or minimize inaccurate and erroneous messages. Lack of 'message clarity' was observed especially towards the earlier period of the pandemic in the ocuntry. This was normal as the pandemic was new to the country and the information about it was full of gray areas even worldwide. However, there is a need to attend to the rapidly emerging new information and guidance about the pandemic and detail the ways in which clear and consistent communication flows to the society. The RCCE intervention efforts to target specific audiences through 'tailored messages' and to use suitable channels are found to be promising. However, there was a tendency to depend on 'blanket coverage' at the beginning, and there are limitations in reaching out more and more special groups as much as possible.

The study has also addressed false rumors, myths, infodemics, and misinformation that have been circulating among and how they are monitored and defused. The findings indicate that it has been a serious challenge to correct infodemics mainly due to its rapid and uncontrollable nature and as a result of its fast and automatic spread through the social media. Some false rumors and miscommunications about the pandemic are found to be deliberate and part of political conspiracy. The database system employed by EHPI as a method of tackling infodemic by gathering infodemic related to the pandemic and taking corrective measures is encouraging. However, it seems there is no systematic approach adopted by the media to take similar

measures. Unless a system of monitoring social media information is installed, tracking infodemics and dispelling misinformation is a difficult undertaking.

5.2.3. Major challenges encountered in PHERC activities

As COVID-19 is a new pandemic of our time, multifaceted challenges are anticipated in public health risk communication practices. In this study, various challenges and limitations have been identified. Lack of clear system to access information about the pandemic and consequential difficulty in getting timely reports and delivering effective communication, inconsistency and contradiction in applying procedures and media coverage, lack of role modeling by government officials and journalists in applying standard procedures and protocols, lack of law enforcement in implementing COVID-19 protocols, difficulty in persuading the public to follow preventive measures appropriately, and budget and resource scarcity in message production and dissemination using multiple channels are among the prominent ones. Above all, the mainstream media have not been able to play crutial roles due to lack of preparedness with reagrd to emergency risk communication and clear system of information exchange during the pandemic.

5.3. Recommendations

Thus, the findings of the study entail a set of key recommendations and implications for stakeholders whose roles and responsibilities have a direct bearing to the issues addressed in the study. In the light of the findings of the study and the conclusions reached thereof, the following recommendations are put forward to various groups believed to be pertinent to the findings of this study.

1. Draw a lesson from the experience of COVID-19 and establish an Emergency Alert System (EAS) to be used by the state and local authorities to deliver important emergency risk information;
2. Reassess the existing public health emergency risk communication strategies and approaches for COVID-19 outbreak response in line with globally established WHO documents and guidelines;
3. Reassess the existing tools and guidelines for RCCE strategy and preparedness for COVID-19 outbreak in Ethiopia and update them in accordance with WHO guidelines and relevant models;

4. Strengthen emergency risk communication and community engagement with adequate resources (e.g. sufficient budget) and well trained staff;
5. Establish a system of reaching all at-risk populations by employing multiple channels, formats, and tools; adapt an approach that takes into account various social, cultural, and economic contexts to ensure context-specific response or intervention;
6. Train risk communicators and media experts adequately and effectively so that they understand emergency risk communication, know their stakeholders, and gain trustworthiness in the community;
7. Reassess the planning, implementation, monitoring, evaluation, and reporting system for a more effective process of COVID-19 response;
8. Be data-driven. Conduct surveys, generate and analyze data to use evidence about each public perceptions, behaviors, and so on;
9. Design a system of monitoring and managing infodemics. More specifically, employ a host of tools such as educational interventions, partnering with social media managers and administrators, training anti-infodemic groups, enforcing legislative measures, and so on;
10. Engage key and relevant stakeholders as comprehensively as possible (e.g. healthcare professionals and their organizations, state regulatory bodies, development partners, emergency response organizations, community organizations and groups, and influential persons and celebrities).

5.4. Implications of the study

5.4.1. Implications for future public health emergency communication activities

This study is an attempt to investigate into the the practice of health emergency risk communication of COVID-19 in Ethopia. The study sought to understand emergency risk communication and community engagement strategy and its effectiveness and challenges encountered in the process of COVID-19 outbreak response.

It is hoped that the present study has useful implications for future public health emergency risk communication. The study has highlighted some risk communication practices and procedures which need to be reconsidered and those which have not been considered at all. It has also identified and described some of the challenges and gaps that have been encountered in the process of combatting the pandemic and that (if not addressed) are likely to affect future

endeavors in planning and executing emergency risk communication activities. In this respect, the findings of the study will prompt concerned stakeholders such as government organs, the health sector, and the media to reassess the existing practices and procedure at all stages of COVOD-19 response and establish a more effective emergency risk communication and community engagement system.

5.4.2. Implications for future research in emergency risk communication practices

It is assumed that this study is the first of its kind in Ethiopia as far as research on emergency risk communication in general and COVID-19 emergency risk communication in particular is concerned. In this regard, there is no doubt that the study can be described as eye-opener, awakening and enlightening. As an exploratory research, the study has comprehensively addressed a wide range and variety of topics in its attempt to assess and understand the practices and procedures employed in COVID-19 mitigation. By so doing, the study has laid the foundation on which future studies can be built. However, given this vast, largely under-researched field of health and the complexities embedded in it, the study was practically unable to get to the bottom of the problem and a number of important issues will remain untouched. Therefore, further in-depth studies can be conducted by considering more specific topics, problems, and research questions in this vast area of investigation.

On the other hand, due to practical reasons, the study was delimited temporally (in terms of duration), in terms of population, and sample size. Therefore, we believe that further studies can take interest in investigating COVID-19 emergency risk communication practices that have been implemented more recently (beyond the reach or duration of the present study), by diversifying their study population (e.g. inclusion of key stakeholders), and increasing the sample size (e.g. engaging more state and private media outlets).

Beyond the COVID-19 outbreak context, the study is believed to have set an example for future studies so that they can take similar initiatives to contribute to the current body of knowledge in emergency risk communication in Ethiopia and address the existing serious dearth of research in the area.

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