



Addis Ababa University

College of Education and Behavioral Studies

School of Psychology

Perceived Stress and Coping Styles among Healthcare Workers during
the time of COVID-19, Arerti Town, North Shoa Zone

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the time of COVID-19, Arerti Town, North Shoa Zone

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Requirements for the Degree of Master of Arts in Social Psychology

Declaration

I, Resom Tsegaye Reda, attest that this work entitled “**Perceived Stress and Coping Styles among Healthcare Workers during the time of COVID-19, Arerti Town, North Shoa Zone**” is the product of my own work which I did to fulfill the Master of Arts Degree in the field of Social Psychology. As far as my knowledge, this study was not done by anyone else previously and submitted for any degree in this University or any other Universities. I, therefore, accept full responsibility for the truthfulness of the information presented in my thesis document and for its originality. Finally, all the information that I mentioned in the thesis as evidence, the source is well cited.

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Examiners' Thesis Approval Page

A student named Resom Tsegaye Reda had an open defense examination of master's thesis research entitled "Perceived Stress and Coping Styles among Healthcare Workers during the time of COVID-19, Arerti Town, North Shoa Zone." We the examiners' board approve that this thesis has passed through the defense and review process

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List of Abbreviations and Acronyms

COPE	Coping Orientation to Problems Experienced
COVID-19	Coronavirus Disease 2019
ECOWAS	Economic Community of West African States
M	Mean
PPE	Personal Protective Equipment
PSS-10	Perceived Stress Scale-10
SD	Standard Deviation
WHO	World Health Organization

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Abstract

Coronavirus disease-2019 has been a global concern for the past one and half year and still is expected to continue for the coming years. Health professionals, while compared with the general public are influenced by it and have a higher risk of acquiring the disease. It has been witnessed that there were interventions tried by stakeholders to alleviate its consequence on health professionals but the most important one is to understand how individuals are coping with the stress and working to improve coping outcome. So, the aim of this study is to assess the level of perceived stress and coping styles used to overcome the stress among health workers during COVID-19 in Arerti town health facilities. The study used cross-sectional survey design. Questionnaire was collected from all 216 health workers who were at their work during data collection time by using a Brief COPE and Perceived Stress scale-10. Analysis of the data includes descriptive statistics, bivariate and multivariable logistic regression. The result showed that that the mean age was 28.6 ± 5.09 SD, of them 102 (47.2%) are females. The prevalence of perceived stress related to COVID-19 among health workers was 45.8% while the widely used coping styles were religious coping and acceptance. Regression analysis showed factors such as gender, work experience, humor, venting, behavioral disengagement and self-blame were having association with perceived stress. Based on this result the researcher can conclude that being female and having longer years of work experience will make individuals more likely develop higher level of stress. In addition to that, inclination to use more of humor, venting, behavioral disengagement, and self-blame coping will likely make one experience high level of stress among health workers in Arerti town health facilities.

Key words: COVID-19, Health workers, coping Styles, Perceived Stress

Chapter I: Introduction

1.1. Background of the Study

Coronavirus Disease-2019 (COVID-19) has become a global concern for the past year and still is expected to be continued for the coming years. The first cluster of pneumonia cases was identified in December 2019 which was possibly associated with the seafood market in Wuhan, China (Bogoch et al., 2020). Later on, it was disclosed those cases of pneumonia were associated with the newly identified β -coronavirus and got named by World Health Organization (WHO) after its etiologic agent in February 2020 (Guo et al., 2020). Currently, the disease has been found in 217 countries and according to the report by WHO (2021b) till the date, August 30, 2021 cases related to COVID-19 surged to 216,009,577 with a death number of 4,519,362, and when we look on in Ethiopian context 323,715 cases and 4,967 death were reported too.

Life has changed since the outbreak. There have been many modifications going on in order to cope with the pandemic; wearing a facemask, keeping hands clean, social distancing, closure of business, public meeting places, and schools are the major ones. All the changes going on and progression of disease affected the public psychologically in terms of eliciting negative emotions; anxiety, depression, indignation, being sensitive to social risks, high concern about one's own and family health with a decreased life satisfaction (Li, Wang, Xue, Zhao, & Zhu, 2020). Economically as it has been witnessed the closure of tourism sector, agricultural products have dropped, manufacturing business has declined, school closures prompted food insecurity as students were feeding in schools, massive investments are undergone in the health sector by governments which will directly or indirectly

affect individuals economic capability and socially, problems related with domestic violence has been reported (Nicola et al., 2020).

Health professionals are the major actors in COVID-19 and are influenced by it more than the general public. The reason for such influence can be attributed to being front liners in combating the pandemic which will make them more vulnerable to contract the disease. Health professionals exhibited symptoms associated with fear, anxiety and depression more than non-health professional staff (Lu, Wang, Lin, & Li, 2020; Uzun, Tekin, Sertel, & Tuncar, 2020), and moreover, they do have fears of contracting and spreading the virus, being in a conflict between professional duty and family obligation, the stigma of being infected from the public (Fawaz & Samaha, 2020). A report by Kenny (2020, May 05) claimed that about 90,000 health professionals were infected until the beginning of May 2020 and the report further stressed poor preparedness and lack of personal protective equipment (PPE) has put them at greater risk.

Though there are varieties of interventions that are being tried by governments, organizations, and other stakeholders to alleviate the consequence of COVID-19 on health professionals, individual factors do have an effect in coping with such stress. Bernstein and Nash (2008) cemented that stress associated with stressors differs in individuals and the reason for that difference can be due to the extent individuals predict and control stressors, the way they interpret the threat involved, social support individuals have and their stress coping skills. These scholars further explained individuals response for those stressors can be elicited in terms of physical; the biological response of fight or flight and/or psychological; emotional response as the strength and persistence of stressor ensued lead to anxiety disorder, cognitive

response in terms of decreased concentration and remembrance due to ruminative thinking and in behavioral form.

According to Lazarus and Folkman (1987), coping is a thought and behavior that individuals use to manage an internal and external demand of the situation. It is a means of getting into a generalization that there is something that can be done to alter the stressful relationship with the environment. Further explaining it people can choose to cope either by making a plan and follow that plan or by addressing the feeling that accompanies the stressor. And if someone appraises for the changeability of stressor, coping by making a plan and following it is preferable. In support of this concept, studies showed that stress and coping do differ from person to person (Park et al., 2020; Wang et al., 2020).

In studies conducted earlier with situations which have similarity with COVID-19 such as Swine flu showed a range of social and psychological responses experienced; depressive, anxiety and somatic symptoms, post-traumatic stress, stigmatization, and positive changes with cognitive restructuring were among them while using coping strategies like problem solving, seeking social support, destruction and denial, and adoption of positive attitude (Chew, Wei, Vasoo, Chua, & Sim, 2020). In the earlier phases of COVID-19 pandemic health workers also elicited symptoms similar to studies of Swine flu with a mix of problem-solving and emotion-focused strategies (Huang, Lei, Xu, Liu, & Yu, 2020; Krishnamoorthy, Nagarajan, Saya, & Menon, 2020)

Though the source mentioned above showed coping styles may help to deal with stress there are limited studies conducted globally and in the Ethiopian context. And those studies conducted showed the level of stress related to COVID-19 and coping styles in a specific environment that is fairly different from the environment this study

was conducted in and different time frames. To cement this outlook, Lazarus (2006) claimed both concepts of stress and coping are affected by time as they are processes and also affected by the context where individuals are interacting with; culture, and available resources.

Studies conducted in Ethiopia also showed the level of perceived stress and associated factors among health workers despite leaving its relationship with coping styles uncovered. So, this study will look for how health workers are dealing with the stress associated with COVID-19 and the way they are coping with it.

1.2. Statement of the Problem

As the spread of COVID-19 is getting higher through time, experiencing economic, social, psychological, and health problems are inevitable in all levels beginning from individuals to the globe as a whole. Though the risk looks evenly distributed health professionals are having a higher risk of contracting the disease while compared with the general public (Cheng, Wong, & Yuen, 2020). A report from WHO in September 2020 consolidated the claim that from the overall infection cases health professionals take about 14%, and in some countries which are well known for the shortage of professionals the incidence stretches up to 35%, making the problem far worse (WHO, 2020).

The consequence of COVID-19 did not end for health workers by being at high risk of contracting it but problems associated with the disease such as high patient burden, getting less rest, witnessing high causality on patients which will then lead them to a serious of problems such as somatization, obsessive-compulsive symptom, interpersonal sensitivity, hostility, depression, and anxiety (Uzun et al., 2020; Wang et al., 2020). A similar study depicts the prevalence of anxiety, depression, and insomnia

to be 23.2%, 22.8%, and 38.9% respectively which is considered high (Pappa et al., 2020).

Outcomes such as anxiety, depression, and insomnia on health workers mostly depends on the level of stress related to COVID-19 health workers experienced and the coping styles used (Taylor, 2010). studies conducted to examine the stress level and its prevalence among health workers in Dilla, Ethiopia, was high, 51.6% (Chekole, Yimer, Mekonnen, & Mekuriaw, 2020), and factors claimed as attributes to stress are gender, age, experience, marital status and profession (Abdulah & Mohammed, 2020; Lamptey, 2020; Wilson et al., 2020). Assessing the coping strategies, health workers preferred to use more problem-focused strategies with a difference based on their gender, profession, and age (Cai et al., 2020; Huang et al., 2020; Munawar & Choudhry, 2020). Health workers with high stress levels were using a coping mechanism: social support, problem solving, mental disengagement, lower positive attitude, refocusing on planning and positive reappraisal (Babore et al., 2020; Man et al., 2020; Savitsky, Findling, Erel, & Hendel, 2020).

Based on studies conducted earlier, the researcher found that most researchers focus on studying perceived stress and its relationship with socio-demographic characteristics (Abdulah & Mohammed, 2020; Cai et al., 2020; Wilson et al., 2020), which makes the knowledge in the relationship between coping strategies and perceived stress limited

Apart from that, though the number of studies showing the relationship between coping styles and perceived stress is meager they have limitations; most studies were conducted only in one health facility with a limited number of health workers which cannot be representative of health workers working in other institutions (Sanghavi et al., 2020), some studies used multiple facilities but do not incorporate both public and

private ones however individuals in each facility may have a different experience (Munawar & Choudhry, 2020). The professional groups enrolled are also limited in studies like Halayem, Sayari, Cherif, Cheour, and Damak (2020) since it enrolled General practitioners only, and in some studies, the sampling techniques used are not probability sampling techniques which will endanger generalizability of the study (Babore et al., 2020; Lamptey, 2020).

1.3. Objectives of the Study

1.3.1. General objective of the study

- To assess COVID-19 related perceived stress and coping styles among health workers in Arerti town, North Shoa Zone.

1.3.2. Specific objectives of the study

- To determine the level of stress experienced by health workers working in health facilities of Arerti town during the time of COVID-19.
- To identify the socio-demographic predictors of perceived stress on health workers working in health facilities of Arerti town during the time of COVID-19.
- To explore coping styles used by health workers working in health facilities of Arerti town during the time of COVID-19.
- To determine association between coping styles and perceived stress on health workers working in health facilities of Arerti town during the time of COVID-19.

1.4. Research Questions

- What is the level of stress experienced by health workers in Arerti town health facilities during the time of COVID-19?
- Do socio-demographic variables predict perceived stress among health workers in Arerti town health facilities during the time of COVID-19?

- What are the major coping styles used by health workers in Arerti town health facilities during the time of COVID-19?
- Is there an association between coping styles and perceived stress level among health workers during the time of COVID-19?

1.5. Significance of the study

Since the problem is critical in our country the researcher believes this study will have a significant effect on health workers, organizations in the health care industry, and researchers in the discipline.

Health workers can be benefited from this study through participating in this study as it will get into their consciousness how they are dealing with the situation, and finding from this study can help to shape their environment and resources they have since it will be presented to stakeholders in the health sector.

Health care facilities, Zonal, and regional health bureaus can benefit from this study as it will give them clues on how health workers are dealing during the pandemic. This information then will confer them a chance to strengthen or shift a preformed outlook in monitoring and supporting employees on the issue; how to help individuals to cope positively and alleviate additional stressors related to the job.

Researchers will benefit from this study in terms of using it as literature to compare their findings with or to come up with better studies through overcoming limitations seen in this study. Additionally, it will also confer additional support to existing theories in stress and coping by adding empirical evidence.

1.6. Operational definition of variables

- Perceived stress: In this study, refers to how individuals perceived their life as uncontrollable, unpredictable, and overloading related to COVID-19 and was measured with Perceived Stress Scale-10 (PSS-10).
- Coping styles: In this study, it is a mix of thought and behaviors that individuals identify to deal with the demand emanated from COVID-19 that will be seen in domains of Active coping, planning, Instrumental support, emotional support, acceptance, denial, humor, behavioral disengagement, positive reframing, self-distraction, self-blaming, substance use, religion and venting which was measured by Brief COPE (Coping Orientation to Problems Experienced) inventory.
- Profession: refers to groups which individuals hold themselves out as, adhere to ethical standards, and possess special knowledge and skills in a widely recognized body of education and training at a high level.
- Years of experience: the time which health workers spent working in healthcare after graduated with health fields and was reported in years.
- Marital status: Refers to a legally defined relationship status in terms of whether individual forms a couple relationship with another person and the nature of that relationship and it was rated as single, married, divorced, and widowed.
- Gender: Refers to a socially defined construct of women and men and it was reported by respondents as male or female.
- Age: refers to the time elapsed between the date of birth and the date this study survey was conducted and it was measured in years.

- Educational status: Refers to the highest level of educational attainment in a field of health and it was rated as Diploma, Degree, Masters, and PhD.

1.7. Delimitation of the study

The study was conducted in seven health facilities at Arerti town, Minjar Shenkora District by using adapted instruments; PSS-10 and Brief COPE inventory. The time by which data collected was from April 10 to 15/ 2021 by employing Health workers with profession such as; Nurse, Midwifery, Health officers, Pharmacist, Laboratory technology, General practitioners, Environmental health and others.

Study variables used in this study are Psychological perceived stress level in the past one month experienced by health workers and coping styles used towards COVID-19 with an additional socio-demographic covariates; Age, Gender, profession, educational status and years of experience. The study used a quantitative approach and cross-sectional survey study design which gave the researcher to employ a number of descriptive, bivariate and multivariate statistical analyses to answer research questions.

1.8. Limitation of the study

Though this study has strength such as incorporating health care workers working in both private and public health facilities, used probability sampling technique, used standardized instruments to measure study variables, there are some limitations. The first, it used cross-sectional survey which will limit the ability to establish causality between study variables. The second one, as stress and coping are processes which evolve over a period of time longitudinal studies are the preferred method of study to understand the overall process but this study failed to do that. The third limitation is this study was conducted by incorporating health workers in Minjar Shenkora district

which may affect the geographical generalizability of the study so that the result gained in this study has to be used with caution in other areas.

Chapter II: Literature Review

These chapter emphasizes on reviewing literatures related to the study focusing on concepts and definitions, theories addressing the relationship between the study variables, and look over empirical studies conducted in this area of study.

2.1. The Concepts of Stress and coping style

2.1.1. The concept of stress

Stress as a concept is important to be figure out since it is a common phenomenon in our day- to- day life experiences. Though people feel that their life is full of stress and affecting them differently, they employ different mechanisms to overcome the burden. Some proponents claim that stress do get measured through chemical changes in the body from an equilibrium state to bring about psychological change while others argue that it is a mental state to which the mind affect the body to act in a certain way and the remaining insist that the concept stress resides on mind appraisal of the situation (Bernstein & Nash, 2008; Lazarus & Folkman, 1987; Pearlin, Menaghan, Lieberman, & Mullan, 1981). In addition to that scholars have an ambiguity on the levels of stress to which we can reach on studies; socio-cultural, physiological or psychological (Lazarus, 2006).

Efforts have been made to understand stress through time. The most influential was made by Selye (1973) who contends that stress can be seen from the perspective of stressor to stress reaction. Two opposite events produce certain stress based on the intensity that the body needs to adapt to those events and consolidated that death is the only thing that can make people stress free. After a certain time Lazarus (2006) came up with types which he distinct them from the consequence of those stressors draw on our body; loss that already takes place, the threat is there but no

consequences yet occurred and challenges that can be averted as there are resources to overcome and bring on psychological stress then prompt different physical and psychological outcomes.

Stress can be understood from different levels as proponents in different streams connote. Socio-cultural level analysts looked on the way membership in certain group affect both group and individuals while individual level analysts try to see from the physiological response perspective and others in this individual level are keen to understand from the psychological aspect (Lazarus, 2006).

When individuals confronted with sets of stimuli it triggers initiation of biological and behavioral responses (Taylor, 2010). The biological response is initiated by information from the cortex to hypothalamus that will then hasten complex neuro-hormonal mechanisms to ensue (Selye, 1973), While the psychological mechanism bring on in to light the effect of mind in appraising event and factors which mediate appraisal system and influence the relationship between person and environment (Bernstein & Nash, 2008). It is difficult to discern the stress reaction emerging from either physical or psychological stressors and most of the time they are accompanied (Lazarus, 2006).

According to Pearlin et al. (1981), Stress arises from events in life and presence of routine problems. The quality of events and presence of wider array of strains coupled together to bring on stress; life events create new strains or giving new meaning to existing problem through affecting self-concept. Those circumstances to facilitate stress can be events which are sudden, unexpected, even potentially life threatening, chronic stressors which continued for a longer period, with an added effect of daily hassle (Bernstein & Nash, 2008)

Stress response can be seen in terms of physical due to activation of neuro-hormonal system, psychological changes as emotions and cognitive ability do get declined, and behaviorally. These all response depends on the way we perceived the stress. Individuals confront events in various behavioral and cognitive means to alleviate their effect (Lazarus, 2006; Pearlin et al., 1981).

Defined by Selye (1973) stress is similar response produced by a body for a specific and unique demand made up on it in order to adapt to that problem and it is an avoidable. Likewise, Taylor (2010) explained stress as unfavorable experience manifested with a complex cognitive, biochemical and behavioral change which all aiming to deal with and alter that event or harboring its effect.

Furthermore, complementing all the definition given earlier Lazarus (2006) brought a relational approach claiming that we have to take in consideration the stimulus and person to have a complete understanding of stress reaction. Stress does arise when there is an imbalance between a person resource and the event.

2.1.2. The concept of coping

Conceptually coping was developed from two approaches derived from animal studies which is explained as acts to control aversive environmental situations and is more of an avoidance and scape behavior. The second, psychoanalytic ego psychology which focused on perception and thinking to solve problems (Lazarus & Folkman, 1991).

People confuse Coping with trait and cognitive styles which do have difference. But it is broader than trait and has effortful response than being automatic and it is not also adaptive behavior but through time it can get transitioned in to it then stay as

adaptive behavior until demand exceeds available resources. And looking coping as success in adaptation through addressing demand effectively (Lazarus, 1993).

Coping is not an outcome oriented; people use coping strategies weather the outcome will be positive or negative. Its effectiveness will be determined in specific situation in a long term; seemingly negative coping strategies can give favorable outcome when there is no way to overcome the threat, chronic situations, and inference about coping is made by the professional observer (Lazarus, 1993; Lazarus & Folkman, 1991).

There are perspectives to find out whether coping is threat or state oriented through looking patterns and associating them with a person, personal disposition or traits such as goals believed to shape coping actions and functionally equivalent environmental situations by a trait (Lazarus, 2006). Such orientations can help one to understand what coping means and give an insight where and when to intervene. Trait-orientation strategy eyes on early identification of individuals who may fall in short of resources while state-orientation deals with actual coping strategies used on encounters and their outcomes (Endler & Parker, 1994).

Coping, defined by Lazarus and Folkman (1987) is thought and behavior individuals use to manage an internal and external demand of the situation in an effort to manage psychological stress. It is a process by which an individual attempts to reduce the negative emotions that arise from the experience of negative events (Lowe & Bennett, 2003).

In his work, Krohne (1989) briefed coping has to be conceptualized in hierarchical organization owing its complexity and asserted that coping reaction is at the lowest level of hierarchy then goes up to super strategies. The model of coping mode

identifies two strategies namely vigilance and cognitive avoidance. Vigilance strategy is concerned with cultivating mastery over the threat through approaching and processing of relevant information and cognitive avoidance is about withdrawal from relevant information related to threat so that it lower arousal.

After coming in to understanding that coping is a process, Lazarus (2006) underlined the two functions of coping; problem focused and emotion focused. Problem focused function is concerned with shifting reality between person-environment relationship through directing action to self or environment while emotion-focused function is about modulating emotions without an effort to shift the reality but the relational meaning . When conditions of stress are appraised as changeable while perceived as it is under a person control problem-focused coping predominates. However, when the conditions are appraised as unchangeable, emotion-focused coping predominates.

2.2. Theories on stress and coping

There are several theories related to stress and coping. The following three theories that have relevance to the study area are selected and discussed.

2.2.1. Selye's stress theory

According to the earlier work of Selye (1973) stress is a common response made by the body for varieties of external demand. He outlined that the body is willing to undergo certain adaptive functions to reach on to homeostasis despite the stressor is pleasant or unpleasant and it is not possible to avoid stress.

According to Hans Selye there are three stages of the stress response namely, alarm, resistance, and exhaustion. The first stage in stress is reaction where individuals get in to after being exposed to noxious agents to be followed by

adaptation stage where there is continuous exposure to those agents and after a while if the stressor persists and be severe enough they will enter in to the third stage named exhaustion. The overall physiologic changes to be experienced will more mediated by the hypothalamic- hypophysial- adrenal axis which will activate a number of hormones to end up with cortisone produced by the adrenal cortex which in turn facilitate numerous physiologic changes (Selye, 1965).

Though it has been said the response is similar across individuals after being provoked by physical and psychological stressors, he claims that there are serotyped response after looking on difference in individuals though exposed to similar stressor and subjective evaluation of an experience to the behavioral manifestations or biochemical analysis can tell there is a difference between individuals (Selye, 1965; Tachè & Selye, 1985).

Individual difference can stem from the way the stressor is perceived psychologically or physiologically. Factors which we call internal related with inheritance; familial characteristics or diseases, proneness to certain types of maladies, or weaknesses of certain organs and external related with environment; social, intellectual, and psychological elements as well as climate, physical surroundings, and nutrition. Those factors will conjure up to determine the way individuals perceive and interpret the stimuli and acted up on with non-specific somatic and psychological responses as an adaptive method to be tested and based on the result individuals will head to specific intellectual, emotional, or metabolic responses will emerge. Further underlying, individual can cope in four levels; by removing stressors from life, by not allowing certain neutral events to become stressors, by developing a proficiency in dealing with conditions we do not want to avoid and by seeking relaxation or diversion from the demand. There is no specific

coping way which will guarantee success but it differs across individuals (Tachè & Selye, 1985).

However the theory is criticized for eliciting stress in terms of outcome which organisms experience after going through all three phases of adaptations and cannot clearly stipulate what makes psychological events stressful (Hobfoll, 2001; Lazarus, 2006).

2.2.2. Conservation of resource theory

It is a theory which vows to explain behavior during stressful conditions by keeping in mind as individuals' eagerness in retaining, protecting and building resources and got threatened by potential or actual loss of those resources. Basing the concept, Halbesleben, Neveu, Paustian-Underdahl, and Westman (2014) defined stress as a reaction in response to perceived or actual threat of net loss, net loss or lack of resource gain after investing and the resources are valued by individuals such as objects since they are determinants of socioeconomic status, conditions to which they are valued and looked after, personal characteristics resources which help in stress resistance and energies like time, money, and knowledge. Individuals do behave differently when confronted with stress and no stressful event around in terms of minimizing loss and developing surplus resource consequently.

Loss is understood as the most important concept though gain is also there in the contrary. Gains are attributed as elements in helping resist stress but not to hinder it. And symbolic or indirect replacement is viable option when direct replacement is not possible.

Resource conservation as a product of certain life events which are major or acute and daily hustle like reinforce individuals to come up with certain resource conservation strategies which will lead individuals in two possible outcomes. The first outcome,

adapting effectively which then can harness individuals with new resources and better resource reserve or else it can lead individuals to secondary resource loss which is accentuated by unsuccessful adaptation that brings negative functional and emotional outcome (Hobfoll, 2001).

Resources as explained by Halbesleben et al. (2014) better to be explained in a way to give clarity and their roles in attaining a goal in addition to how individuals could determine their values. Resources as organized from the most basic to abstract, Hobfoll, Tirone, Holmgreen, and Gerhart (2016) refuted primary ones are basic while secondary resources contribute indirectly through providing access to primary ones and tertiary resources are more abstract and symbolically related to the previous hierarchies. And individuals are keen in keeping and acquisition of resources to maintain their health and well-being.

2.2.3. Stress appraisal theory

Stress appraisal, based on the explanation by Lazarus and Folkman (1987) is individual's way of evaluation and coping with stressors that comes in two forms; primary, where a person evaluate whether an event is stressful and relevant to him or her and secondary, evaluate judgments weather any action can be taken to improve the troubled person environment relationship and if it so will figure out how to cope with the stressful event. The theory based its work on three themes named relationship, process and stress as a system. The relationship them claim that identity of person and environment will fade for the sake of newer concept named person-environment, the process then outline that time do have effect, and the third one stress as a system depict that for stress to be understood we have to approach it from a system context.

The theory further instigate that individual appraisal do get affected by the context of his or her personal goals or resources or environmental constraints (Shweder, 1993). Lazarus and Folkman (1987), Additionally briefed that there are two functions of coping; problem-focused, which is concerned with changing the actual terms of the troubled person environment relationship and emotion-focused, that is targeted to regulate emotional distress. While looking on Lowe and Bennett (2003) study, it depicted that appraisals do associate with coping as appraisal of problem-focused coping potential and self-accountability were positively associated with active coping and negatively associated with behavioral disengagement. They also showed that emotion-focused coping do associate with increased use of positive reframing and Tomaka, Blascovich, Kibler, and Ernst (1997) Cemented that cognitive appraisal do have effect on eliciting threat and response to that threat. Transactional theory of stress will then be the main theory guiding this study.

2.3. Empirical studies on COVID-19 related Perceived Stress and Coping Styles among Health Workers

2.3.1. COVID-19 related perceived stress among health workers

The researcher found numerous studies conducted to look for perceived stress level on COVID-19 in different countries. From those studies, one study conducted in India using a total of 350 participants showed that the prevalence of perceived stress was 3.7% and of all predictors, female gender was the only predictor in moderate to high stress level OR (CI)= 2.008 (1.122, 3.594), P=0.019 (Wilson et al., 2020).

A similar study conducted using a modified perceived stress scale among 407 Colombian adult participants (of which 44.1% of them are health professionals) revealed that 16.2% of the health professionals reported high stress level (Pedrozo-Pupo, Pedrozo-Cortés, & Campo-Arias, 2020).

Furthermore, a study in Iraqi, Kurdistan from a total of 209 participants produced mean stress score of 18.8. Most of the doctors had a moderate level of stress (69.4%) and 9.6% of them with a high level of stress. Females had a significantly higher score of perceived stress (Mean: 21.4; SD: 6.01, $p < .001$) and the stress level was negatively related with increasing age ($r = -0.141$; $P = .045$), and experience ($r = -0.139$, $P = .048$) (Abdulah & Mohammed, 2020).

An Online cross-sectional survey in Economic Community of West African (ECOWAS) countries from registered nurse showed that stresses level was 10%, and females, diploma holders, single with an age between 21-30 were in high stress (Lamptey, 2020).

Moreover, one study conducted on government health institution among healthcare providers (N=244) in Dilla, Ethiopia using perceived stress scale showed the prevalence of 51.6% and age, MA degree and above qualification, nurse professionals and being pharmacist were associated strongly with perceived stress (Chekole, Yimer, Mekonnen, & Mekuriaw, 2020).

2.3.2. Coping styles among healthcare workers

There are several studies both qualitative and quantitative conducted on coping styles to deal with COVID-19 related stress. Among these, a qualitative study in Pakistani health care workers to look for their coping strategies and challenges through social networking sites claimed using strategies such as limiting media exposure, limited sharing of duty details, religious coping, empathy after the data analyzed thematically (Munawar & Choudhry, 2020).

A study conducted in China, Hunan province, by Cai et al. (2020) through incorporating doctors, nurses, and other hospital staff using a cross sectional

observational study design were asked to complete a questionnaire. And the findings included were strategies such as strict protective measures, knowledge of virus prevention and transmission, social isolation measures, and positive self-attitude resulted in the highest scores while seeking help from family and friends was a significant supportive measure.

Correspondingly, another study by Huang et al. (2020) to see emotional response and coping strategies of Nurses and Nursing students during COVID-19 outbreak in Anhui Province, Pakistan, showed that Nurses have stronger emotional responses and are more willing to use Problem-focused coping strategy; active coping, planning, and use of instrumental support.

2.3.3. Perceived stress related to COVID-19 and coping styles

From studies conducted to determine the relationship between perceived stress and coping styles the researcher present findings as follows; a study by Savitsky, Findling, Erel, and Hendel (2020) in Israel found that stronger resilience and usage of humor were associated with significantly lower stress levels, while mental disengagement with higher stress levels.

Likewise, A web-based survey in Italian regions that comprised 595 healthcare workers showed lower positive attitude, higher social support and higher avoidance strategies predicted higher levels of distress (Babore et al., 2020).

Furthermore, a survey on medical staffs by M. A. Man et al. (2020) in a teaching hospital of Romania by enrolling One hundred and fifteen health care workers showed rumination and catastrophizing has significant relationship with perceived stress..

Additionally, one study in all Italian regions by Vagni, Maiorano, Giostra, and Pajardi (2020), consisting of 210 participants; health care and emergency workers

showed the stop unpleasant emotions and Thoughts strategy were the commonly used coping strategies across and was predictive of high level of stress.

A study in Turkey showed that there is a positive significant relationship between planning, active coping and positive reinterpretation and growth with perceived stress while substance use, behavioral disengagement and denial negatively related with it (Besirli et al., 2021).

A study among Palestinian health care workers (n=430) through online survey, participants claimed being involved in activities like prayers, sports, and exercise as the most common (80.5%). This was followed by the support of colleagues (Maraqa, Nazzal, & Zink, 2020).

2.4. Summary and Implication of the Reviewed Literatures

Various literature has been reviewed regarding perceived stress related to COVID-19, coping styles, socio-demographic factors, and the relationship between them. From the theoretical perspectives, one can learn that both stress and coping are affected by the resource individual believes having and the culture they are in when trying to confront stressors. That is what both reviewed theoretical and empirical literature displayed.

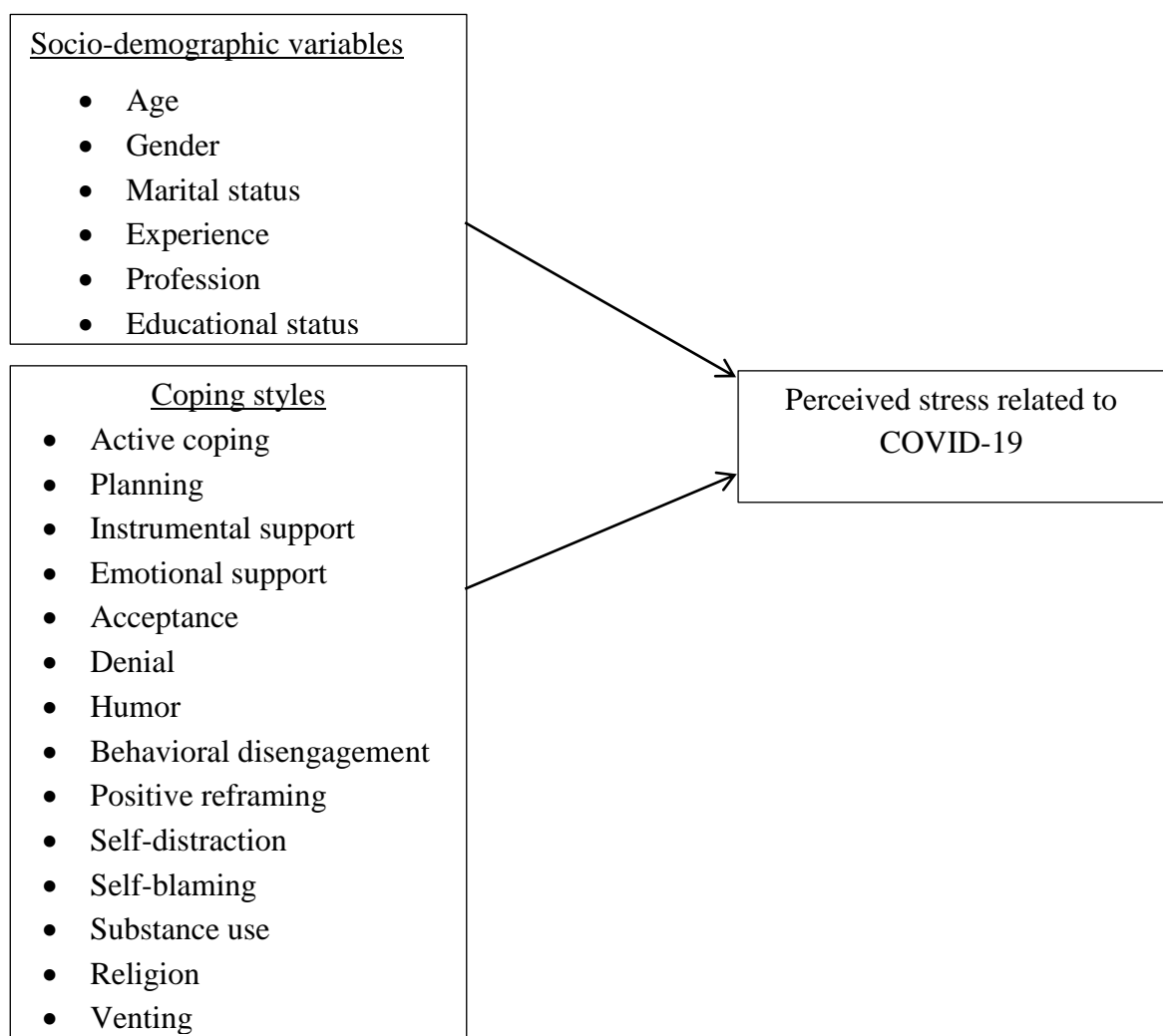
The other impression obtained is both stress and coping are processes and evolve through time. A person-environment relationship plays a significant role as individuals will be in a continuous struggle until they get an effective coping mode to control stress level and certain demographic variables (Age, Gender, Marital status, Experience, profession, and educational status) also seen to have an effect.

In conclusion, studies regarding the relationship between perceived stress related to COVID-19 and coping styles among health workers have not been explored yet in

the Ethiopian context so, this study assessed the role of socio-demographic factors and coping styles to deal with stress.

Based on the reviewed theoretical and empirical literature and insights drawn, the researcher designed a conceptual framework to show the direction of the relationship among study variables in this study.

Figure 1: Conceptual framework showing the relationships among variables of the current study



Chapter III: Methodology of the study

This chapter presents the area, study design, population, sample, sampling techniques and sample size determination, method of data collection, data analysis, data quality management, and ethical issues.

3.1. Research Design

This study employed a quantitative study approach and a cross sectional survey design. The reasons for selection of this design was maturity of the concepts stress and coping; there are both theoretical and empirical literatures so that it can help to consolidate them, the research questions that the study posed can be answered by using this design, and availability of validated standard tools.

Survey was preferred as a method of data collection due to its simplicity, having a rapid turnaround time, cost effectiveness, effect in reducing sample attrition and one can generalize from the samples taken to the population to be studied.

3.2. Study Setting

This study was conducted in Minjar Shenkora, which is one of the districts in Northern Shewa zone, Amhara Region. It is bordered on the East, South and West by the Oromia Region, on the Northwest by Hagere Mariamna Kesem, and on the North-east by Berehet which are districts in Amhara region. It is 133 Km away from the country center Addis Ababa totals a population of 128,879 from 2007 national census, of which 66,918 are men and 61,961 women scattered within an area of 1,509.93 km² and Arerti is an administrative center of the district.

This study was conducted in Minjar-Shenkora district taking in to consideration the public adherence on protective measures to be taken as studies claimed it is loose at the country side (Bante et al., 2021; Shewasinad Yehualashet et al., 2021), public

health interventions taken to tackle its effect and health workers preparedness and the role they took was not proportional during outbreak (Mulu, Kebede, Worku, Mittiku, & Ayelign, 2020).

There are 5 governmental health centers, one governmental district hospital and five private clinics in the district of which the district hospital, one health center and all five private clinics are located in Arerti town to serve the catchment population. According to the report from Minjar Shenkora Health Office (2020) the number of patients get service by the year 2012 Ethiopian fiscal year was 153,910. Total number of employees in those health facilities is 531 of which, 418 of them are health professionals and the remaining 113 are non-health professionals function as supporting staffs.

From a total of 418 health workers, 188 of them have diploma, 215 of them have first degree and the remaining 15 have master's degree. While looking based on their profession, 149 are Nurses, 59 Midwives, 43 Doctors, 27 pharmacists, 28 Laboratory technologist, 25 Health officers, and the remaining 87 has other professions such as Environmental health, Bio-medical technician, Psychiatrist, and Health extension workers.

3.3. Population and Sampling

3.3.1. Source population

The source populations of this study were 418 health workers employed in all health facilities of Arerti town.

3.3.2. Sample size determination

As the survey was conducted in seven health facilities; two governments and five private, Information about total number of health professionals was collected from

officials in each health facilities claiming there are a total of 418 health professionals. In order to find the sample size needed the researcher used single population proportion formula (Lwanga & Lemeshow, 1991). Sample size for the study then calculated based on the finding of a study conducted in Dilla (Chekole et al., 2020), with proportion of 51.6%, 5% margin of error and 95% of confidence interval.

$$n = \frac{(Z_{\alpha/2})^2 (p)(1-p)}{d^2} \quad n = \frac{(1.96)^2 * (.516)(1-.516)}{0.05^2} = 383.6$$

Where n= sample size

Z = standard normal distribution value at 95 % CI which is 1.96,

p = proportion of perceived stress

d = Margin of error taken as 5 %.

In the record review the total number of health professionals was below 10,000. As a result, the sample size was corrected using the following formula

$$n = \frac{n_0}{\left(1 + \frac{n_0}{N}\right)} \quad n = \frac{384}{\left(1 + \frac{384}{418}\right)} = 200$$

Where, n= the final sample size and

N =the source population.

n_0 = the sample from an infinite population.

Considering non response rate 10%, the final sample size was

$$200 * 10/100 = 20 \text{ then } 20 + 200 = \mathbf{220}$$

3.3.3. Sampling technique

Stratified random sampling technique was used to identify each participants using random number generator after the sampling frame prepared. To get the respondents included in the sample during data collection, primarily required was checking the

registered total number of health workers who are working in the specified health institutions after that the researcher determined the proportional percentage of samples to be selected out of the total 220 through the formula;

$$n_i = (n)(N_i|N)$$

Where;

n_i = number of samples for facility i

n = total sample size

N_i = total number of health professionals working in i facility

N = total number of health professionals working in all health facilities

3.4. Data collection Tools

In order to measure variables of interest; coping styles and perceived stress the researcher adapted self-administered scales which has been used in prior studies.

3.4.1. Scale to measure coping styles

Coping styles used by health professionals was measured by Brief COPE scale designed by Carver (1997) which has been shown to be useful in health related researches. It consists of 28 items with two items for each sub-scales depicting different coping reactions those are adaptive and problematic. The scale is a four point Likert scale ranging from “not at all” to “very much” and showed relatively similar reliability test across studies with different language and has a proven content and construct validity.(Bai, Liu, Bo, & Zhang, 2020; Kapsou, Panayiotou, Kokkinos, & Demetriou, 2010).

The reliability score for each coping style scales in this study was; active coping .84, planning .74, positive reframing .72, acceptance .65, humor .76, religion .73, using emotional support .8, using instrumental support .85, self-distraction .65, denial

.68, venting .76, substance use .87, behavioral disengagement .81 and self-blaming .73 which is way better than the score recorded by original instrument developer even on scores $< .7$ in this study were better than the original one to which acceptance and denial were .57 and .54 consecutively.

Meanwhile, for scales with items less than 10 it might be difficult to get a favorable Chronbach score and taking this into consideration Briggs and Cheek (1986) claimed of reporting a mean inter-item correlation. Mean inter-item correlation less than .5 is claimed to be decent and it was checked for acceptance (.48), self-distracted (.48), and denial (.65).

Score of coping styles was calculated by adding two items under each style which gave a score ranging from two to eight. The researcher then standardize scores by dividing total score by the number of items ($n= 2$) which provided score of 1= “not at all” to 4= “very much” and the highest score tend to be understood as the most used coping style.

3.4.2. Scale to measure perceived stress

Perceived stress was measured by a 10 items scale named perceived stress scale-10 (PSS-10) developed by Cohen, Kamarck, and Mermelstein (1994) give a glimpse on which individuals perceived aspects of their life as uncontrollable, unpredictable and overloading in various population. Though it did not measure psychological consequences it can predict the risk of social anxiety, depressive and physical symptomatology, and having good reliability score ($\alpha= .85$), content and construct validity (Cohen, Kamarck, & Mermelstein, 1983).

The scale consisted four positively (4, 5, 7, 8) and six negatively stated questions which were then reversed, and four positively stated questions. The reliability score in

this study after reversing negatively worded items was .74 that is considered as acceptable score.

Score of perceived stress was computed by summing all 10 items that provide a score range of zero to 40 for which each health worker experienced within the past one month. Score of zero to 12 considered as low level of perceived stress, while moderate level of stress was in a range 13-19 and high level of stress ranging from 20-40 (M. A. Man et al., 2020).

3.4.3. Items to measure socio-demographic variables

This study consists of six socio-demographic variables; Age, Gender, Experience, Profession, Marital status, and educational status. Age and experience were measured by using one open-ended item which asks respondents to write their age and experience in years. Gender was also asked by using a categorical item that has categories of male and female. Marital status was also a categorical item that respondents fill what explains them from single, married, divorced, and widowed. Profession also used categories of nurse, midwife, pharmacy, laboratory technology, health officer, general practitioner, and others. The other variable educational status also was measured by using categories of diploma, degree, master, and, PhD and above.

All categories in each variable were selected based on the profession composition in each facility, educational requirements of professionals as FMOH recommendation, legally acknowledged marital status and, gender in the Ethiopian context.

3.5. Data Quality Management

In order to maintain the quality of data all the work has to be ensued right after identifying the research problem to be studied and it has to be looked for the overall

voyage to data entry and analysis. The researcher has classified this process in to three phases with all the possible low data quality alleviating mechanisms.

3.5.1. Pre data collection phase

The first phase named pre-data collection phase where pillars of data quality will conjure up to create a good opportunity to turn on rest of the process smooth. Measures were taken in adopting instruments by using clearly defined terms to bestow same meaning for all participants. Forward- backward translation was done as questionnaires were prepared first in English then translated to Amharic by one teacher who is graduate of English language and have been teaching English at vision Academy and then another teacher, who also work as English teacher at preparatory level translated the Amharic version back to English in order to look for its consistency with the original scale.

Recruitment of two data collectors and one supervisor was made based on their previous experience in data collection and conducting research. Both data collectors were graduates of BSc in Public Health while the supervisor has MPH in general Public Health, half day training about the objectives and process of the data collection by the principal investigator was held for both data collectors and supervisor.

The researcher conducted a pilot study to look on the functionality of both perceived stress and coping style instruments that conferred an opportunity to improve questions with ambiguity. A total of 30 participants were selected from kirstos Semra health center which is in the district but 30 Kilo meters away from Arerti town to combat contamination and their comments were considered to improve the final instrument that was used on the main research. The reliability score for coping styles ranged from .62 to .87 and perceived stress internal consistency was .72. For further information see (Annex 3).

3.5.2. Data collection phase

The second phase was data collection phase where review of completed survey was done to check completeness and pattern of answer and the data was considered invalid if greater than 20% of items are not responded and all the answers in the scale measurement are rated maximum or minimum, supervision of data collectors was there to look on their performance by evaluating rate of response and quality of completed questionnaires.

3.5.3. Data entry and analysis phase

The final phase data entry and analysis phase was denoted by coding; codes were given to the original document that is similar to the entered one which helped to ease the search when there is discrepancy or data entry error so that it can be corrected by referring the original copy, minimum and maximum values and missing values were also checked to look for entry errors.

3.6. Method of Data Analysis

Data from each questionnaire was entered and analyzed using SPSS version 20 statistical packages. In order to answer stated research questions the researcher conducted a series of descriptive and regression analysis.

3.6.1. Descriptive statistics

Demographic variables (age, gender, marital status, profession, years of experience and education), coping styles and perceived stress were described using statistical analysis such as frequency for categorical variables while mean and standard deviation for continuous variables.

3.6.2. Regression analysis

Bivariate and Multivariate logistic regression was used to discover the association between coping styles and socio demographic variables with perceived stress. As explained by Pallant (2016) it will allow to test models with a mix of categorical and continuous predictors to predict categorical outcome variables and bestow the predictive ability of each variables while controlling the effect of other predictor variables. Right before conducting the regression analysis the assumptions of multicollineality, outliers and number of cases in each categorical predictor was looked for violation of the assumption to conduct it and if there are misfit in the assumption some modifications will be done in order to proceed with the analysis.

3.7. Ethical Considerations

To conduct this study, ethical approval were sought from Research Ethical Committee of Addis Ababa University, college of education and behavioral studies and North Shoa zonal health bureau, Health Research and Emergency Management Department respectively and letters of support/permission were obtained in the study area. Informed consent was obtained from the participants, after providing information about the purpose, procedures, benefits, risks and confidentiality of the study. The right to refuse to answer any questions or stop the interview at any time was respected.

Chapter IV: Results

4.1. Socio-Demographic Characteristics

The questionnaires were distributed for 220 health workers working in seven health facilities and get returned from them all but three questionnaires were returned incomplete with >20% of items unfilled and the remaining one with extreme scores in all items of the scales which prompted disqualification and make the response rate 216 (98.2%).

From completed questionnaires of 216 participants (Male= 114, Female=102), the data showed that the mean age was 28.6 ± 5.09 SD with a minimum of 19 and maximum of 59 years. Of them 112 (51.9%) were married and in term of years of experience, the mean score was 5.33 ± 4.36 SD though 5 months was the minimum and 37 years the maximum. While looking on the profession of participants, 88 (40.7%) of them are Nurses, and thirty one participants do responded of having other profession (see Table 1).

Table 1: *Socio demographic characteristics of study participants (N=216).*

Variable	N	%
Sex		
Male	114	52.8
Female	102	47.2
Marital status		
Single	100	46.3
Married	112	51.9
Divorced	4	1.9
Profession		
Nurse	88	40.7
Midwifery	32	14.8
Pharmacy	25	11.6
Laboratory technology	21	9.7
Health officer	9	4.2
General practitioner	10	4.6
Other ^a	31	14.4
Education		
Diploma	105	48.6
Degree	105	48.6
Masters	6	2.8

^a **Reflects other health professionals such as Dentists, Anesthetists, Health informatics, psychiatrists, Integrated emergency surgeon, public health specialists, health extension workers, Environmental health officers, Bio-medical technician and Radiology**

4.2. Level of Perceived Stress among Health workers

The dependent variable in this study was perceived stress related to COVID-19 among health workers in Minjar Shenkora health facilities. Based on the purpose of this study the researcher categorized perceived level low to moderate and high.

The findings showed that 35 (16.2%) of respondents claimed of experiencing low level of stress 82 (38%) showed of having moderate level and the remaining 99 (45.8%) reported higher level of perceived stress on COVID-19.

4.3. Coping Styles Used by Health Workers

As shown in Table 2 below, out of the total of 216 respondents the most widely used coping styles are religion and acceptance with an average score of $3.329 \pm .751$ SD and $3.329 \pm .818$ SD subsequently while substance use ($1.155 \pm .494$ SD) was the least used.

Table 2: *Coping styles used by health workers working in Arerti town health facilities (N=216).*

Styles	M	SD
Acceptance	3.329	.651
Religion	3.329	.751
Planning	2.988	.793
Positive reframing	2.939	.818
Active coping	2.762	.799
Self-distraction	2.551	.931
Venting	2.317	.868
Emotional support	2.238	.902
Instrumental support	2.194	.873
Denial	1.544	.849
Behavioral disengagement	1.493	.806
Humor	1.456	.751
Self-blaming	1.412	.734
Substance use	1.155	.494

4.4. Socio-Demographic Characteristics and Coping Styles Associated with Perceived stress related with COVID-19

4.4.1. Bivariate logistic regression analysis

In order to run binary logistic regression assumptions were checked to see whether the data gathered fit or do not fit.

While looking on adequacy of sample size for each categorical variable the number of cases in each category was not enough for variables education, profession and marital status. In order to meet the assumption the researcher collapsed categories of marital status in to binary category single and non-single, education as diploma and Degree and above, and profession in to six categories named Nurse, Midwifery, Pharmacy, Laboratory, combined health officer and general practitioner and other.

Multicollinearity was checked by running collinearity diagnosis between 16 continuous independent variables which gives the lowest tolerance score of .243 and highest Variance inflation factor (VIF) score 4.12 which show multiple correlation between independent variables is low and fulfill the assumption.

While we look on whether there is a relationship between individual independent variables with outcome variable the result of bivariate logistic regression analysis showed profession, Instrumental support, humor, denial, venting, substance use, behavioral disengagement and self-blaming have relationship with high level of perceived stress (See Table 3).

Table 3: Binary logistic regression between socio-demographic characteristic, *coping styles on perceived stress (N=216)*.

Variable	B	SE	Wald	Df	OR	95% CI for OR	
						Lower	Upper
Age	-.010	.027	.133	1	.990	.939	1.044
Gender (Female)	.469	.275	2.909	1	1.599	.932	2.742
Marital status (Non single)	.063	.274	.052	1	1.065	.622	1.821
Profession							
Nurse			6.031	5			
Midwifery	.251	.415	.366	1	1.286	.570	2.901
Pharmacy	-.241	.456	.280	1	.786	.322	1.920
Laboratory technology	-.095	.486	.038	1	.909	.351	2.357
Health officers and General practitioners	-.539	.521	1.069	1	.583	.210	1.620
Other	-.894	.449	3.955	1	.409*	.170	.987
Education (Degree and above)	-.290	.274	1.119	1	.748	.438	1.280
Year of experience	.013	.031	.175	1	1.013	.953	1.078
Coping styles							
Active coping	-.263	.173	2.299	1	.769	.548	1.080
Planning	.034	.173	.039	1	1.035	.738	1.452
Positive reframing	-.001	.167	.000	1	.999	.719	1.387
Acceptance	-.178	.210	.719	1	.837	.554	1.264
Humor	.693	.208	11.13	1	2.00**	1.331	3.006
Religion	.015	.182	.007	1	1.015	.710	1.452
Emotional support	.113	.152	.551	1	1.119	.831	1.508
Instrumental support	.330	.160	4.255	1	1.391*	1.017	1.903
Self-distraction	.042	.147	.083	1	1.043	.782	1.392
Denial	.613	.174	12.41	1	1.85***	1.313	2.596
Venting	.628	.169	13.76	1	1.87***	1.345	2.611

Variable	B	SE	Wald	Df	OR	95% CI for OR	
						Lower	Lower
Substance use	1.390	.446	9.718	1	4.014**	1.675	9.616
Behavioral disengagement	.791	.196	16.22	1	2.21***	1.501	3.243
Self-blaming	.946	.226	17.52	1	2.58***	1.654	4.013

Note: OR= Odds Ratio, CI= Confidence Interval

*P<.05, **P<.01, ***P<.0001

4.4.2. Multivariable Logistic Regression Analysis

Based on the conceptual framework developed sequential logistic regression was performed to assess the effect of socio-demographic variables and coping styles as a model on the likelihood that respondents would report they had high stress. The model contained six socio-demographic variables (gender, Age, education, marital status, years of experience and profession) and 14 styles of coping.

Goodness of fit of the model was looked by including all socio-demographic and coping style variables bestowed Omnibus test of model coefficient <.01 and Homer and Lemeshow test p=.209 which is an indicator of a good model fit.

The first model, which contains all six socio-demographic predictors were not statistically significant in predicting high level of perceived stress despite having gender as a significant predictor while controlling other variables.

On the second model, addition of coping styles in block two modified the predictive ability of the model significantly while compared with variables in the first block, $\chi^2 (14, N=216) = 60.422, p < .0001$, with an addition of coping styles the full model was statistically significant, $\chi^2 (24, N=216) = 72.649, p < .0001$, indicating the model was able to distinguish between health workers who reported higher and low to moderate level of stress.

Of all independent variables, as opposed to bivariate analysis year of experience and gender showed significant relationship with high level of perceived stress while Humor, venting, behavioral disengagement and self-blaming predicted as in bivariate analysis and made a statistically significant contribution to the model. The strongest predictor of high level of perceived stress was self-blaming with an odds ratio of 2.33 indicating for every addition of one unit of self-blaming individuals were over two times more likely to perceive high level of stress while controlling for all other factors in the model (see table 4).

Table 4: *Sequential binary logistic regression to test predictive ability of socio-demographic variables and coping styles as a model on COVID-19 perceived stress level (N=216).*

Variable	Model 1					Model 2				
	B	P	OR	95% CI for OR		B	P	OR	95% CI for OR	
				Lower	Upper				Lower	Upper
Gender	.617	.045*	1.853	1.013	3.388	.768	.039*	2.156	1.039	4.474
Year of experience	.054	.397	1.056	.931	1.198	.207	.011*	1.245	1.052	1.474
Humor						.619	.026*	1.858	1.078	3.201
Venting						.650	.009**	1.915	1.172	3.128
Behavioral disengagement						.609	.012*	1.839	1.144	2.956
Self-blaming						.894	.006**	2.444	1.291	4.627
Constant	.111	.934	1.117			-1.108	.613	.330		
-2 Log likelihood	285.71					225.289				
X ²	12.227					60.422***				
Cox & Snell R square	5.5%					28.6%				
Nagelkerke R square	7.4%					38.2%				

Note. Only variables with significant values are included on this table; OR= Odds Ratio; CI= Confidence Interval

* $P < .05$, ** $P < .01$, *** $P < .0001$

Chapter V: Discussion

In this chapter the researcher tried to discuss finding from this study based on the research questions posed in comparison with available empirical and theoretical literatures.

5.1. Health Workers Perceived Stress related to COVID-19

The level of COVID-19 related perceived stress among health workers in Arerti town health facilities has been found to be 45.4% which is in line with the study conducted in Gedeo Zone governmental health institutions (Chekole et al., 2020), while A study in India, Colombia, Iraqi and ECOWAS countries showed 3.7%, 16.2%, 9.6%, and 10% respectively (Abdulah & Mohammed, 2020; Lamptey, 2020; Pedrozo-Pupo et al., 2020; Wilson et al., 2020).

The higher level of perceived stress related to COVID-19 among health professionals might not be expected at this moment as compared with early days of the outbreak because it has been over a year since the first case was reported and various promising scientific findings in terms of better understanding of the virus and vaccines with high efficacy are emerging day by day. The reason for higher prevalence can be as a response to fear to loss one's health which is according to Halbesleben et al. (2014) considered as resources; witnessing a sharp surge on the incidence of the disease, emerging of new highly infectious and deadly variants of the virus, having no drug has been found to cure, unavailability of the vaccine and still there are gaps in knowing the level of protection against new variant (WHO, 2021b). It can also be related with the working condition which is unsafe; long working hours, problems related with personal protective equipment (PPE) supplies, lack in induction of professionals that will be a threat to maintain their health and wellbeing (Abbas et

al., 2021), concerns associated with families health and social stigmas also might be contributory factors (Ramaci, Barattucci, Ledda, & Rapisarda, 2020; Tachè & Selye, 1985).

Method wise, possible explanation for such difference in level of perceived stress can be from inconsistencies in setting cut points; a study by Abdulah and Mohammed (2020) set a cut point above 27, Pedrozo-Pupo et al. (2020) took above 25, while others do not put it explicitly. But one can understand the combined moderate to higher perceived stress level is more or less close enough as it is 83.8% in this study, 81.7% in India (Wilson et al., 2020), 89% from a study by Lamptey (2020) which then see most participants might get in to moderate level by reporting a score from 20 to 27 while they will be in higher level on this study. Another point for this difference can be except the study by Chekole et al. (2020) all other studies were conducted web based which used non probability sampling technique that will leave a room for self-selection bias. In order to lower possible shortcoming in the validity of the result this study employed fairly enough sample size with random sampling to employ participants and the number of male to female ratio was equal, and it involved various health professionals working at health facilities.

5.2. Coping Styles Used by Health Workers

The major types of coping styles used by health workers in Arerti town health facilities are religion ($3.329 \pm .751$) and acceptance ($3.329 \pm .651$) while substance use ($1.155 \pm .494$) and self-blaming ($1.412 \pm .734$) were least used. Changeability of stressor is an important factor in appraisal of individuals on how to cope with the situation (Lazarus & Folkman, 1987), so do COVID-19 is preventable as one follow measures to impede transmission of the virus. If so, coping by making plan and following it is preferable and we expect individuals to gain mastery over the threat

through approaching and processing of relevant information (Krohne, 1989). Findings from this study go in line with the theory. In addition to that acceptance has been used widely which is recommended when the stressor cannot be changed easily and be accommodated (Lazarus & Folkman, 1991), the reason for that can be a change happened in unimaginable way and still there are emerging strains which are highly infectious and lethal that may endangered perceived controllability of the situation and leave an option for individuals to learn living with it and move on with life or it can be an ingredient for active coping since accepting the reality can be first step to engage in attempts to deal with the situation (Cohen et al., 1994). Religion also was the most widely used coping as it can serve as a function in anxiety reduction, means for intimacy with others, means for positive reinterpretation and growth, as source of active coping with stressors (Pargament, 2002). Possible explanation for being used highly can be religiosity orientation in the country as It has been claimed about 98% of Ethiopians consider religion as “very important” in their lives (Pew Research Center, 2018), and loosening of restriction in religious gathering by government despite surges in COVID-19 cases may have helped individuals to cultivate the fruits of religious lifestyle.

Finding from this study is In line with a study by (Munawar & Choudhry, 2020; Salman et al., 2020). While it is different from studies showing problem focused coping (active coping, planning, and instrumental support) was the most widely used (Cai et al., 2020; Huang et al., 2020). Possible explanation for differences in adopting different coping styles across can be from the notion that coping is a process to which individuals attempt in terms of thought and behavior by managing an internal and external demand of the situation in an effort to manage psychological stress (Lazarus & Folkman, 1987), which is prone to changes in time, resources a person has and

demand of the situation. As most of the studies were conducted earlier right after the outbreak eagerness to learn about the situation is expected in order to understand the demand of the event which will trigger problem focused coping mostly but as time go by people may change their coping style based on the outcome they cultivate; mastery over the threat or withdraw from information related to the threat (Lazarus, 1993; Lazarus & Folkman, 1991). In addition to that religiousness is declining in western and socialist countries like China and it can be shaped by cultural factors which will lower the use for religion as coping mechanism (Pargament, 2002) , and there were sanctions in religious gathering and movement restriction earlier which may diminished religious lifestyle.

Method wise there are differences witnessed which may bring difference from our study; most studies were conducted web-based, there is difference in proportion of health professionals across studies as individual difference do have effect in picking favored coping style (Tachè & Selye, 1985), used instrument by modifying Brief COPE in to only problem focused and emotion focused coping that will mask the contribution of each styles while others used only selected coping styles omitting religion and planning and one of the study used different instrument.

5.3. Association between Socio-Demographic Variables and Perceived Stress

From variables expected to have relation with perceived stress only gender and work experience showed a significant association with stress while age, profession, education and marital status do not have any association with perceived stress. Being female has association with higher level of stress (OR=2.16, P<.05) which is in agreement with previous studies (Abolfotouh, Almutairi, Ala'a, & Hussein, 2020; Babore et al., 2020; Halayem, Sayari, Cherif, Cheour, & Damak, 2020; Lamptey, 2020; Wilson et al., 2020). Possible explanations for female workers experiencing

high stress can be their inclination to perceive events as more negative and uncontrollable and are keen to use emotion focused and avoidant coping strategies (Longest & Thoits, 2012; Matud & García, 2019).

In line with previous studies (Abdulah & Mohammed, 2020; Chekole et al., 2020), work experience has association with perceived stress (OR=1.23, P<.05) but differ in the direction of relationship that they claim people with lower work experience are more stressed than those with higher experience due to lack of exposure to demanding stressful situations. Possible explanation for the finding, people with higher work experience are perceiving high level of stress can be related with the mediating effect of physical and emotional exhaustion that emanate from over work and carrying out tedious work for a longer period (Odonkor & Frimpong, 2020). The outbreak may make them more stressed and that may also lower their interest in using proactive strategies to overcome stressors they face in their life (Duli, 2016). There are also studies with findings of no association with stress (Maraqa et al., 2020; Wilson et al., 2020), which calls for further studies in future to uncover the relationship between them.

Age was not significant factor in this study unlike previous studies (Abdulah & Mohammed, 2020; Halayem et al., 2020; Lamptey, 2020), which claimed that age has protective effect on perception of stress on health workers. Possible reasons for the difference in result can be the timeliness of study as the above three studies were conducted within two months after the outbreak while this study was a year after. Taking that in to consideration, according to strength and vulnerability integration model which dictate that ageing increase the frequency and success for use of attentional, appraisal and behavioral emotion regulation strategies but this age-related

advantage wane through time as the exposure to stressor became persistent (Charles, 2010) and finding of this study is consistent with it.

In terms of educational status and occupation there was no significant difference in perceiving COVID-19 stress in contrast with other studies (Chekole et al., 2020; Lamptey, 2020). This difference can be from the time each study conducted; both studies were conducted during an initial stage of COVID-19 when little was known about the virus. This study was conducted a year after outbreak with good progress in scientific finding about the virus which will give all health professionals to acquaint themselves with those findings and also as they are working on management of cases with the virus there will be a room to learn from each other and get regular trainings from responsible authority.

The variable marital status was not matched with the finding from Lamptey (2020) claiming being single is significant predictor while a finding by Babore et al. (2020) was similar with this study. Likely explanations for indifference for perception of stress in relation to marriage can be from presence of various individual, demographic and relationship characteristics such as gender, age, value and marital quality moderating the effect (Williams, Frech, & Carlson, 2010) and in support to it Pieh, O'Rourke, Budimir, and Probst (2020) showed there is no difference in COVID-19 perceived stress in relation to marital status mediated by relationship quality. In addition to that this indifference can also be the result from health workers fear to infect their family (Abolfotouh et al., 2020; Cai et al., 2020; Kumar et al., 2020).

5.4. Association between Coping Styles and Perceived Stress Level

Among 14 coping styles, humor (OR=1.86, P<.05), venting (OR=1.92, P<.01), behavioral disengagement (OR=1.84, P<.05) and self-blaming (OR=2.44, P<.01) independently showed significant association with high level of perceived stress.

Coping is a thought and behavior individuals employ in order to meet the internal external demand and according to Lazarus and Folkman (1991) we cannot isolate any coping strategy as good or bad since its effectiveness will only be determined by a given event and its effect in longer term. And coping function in terms of changing person-environment relationship (problem-focused) or regulating the emotional distress (emotion-focused) (Lazarus & Folkman, 1987). Taking that in to consideration Biggs, Brough, and Drummond (2017) denoted that emotion focused and avoidance strategies may help initially to avoid stress but through continued vulnerability their benefit will get fed as it disconnect from the problem and will minimize the desire to address stressors. Finding from this study is consistent with this concept as emotion-focused strategies (humor, venting, behavioral disengagement and self-blaming) showed effect on perceived stress.

Though used highly by health workers and was expected to buffer the effect of stressor when it is appraised as changeable (Lazarus & Folkman, 1987), problem focused coping strategies (active coping, planning and instrumental support) do not affect perceived stress. Possible reason for that can be the dynamicity of coping in response to failure of previous effort and new information from the environment which will result in more disturbances (Biggs et al., 2017). Another explanation for that can be problem focused coping styles will not be effective in alleviating stress without measures like infection prevention and safety, staff support and recognition and clear communication taken at workplace (Chew, Wei, Vasoo, & Sim, 2020). So, we can claim it can be related with failure in work place measures.

Emotion focused (denial, substance use, positive reframing, acceptance, religion, emotional support and self-distraction) coping styles do not show significant association with perceived stress. Plausible explanation for religious coping can be

from difference in problem solving styles individuals use through it. Pargament et al. (1988) claimed there are three styles to which individuals cope religiously; working as partner with God (collaborative), relying on God given resource to direct own life (self-directing) and wait for solution from God (deferring) and studies showed that self-directing styles were less predictors of positive psychological outcomes (Bickel et al., 1998; Yangarber-Hicks, 2004). The reason self-distraction do not elicit relationship with perceived stress might be related with the motivation behind. Some individuals prefer to use it as temporarily to replenish resources which can aid in future coping (positive reframing) which has positive effect in managing stress while others can prefer negative distraction by disengaging from stressor and deny it which has an aggravating role on stress (Shing, 2016; Tsaur & Tang, 2012).

Similarly, emotional support do not showed significant association which can be attributed to from whom individuals are getting support. It has been claimed that emotional support from peoples who are intimate and similar others who pass the same situation is best predictor of coping success when compared with others as close families will have good understanding of individuals and will elicit greater commitment and those similar others can address all needs (Kloos, Hill, Thomas, Wandersman, & Elias, 2011; Thoits, 1995). Acceptance and denial which are opposite as a coping style may get insignificant due to the chronicity, visibility and the burden it gives to health workers may made difficult to deny it. Beside that considering individuals use various coping styles at a time (Folkman & Lazarus, 1980), health workers who used acceptance can think of real occurrence of the event and then can engage in other coping strategies which will avert the stressor or else keep on thinking there is no active ways of coping (Carver, Scheier, & Weintraub, 1989). The reason that substance use does not have significant effect on perceived stress also can be

related with the mediating role of culture both in stress and coping as it will provide resources to cope and feedback from others will have an effect (Dar, 2017), so that can be the cause for substance uses to be the least used coping style with minimum SD.

In accord with previously conducted studies this study is in agreement with some studies with respect to certain coping styles like humor (Savitsky et al., 2020), venting, behavioral disengagement, and self-blaming (Babore et al., 2020), and there are difference in styles like avoidant strategies were positively related with perceived stress (Besirli et al., 2021; Halayem et al., 2020; Man, Toma, & Motoc, 2020). Those differences can be explained by the role culture plays in effectiveness of certain coping styles (Folkman & Moskowitz, 2004; Knight & Sayegh, 2010), and also the time difference in which each study conducted as there are certain kind of coping styles which will work at initial stage and lose their effect in the long term (Lazarus & Folkman, 1987, 1991). And there are differences in instruments used to measure coping styles.

Chapter VI: Summary, Conclusion and Recommendation

Based on the result gained and discussions made earlier this section contains conclusion about this study, limitations and recommendations for those working in this area.

5.1. Summary

Based on the research questions posed to be answered this study this study used cross-sectional study design. To make judgment of the research questions simple descriptive statistics and binary logistic regression were used.

The finding showed that the prevalence of perceived stress related to COVID-19 was 45.8%. Acceptance and religion were most widely used coping styles among health workers and from. Sequential binary logistic regression depicted Gender, years of experience, humor, venting, Behavioral-disengagement and self-blaming have significant association.

5.2. Conclusion

This study has four objectives to be met: determine level of perceived stress experienced on COVID-19, coping styles used to manage the stressful event and which factors from socio-demographic variables and coping styles used do predict stress level on health workers in Arerti town health facilities, Minjar Shenkora district.

The level of perceived stress among health workers in Arerti town considered as high. This means health workers are feeling and thinking in relation with COVID-19, they are finding it uncontrollable, unpredictable and overloaded their life became. In contrary it imply, health workers are not looking for their personal resources such as

belief, self-esteem, mastery, sense of control and optimism being enough to meet with the demand from external environment.

Health workers are using religion and acceptance as their prior coping styles ahead of problem-focused coping; active coping, planning and Instrumental support. This means that due to the chronicity of the problem they preferred emotion focused coping more so that they can only deal with the feeling which accompany stressor. Opposed to that, it imply health workers are less keen to approach the stressor by making plan and follow that plan and moreover, there is lesser inclination to cope it with avoidance strategy; denial, self-blaming, positive reframing, behavioral disengagement, venting and substance use.

Gender and years of work experience were significant predictors in determining the level of stress perceived. It showed that being female and working for a longer time has effect in perceiving the uncontrollability, unpredictability and overloaded the situation make their life. In contrary, it implies that being less experienced and male can help in shaping the feeling and though one have about the stressor. Various studies also claimed individuals with specific socio demographic factor will have increased vulnerability than others and should have to be considered meticulously.

Addressing the fourth objective, the result revealed coping styles such as humor, venting, behavioral disengagement and self-blaming affect perceived stress. This means that health workers who cope with higher level of humor, venting, behavioral disengagement, and self-blame find the situation more unpredictable and uncontrollable. As opposed to that, it implies health workers with less use of humor, venting, behavioral disengagement, and self-blame are better in perceiving the situation as less stressful. Numerous studies and theories claimed the more we use

avoidant strategies to the stressor the higher we will be distracted and fail to solve troubled person-environment relationship.

5.2. Recommendations

Based on the finding from this study the researcher recommend health workers to resolve stress related with COVID-19 through using coping styles other than humor, venting, behavioral disengagement and self-blaming since such coping styles are focused more on managing the emotion related with stressor not the problem. In addition to that females and health workers with higher years of experience should have to manage their stress level related with the disease. The level of stress can be lowered by having a good understanding about the pathophysiology of the disease. So, one can learn it can be prevented by taking protective measures without hesitation, talking to peoples who knows more about the disease, try to look how they can learn from the situation through giving meaning, and seeking for psychological support as much as possible before the situation gets complicated

Health care facilities, Zonal and regional health bureaus have to be aware the level of stress among health workers is factor for health workers to deal with their daily tasks. As perceived stress can predict the risk of social anxiety, depressive and physical symptomatology there is a chance significant amount of health workers might get into distress. So, they are recommended to bring on favorable environment by taking proactive measures like considering employment of professionals who will provide psychological support, design and provide trainings about coping and stress, and lower the work burden on experienced health workers.

This study has contradicting findings with prior studies in terms of the role of socio- demographic variables on perceived stress and why certain type of coping

styles failed to affect perceived stress which need further studies. The researcher recommends future studies to be conducted to uncover that and look for time effect of stress and coping by taking this study as baseline. Additionally, with this level of stress after a year of outbreak can be significant to look for consequences emerge related to high level of perceived stress.

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Annexes

Annex 1. Survey Questionnaire English Version

Dear respondents I am a student at Addis Ababa University doing research for partial fulfillment of MA degree in social psychology. The main purpose of the study is to assess perceived stress and coping styles on Coronavirus Disease-2019 among health professionals working in health facilities of Arerti town. To realize this purpose your honest and genuine participation is very important and highly appreciated. I, therefore, kindly request you to fill this questionnaire as accurately and carefully as possible. Please be assured that all the information gathered will be kept strictly confidential and you do not need to write your name on any part of the questionnaire. Only the investigator has the access of the information and used it for the study purpose only. Your Participation in this study do not involve any direct risk or benefit, rather it will help to identify stress level that health professionals experiences related to COVID-19 and the way they attempt to employ coping styles to manage their stress. It may take approximately 20 to 30 minutes to complete the questioner. Your participation is voluntary and you can choose to decline to answer any questions you are not comfortable with.

Thank you for your assistance and cooperation!

I. Socio-demographic data

1. Age in years: _____

2. Gender: Male Female

3. Marital Status:

Single Married Divorced Widowed

4. Profession

Nurse Midwifery Pharmacist Laboratory technology

Health officer General practitioner Other

(specify).....

5. Education Status:

Diploma Degree Masters PhD and above

6. Years of experience: _____ years

II. Questions on COVID-19 coping strategies used

After reading the questions below please circle the number from alternatives that you believe will answer the question appropriately.

1-Not at all 2-A little bit 3-Medium amount 4-Very much

No	Statements				
Active coping					
1	I am concentrating my efforts on doing something about the situation I am in.	1	2	3	4
2	I am taking action to try to make the situation better.	1	2	3	4
Planning					

3	I am trying to come up with a strategy about what to do.	1	2	3	4
4	I am thinking hard about what steps to take.	1	2	3	4
Positive reframing					
5	I am trying to see it in a different light, to make it seem more positive.	1	2	3	4
6	I am looking for something good in what is happening	1	2	3	4
Acceptance					
7	I am accepting the reality of the fact that it has happened.	1	2	3	4
8	I am learning to live with it.	1	2	3	4
Humor					
9	I am making jokes about it.	1	2	3	4
10	I am making fun of the situation.	1	2	3	4
Religion					
11	I am trying to find comfort in my religion or spiritual beliefs.	1	2	3	4
12	I am praying or meditating.	1	2	3	4
Using emotional support					
13	I am getting emotional support from others	1	2	3	4
14	I am getting comfort and understanding from someone.	1	2	3	4
Using instrumental support					
15	I am trying to get advice or help from other people about what to do.	1	2	3	4
16	I am getting help and advice from other people.	1	2	3	4
Self-distraction					
17	I am turning to work or other activities to take my mind off	1	2	3	4

	things.				
18	I am doing something to think about it less, such as watching TV. reading, daydreaming or sleeping	1	2	3	4
Denial					
19	I am been saying to myself “this isn't real.”	1	2	3	4
20	I am refusing to believe that it has happened.	1	2	3	4
Venting					
21	I am saying things to let my unpleasant feelings escape.	1	2	3	4
22	I am expressing my negative feelings.	1	2	3	4
Substance use					
23	I am using alcohol or other drugs to make myself feel better.	1	2	3	4
24	I am using alcohol or other drugs to help me get through it.	1	2	3	4
Behavioral disengagement					
25	I am giving up trying to deal with it.	1	2	3	4
26	I am giving up the attempt to cope.	1	2	3	4
Self-blame					
27	I am criticizing myself.	1	2	3	4
28	I am blaming myself for things that happened.	1	2	3	4

III. Questions related to COVID-19 Perceived stress

After reading the questions below please circle one number from alternatives that you believe will answer the question appropriately.

0- Never 1- Almost never 2-Sometimes 3- Fairly often 4- Very often

No	Questions					
In the last month related to COVID-19,						
1	How often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2	How often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3	How often have you felt nervous and “stressed”?	0	1	2	3	4
4	How often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5	How often have you felt that things were going your way?	0	1	2	3	4
6	How often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7	How often have you been able to control irritations in your life?	0	1	2	3	4
8	How often have you felt that you were on top of things?	0	1	2	3	4
9	How often have you been angered because of things that were outside of your control?	0	1	2	3	4
10	How often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Annex 2: Survey Questionnaire Amharic Version

የዳሰሳ ጥናት

ውድ የጥናቱ ተሳታፊዎች እኔ በአዲስ አበባ ዩኒቨርሲቲ በማህበራዊ ሳይኮሎጂ የሁለተኛ ዲግሪን ለማጠናቀቅ ጥናት የማድረግ ተማሪ ስሆን፤ የጥናቱ ዋና ዓላማ በአረርቲ ከተማ ጤና ተቋማት ውስጥ በሚሰሩ የጤና ባለሙያዎች መካከል በኮሮና ቫይረስ በሽታ ዙሪያ የታዩ ስነልቦናዊ ጭንቀት እና እየተጠቀሙ ያለውን ውጥረቱን የመቋቋሚያ ዘይቤዎችን ለመለየት ነው ። ይህንን ዓላማ እውን ለማድረግ የእርስዎ ቅን እና እውነተኛ ተሳትፎ በጣም አስፈላጊ ስለሆነ ይህንን መጠይቅ በተቻለ መጠን በትክክል እና በጥንቃቄ እንድትሞሉ በአክብሮት እጠይቃለሁ። የተሰበሰቡት መረጃዎች በሙሉ በሚስጥር እንደሚጠበቁ እና በማንኛውም መጠይቅ ክፍል ላይ ስምዎን መጻፍ እንደማያስፈልግ ብሎም ከአጥኚው በስተቀር ለማንም እካል እንደማይሰጡ እሳውቃለሁ። በዚህ ጥናት ውስጥ ተሳታፊ በመሆንዎ በቀጥታ የሚስገኝልዎት ጥቅምም ሆነ ጉዳት የለውም ግን ከኮሮና ቫይረስ በሽታ ጋር የተዛመዱ የጤና ባለሙያዎች የሚያጋጥሟቸውን የጭንቀት ደረጃ እና ጭንቀታቸውን ለመቆጣጠር የሚረዱ ዘዴዎችን ለመለየት ያግዛል ። ጥያቄዎቹን ለማጠናቀቅ ከ 20 እስከ 30 ደቂቃዎች ሊወስድ ይችላል ። ተሳትፎዎ በፈቃደኝነት ላይ የሚመሰረት ሲሆን የማይመችዎትን ማንኛውንም ጥያቄ አለመመለስ ይችላሉ ።

ስለ እርዳታዎ እና ትብብርዎ እናመሰግናለን!

የጤና ተቋሙ ስም.....

I. አጠቃላይ መረጃዎች

1. እድሜ: _____ አመት

2. ጾታ: ወንድ ሴት

3. የጋብቻ ሁኔታ:

ያላገባ/ች ያገባ/ች የተፋታ/ች የትዳር አጋር የሞተበት/ባት

4. ሙያ

ነርስ ሚድዋይፈር ፋርማሲስት ላቦራቶሪ ቴክኖሎጂ

ጤና መኮንን ጠቅላላ ሀኪም ሌላ (ይገለጽ.....)

5. የትምህርት ሁኔታ:

ዲፕሎማ ዲግሪ ሁለተኛ ዲግሪ ሶስተኛ ዲግሪ እና ከዛ በላይ

6. የስራ ልምድ: _____ አመት

II. የኮሮና ህመም ጫናን ለመቋቋም የምንጠቀማቸውን ዘዴዎች በተመለከተ ጥያቄዎች

ከዚህ ቀጥሎ ያሉትን ጥያቄዎች በማንበብ በትይዩ ካሉት አማራጭ ቁጥሮች መካከል ጥያቄውን

ይመልሳል ብለው የሚያስቡትን አንዱን ብቻ ያክብቡልን።

1-በጭራሽ 2-በጥቂቱ 3- መካከለኛ 4-እጅግ በጣም

ተ.ቁ	አረፍተነገሮች				
ከኮሮና ቫይረስ ወረርሽኝ ጋር በተገናኘ፤					
1	አሁን ያለሁበትን ሁኔታ የሚያሻሽሉ ጥረቶች ላይ ትኩረት አድርጌያለሁ።	1	2	3	4
2	ሁኔታውን የሚያሻሽሉ ተግባራትን እያከናወንኩ ነው።	1	2	3	4
3	ምን ማድረግ እንዳለብኝ መላ እየፈለግኩ ነው።	1	2	3	4
4	መውሰድ ስላሉብኝ እርምጃዎች በጥልቀት አስባለሁ።	1	2	3	4
5	የበለጠ አዎንታዊ እንዲመስል ለማድረግ የሁኔታውን ጥሩ ጎን ለማየት እየሞከርኩ ነው።	1	2	3	4
6	በሁኔታው ውስጥ ያሉ መልካም ነገሮችን እየተመለከትኩ ነው።	1	2	3	4
7	ሁኔታው እንደተከሰተ እውነታውን እየተቀበልኩ ነው።	1	2	3	4
8	ከሁኔታው ጋር መኖርን እየተማርኩ ነው።	1	2	3	4
9	ስለሁኔታው ቀልዶችን ለመፍጠር እየሞከርኩ ነው።	1	2	3	4

10	በሁኔታው ላይ እየቀረጠው ነው።	1	2	3	4
11	በሃይማኖት ወይም መንፈሳዊ እምነት መፅናናትን ለማግኘት እየሞከረው ነው።	1	2	3	4
12	እየጸለይኩ ወይም እየሰላሰልኩ ነው።	1	2	3	4
13	ከሌሎች ስሜትን የሚያበረታ ድጋፍ እያገኘሁ ነው።	1	2	3	4
14	ከሰው ማፅናናትን እና መረዳትን እያገኘሁ ነው።	1	2	3	4
15	ምን ማድረግ እንዳለብኝ ከሌሎች ሰዎች ምክር ወይም እርዳታ ለማግኘት እየሞከረኩ ነው።	1	2	3	4
16	ከሰዎች እርዳታ እና ምክር እያገኘሁ ነው።	1	2	3	4
17	ነገሮችን ከአእምሮዬ ለማስወገድ ወደ ሥራ ወይም ወደ ሌሎች ተግባራት እየዘረኩ ነው።	1	2	3	4
18	ስለሁኔታው ላለማሰብ እንደ ቴሌቪዥን ማየት፣ ማንበብ፣ መልካም ነገርን ማለም ወይም መተኛት የመሰለውን እያደረግሁ ነው።	1	2	3	4
19	ለራሴ "ይህ እውነት አይደለም" ብዬ እየነገርኩት ነው።	1	2	3	4
20	ሁኔታው ተከስቷል ብሎ ለማመን ፈቃደኛ አይደለሁም።	1	2	3	4
21	ደስ የማይሉ ስሜቶቼን ለማስወገድ ከውስጤ በመናገር እያወጣሁ ነው።	1	2	3	4
22	አሉታዊ ስሜቶቼን እየገለፅኩ ነው።	1	2	3	4
23	ጥሩ ስሜት እንዲሰማኝ አልኮል ወይም ሌሎች አደንዛዥ እጾችን እጠቀማለሁ።	1	2	3	4
24	አልኮልን ወይም አደንዛዥ እጾችን መጠቀሜ ሁኔታውን እንዳልፍ ይረዳኛል	1	2	3	4
25	ሁኔታውን ለመቋቋም በማድረግ ጥረት ተስፋ እየቆረጥኩ ነው።	1	2	3	4
26	ሁኔታውን ለመቋቋም የማድረግውን ሙከራ እየተውኩ ነው።	1	2	3	4
27	ስለ ሁኔታው እራሴን እወቅሳለሁ።	1	2	3	4
28	ስለተፈጠረው ነገር እራሴን እየነቀፍኩ ነው።	1	2	3	4

III. ከኮሮና ጋር በተገናኘ ከሚታየው ጭንቀት ጋር የተያያዙ ጥያቄዎች

ከዚህ ቀጥሎ ያሉትን ጥያቄዎች በማንበብ በትይዩ ካሉት አማራጭ ቁጥሮች መካከል ጥያቄውን ይመልሳል ብለው የሚያስቡትን አንዱን ብቻ ያክብቡልን።

0- በጭራሽ 1- መቼም 2- አንዳንዴ 3- በተደጋጋሚ 4- በጣም በተደጋጋሚ

ተ.ቁ	ጥያቄዎች					
ባለፈው 1 ወር ውስጥ ከኮሮና ቫይረስ ወረርሽኝ ጋር በተያያዘ						
1	ባልተጠበቀ ሁኔታ በተከሰተ ነገር ምን ያህል ጊዜ ተበሳጭተዋል?	0	1	2	3	4
2	በሕይወትዎ ውስጥ አስፈላጊ የሚሏቸውን ነገሮችን መቆጣጠር ባለመቻልዎ ምን ያህል ጊዜ ተሰማዎት?	0	1	2	3	4
3	ምን ያህል ጊዜ የመረበሽ ስሜት እና “ጭንቀት” ተሰምቶዎታል?	0	1	2	3	4
4	የግል ችግሮችዎን ስለመቋቋም ችሎታዎ ምን ያህል ጊዜ በራስ መተማመን ይሰማዎታል?	0	1	2	3	4
5	ነገሮች እንዳሰቡት እየሄዱ እንደሆነ ምን ያህል ጊዜ ተሰምቶዎታል?	0	1	2	3	4
6	ማድረግ ያለብዎትን ነገሮች ሁሉ መከወን አለመቻልዎን ምን ያህል ጊዜ ተገንዝበዋል?	0	1	2	3	4
7	በህይወትዎ በሚገጥምዎት ነገር ቁጣዎትን መቆጣጠር ምን ያህል ችለዋል?	0	1	2	3	4
8	ከነገሮች ሁሉ በላይ እንደሆኑ ምን ያህል ይሰማዎታል	0	1	2	3	4
9	ከቁጥጥርዎ ውጭ በሆነ ነገር ምክንያት ምን ያህል ጊዜ ተቆጥተዋል?	0	1	2	3	4
10	ችግሮች ተከማችተው ከፍተኛ ሆነው እነሱን ማሸነፍ አልቻልዎ የሚል ስሜት ምን ያህል ጊዜ ተሰምቶዎታል?	0	1	2	3	4

Annex 3: Table Summaries of Pilot Test

Venue and time: Kirstos Semra Health Center Vicinity in each Participants office, 7/4/2021.

Table 1: *Socio demographic statistics of pilot test participants (N=30)*

Variable	N	%
Sex		
Male	14	46.7
Female	16	53.3
Age		
Minimum	20	
Average	30.1	
Maximum	59	
Marital status		
Single	13	43.3
Married	16	53.3
Divorced	1	3.3
Years of experience		
Minimum	5	
Average	6.88	
Maximum	37	
Profession		
Nurse	17	56.7
Midwifery	3	10.0
Pharmacy	3	10.0
Laboratory technology	2	6.7
Health officer	1	3.3
Other	4	13.3
Education		
Diploma	16	53.3
Degree	14	46.7

Table 2: *Statistics of internal consistency*

Variables	No of Item	M	SD	Mean Inter-item Correlation	Chronbach's alpha	Chronbach's alpha based on Standardized items
Active coping	2	4.8	1.472	.746	.849	.854
Planning	2	5.5	1.697	.697	.821	.821
Positive reframing	2	5.87	1.592	.557	.701	.715
Acceptance	2	6.43	1.771	.45	.607	.621
Humor	2	3.1	1.729	.654	.79	.791
Religion	2	6.43	3.013	.639	.778	.78
Emotional support	2	4.13	1.814	.854	.918	.921
Instrumental support	2	4.2	3.269	.796	.886	.886
Self-Destruction	2	4.93	1.856	.487	.653	.655
Denial	2	3	1.838	.737	.818	.849
Venting	2	4.6	1.94	.752	.858	.858
Substance use	2	2.47	1.166	.908	.949	.952
Behavioral disengagement	2	3.1	1.647	.775	.861	.873
Self-blaming	2	3.13	1.697	.869	.93	.93
Perceived stress	10	19.2	6.537	.196	.72	.71