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ORIGINAL RESEARCH

COVID-19-Related Anxiety and the Coping Strategies in the Southeast Ethiopia

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Background: The pandemic of coronavirus disease spreading is impacting mental health globally. Even though the pandemic is challenging for patients, the community, policy-makers, as well as health organizations, and teams, the data on COVID-19 and its association with anxiety and coping mechanisms towards infection among community members are currently limited. Thus, the study is intended to assess COVID-19-related levels of anxiety and coping strategies among community members of Bale and East Bale Zones, Southeast Ethiopia.

Methods: A community-based survey was carried out among 634 study participants of Bale and East Bale Zones from June 1 to 20, 2020. The level of anxiety was determined by using the 5-item Coronavirus Scale and the coping strategies were determined by using the 15-item Coping and Adaptation Processing Scale. Interviewer-administered questionnaires were used to collect the data. Bi-variable analysis and multiple logistic regression analysis were used to estimate the relationship among the variables.

Results: COVID-19-related dysfunctional level of anxiety was found 95 (16.58%). About 290 (50.6%) respondents were copied from anxiety that occurred as a result of COVID-19. Factors significantly associated with the dysfunctional level of anxiety related to COVID-19 were being an urban resident (AOR = 0.44, 95% CI: 0.23, 0.86), those who had no information from TV/radio (AOR=1.76, 95% CI: 1.09, 2.84), and walking a long distance more than 1 hour from the health institution (AOR=0.58, 95% CI: 0.34, 0.97).

Conclusion: COVID-19-related dysfunctional levels of anxiety were 16.58% in the study community. Half of the community was coped with COVID-19-related anxiety. Being an urban resident and walking along distances more than 1 hour from the health facility were the factors that decreased the odds of having a dysfunctional anxiety, whereas respondents who had no information from TV/radio increased the odds of having a dysfunctional anxiety. Accordingly, focusing on these identified factors could improve a dysfunctional level of anxiety in the study community.

Keywords: level of anxiety, coping strategies, COVID-19, Bale Zone, East Bale Zone Ethiopia

Background

A novel Coronavirus disease (COVID-19) outbreak caused by 2019-nCoV started in China[1,2] and it has been pandemic globally.[3]

The pandemic of the COVID-19 spreading is impacting mental health globally. People affected by the disease and their close contact with a sudden outbreak of the disease always pose a threat to mental health. Anxiety, depression, anger, and other

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psychological problems are higher among confirmed patients, suspected patients, medical, and related personnel, as well as close contacts with patients.

The absence of face-to-face communication and other regular social interventions during the epidemic outbreak results in stressful conditions.[4,5] Being alone also results in the feeling of loneliness and anger.[6] Adjustment disorder and post-traumatic stress disorder can be developed due to these short-term effects.[7]

Globally, many preventive measures have been taken. These include restriction of movement, stay at home, and closure of the school, and other social services that lead to increased anxiety among the society.[8,9] It has been indicated that the increasing number of patients and suspected cases, as well as the increasing number of provinces and countries affected by the outbreak, have elicited public worry about being infected in this outbreak, which has increased anxiety.[10]

However, nobody is sure when the disease will be under control. The unpredictability of the current crisis and being alone for indefinite periods results in a stressful situation for Ethiopian people. Common mental health problems like anxiety can be increased in stressful situations.[11]

Inappropriate information regarding the COVID-19 epidemic on social media may also lead to a suicide attempt.[12] A psychiatric intervention follow-up was delivered by the mental health team coping with the outbreak, as suggested by the occurrence of high mortality infectious disease outbreaks.[13]

Apart from the primary source of anxiety that is COVID-19, there may be secondary sources like fear of the scarcity of resources, fear of losing a beloved person, fear of lack of social support, and others.[14] These psychological difficulties to cope with the current situation are aggravated with the extreme measures taken by the Governments of different countries to decrease the virus spread, especially by keeping people in quarantine.

To the best of our knowledge, the mental health of the general population living in Ethiopia during the COVID-19 pandemic is unknown. Accordingly, it is critical that public health decision-makers, health authorities, and health care providers across disciplines understand how health anxiety will influence responses to viral outbreaks, including current responses to COVID-19.

Research examining COVID-19-related level of anxiety and coping strategies due to the epidemic disease is limited, hence, knowing these processes may inform the treatment and prevention of anxiety,[15] which is associated with increased costs for health and results in reducing the quality of life.[16]

It is also necessary that the detailed mental health status of the community during the epidemic should be collected for the following purposes. To evaluate the mental situation of the community during the epidemic: to provide a theoretical basis for psychological interventions with the community, and to provide a basis for the promulgation of national and governmental policies. There is a paucity of data on COVID-19-related levels of anxiety and coping strategies in the community. Thus, this study is aimed to assess COVID-19-related levels of anxiety and coping strategies in the communities of Bale and East Bale Zone.

Methods

Study Area and Participants

The community-based cross-sectional study involving 634 participants was done in the community of the Bale and East Bale Zones, during June 2020. The Bale Zones are found in Oromia Regional State and are located at about 430 km and 570 km in the Southeast of the capital city, Addis Ababa, respectively. The Bale Zone has 12 woredas and 2 administrative towns. East Bale Zone has 10 woredas and 1 administrative town. The study was conducted in Bale and East-Bale zones because climatic conditions of Bale and East-Bale zones include Dega (high land and cold), Woinadega (midland and temperate), and Kola (low land and hot) woredas, which is also a university research attachment area.

Population and Eligibility Criteria

The source population consisted of all residents of the Bale and East Bale Zones. The study population was drawn from the entire population of 22 kebeles by multistage random sampling. All people over the age of 18 were included in the study, except for those who were critically ill, unable to communicate, or had changes in consciousness level or mental problems.

Sample Size Determination

Because there is a paucity of research on the subject, the sample size was determined using a single population proportion formula with the assumptions of a 95% level of confidence in the study, a 5% margin of error, and a proportion (p)=50%. A design effect of 1.5 and a non-

response rate of 10% were also taken into account. We used design effect 1.5 since we assumed the community was homogeneous.[17,18]

Sampling Procedures

Five woredas and one administrative town were selected randomly from 22 woredas and 3 administrative towns. Then, 22 Kebeles were randomly selected from selected administrative towns and woredas. For each selected kebeles (small administrative unit), households were identified through census and the sampling frame was developed. Finally, the study participants were addressed through simple random sampling by using a sampling frame developed. One participant from each selected household was selected randomly (if there are two or more).

Operational Definition

Dysfunctional level of anxiety: According to the corona anxiety scale (CAS), if respondents scored 9 and above.[19]

Coped– According to the coping and adaptation process scale (CAPS), if respondents scored 38 and above

Instruments and Data Collection Methods

Data were collected by interviewing participants using structured interviewer-administered questionnaires. The questionnaire includes tools used to assess socio-demographic characteristics and evaluate the level of COVID-19-related anxiety in the preceding two weeks, which were adopted from the Coronavirus Anxiety Scale and coping strategies measured using the Coping and Adaptation Processing Scale. Demographic variables included were age, gender, marital status, role in family, educational level, occupation, average monthly income, house ownership, chronic illnesses, distance from the health facility, current place of residency, and source of information regarding COVID-19. The questionnaires were developed in English and translated into the local language for appropriateness and easiness in approaching the study subjects and back-translated to English by a language expert to check its consistency. The questionnaires were pretested on 5% of the sample size in kebeles different from those selected sub-kebeles for the study before actual data collection. Based on the findings of the pretest, valuable amendments were done. Using corrected questionnaires, house-to-house data collection was done. The data were collected by six BSc health science graduates and three masters of public health (MPH) professionals who supervised the data collection process. The training was given to the assigned data collectors and supervisors about the assessment tools to maintain data quality.

Coronavirus Anxiety scale is a collection of 20 candidate items that were developed based on the psychology of fear and anxiety literature.[20] Each item was written to capture a distinct manifestation of this type of anxiety. Each item was scored on a 5-point scale to represent the frequency of the symptoms over the previous two weeks, ranging from 0 (never) to 4 (nearly every day), and the total score was calculated by adding the scores for each of the responses.[19]

In the current study, the CAS has good internal consistency reliability (Cronbach's alpha =0.696)

The Coping and Adaptation Processing Scale: Short Form is a 15-item instrument that encapsulates the CAPS long form's original concepts (47 items). The CAPS Short Form employs a Likert scale with response options ranging from 4 (always) to 1 (never) (never). Each CAPS item is a brief statement about how a person reacts to a crisis or a particularly traumatic event. Total scores are obtained by adding the numeric responses on each item, with a range of 60 to 15, with a high score suggesting more consistent use of the defined coping strategies (coped).[21]

In the current study, the CAPS has strong internal consistency reliability (Cronbach's alpha=0.799)

Data Management and Analysis

At each stage of data management, the collected questionnaires were reviewed for completeness and accuracy. Epidata version 3.1 was used to enter data, which was then exported to Stata version 14.1 for analysis. Data cleaning was carried out to ensure precision, consistency, and the absence of missing values and variables. The proportion of COVID-19-related anxiety and coping strategy was calculated using descriptive analysis. Frequency tables and percentages were used as descriptive statistics. Bivariate analysis was used to see which variables have an individual relationship with the dependent variable. In the multiple logistic regression analysis, variables with a p-value of less than 0.25 in binary logistic regression were included.

The technique was ENTER method. To identify statistically significant variables, a 0.05 p-value was used as a cut-off point. The model's goodness was calculated by

Table 1 Showing Socio-Demographic Characteristics of the Study Participants in the Communities of Bale and East Bale Zone, Southeast Ethiopia, 2020 (n=573)

Variables	Category	Frequency (n)	Percent (%)
Age of respondents in years	<25 years	129	22.5
	25–34 years	213	37.2
	35–44 years	105	18.3
	>44 years	126	22.0
Gender of respondents	Male	383	66.8
	Female	190	33.2
Residence of respondents	Rural	453	79.1
	Urban	120	20.9
Level of education of respondents	No formal education	145	25.3
	Primary education(grade 1–8)	227	39.6
	Secondary school(grade 9–12)	125	21.8
	Collage and above(grade 12+)	76	13.3
Average monthly income in ETB	<500	96	16.8
	500–1499	191	33.3
	1500–2500	110	19.2
	>2500	176	30.7
Occupation of respondents	Governmental employ	70	12.2
	NGO employ	27	4.7
	Private worker	111	19.4
	Farmer	347	60.6
	Other	18	3.1
Marital status of respondents	Married	439	76.6
	Single	117	20.4
	Divorced/widowed	17	3.0
Role in family of respondents	Father/Mother	449	78.4
	Son	93	16.2
	Daughter	31	5.4
chronic illnesses	Yes	500	87.3
	No	73	12.7
House ownership	Yes	151	26.4
	No	422	73.6
Distance from health Facility	Near to health facility	374	65.3
	Long distance >1 hour	199	34.7

(*Continued*)

Table 1 (Continued).

Variables	Category	Frequency (n)	Percent (%)
Substance use of respondents	Yes	188	32.8
	No	385	67.2
Information from Religious leader	Yes	112	19.5
	No	461	80.5
Information from radio/ TV	Yes	397	69.3
	No	176	30.7
Information from Social media	Yes	160	27.9
	No	413	72.1
Information from Health Worker	Yes	46	8.0
	N0	527	92.0
Information from Announcement	Yes	49	8.5
	No	524	91.5

Abbreviation: ETB, Ethiopian Birr

evaluating whether the necessary assumptions for the application of multivariable logistic regression were met, as well as whether the model appropriately matched the data (Hosmer and Lemeshow test, P-value = 0.30) and multicollinearity was assessed.

Ethical Consideration

Madda Walabu University's Ethical Review Committee provided ethical clearance and approval. Letter of permission was secured from Bale and East Bale Zones Health Department office. Verbal informed consent was obtained from each study participant and the Madda Walabu University Ethical Review Committee has approved it, and the research was carried out in compliance with the Declaration of Helsinki.

According to this declaration verbal consent was also possible when there were uneducated people. Since some of the respondents had no formal education verbal consent was taken and documented. Anonymity and confidentiality were guaranteed. The participants were made aware that their participation was entirely voluntary. During the interview, data collectors and study participants used sanitizers, masks, and maintained a two-meter distance to prevent the risk of COVID-19.

Results

Socio-Demographic Characteristic of Participants

A total of 573 respondents have participated in the study with a response rate of 90.4%. About 213 (37.2%) of the respondents were aged from 25 to 34 years. Primary education (grade 1 to 8) account for the highest proportion which was 227 (39.6%) followed by no formal education (25.3%). Four hundred fifty-three (79.10%) of the respondents were rural residents. Four hundred and thirty-nine (76.60%) of the respondents were married (Table 1).

Level of COVID-19-Related Anxiety in the Community Members

A dysfunctional level of anxiety related to COVID-19 among study participants was 95 (16.58%). The proportion of respondents with a dysfunctional level of anxiety was 20.93% among those under the age of 25, and 11% among those aged 44 and above with a p-value of 0.26. Dysfunctional level of anxiety was almost similar among the sex groups which were 62 (16.19%), 33 (17.37%) among males and females, respectively, and with a p-value of 0.72.

Table 2 Responses of Participants for the Anxiety 5 Questionnaire Among Community of Bale Zones, Southeast Ethiopia, 2020 (n=573)

Items	Not at All N (%)	Rare, Less Than a Day or Two, N (%)	Several Days N (%)	More Than 7 Day, N (%)	Nearly Every Day Over the Last 2 Weeks, N (%)
Felt dizzy, lightheaded, or faint, when you read or listened to news about the Corona virus	236 (41.2)	207 (36.1)	37 (6.5)	11 (1.9)	84 (14.3)
Have trouble of falling or staying asleep because you were thinking about the Corona virus	217 (37.9)	233 (40.7)	53 (9.3)	18 (3.1)	52 (9.0)
felt paralyzed or frozen when I thought about or was exposed to information about the corona virus	44 (7.7)	224 (39.1)	91 (15.9)	31 (5.4)	183 (31.9)
lost interest in eating when I thought about or was exposed to information about the corona virus	321 (56.0)	170 (29.7)	43 (7.5)	12 (2.1)	27 (4.7)
I felt nauseous or had stomach Problems when I thought about or was exposed to information about the corona virus.	463 (80.8)	64 (11.2)	23 (4.0)	10 (1.8)	13 (2.2)

Concerning anxiety about the coronavirus during the past two weeks, prior to data collection; about half (54.6%) of the participants spent several days feeling elevated anxiety. In our study, over the last 2 weeks prior to data collection, about 31.9% of the study participants had felt paralyzed or frozen nearly every day, while 15.9% of participants had felt paralyzed or frozen for several days. The participants had felt dizzy, lightheaded, or faint 14.3% nearly every day over the last 2 weeks, more than 7 days 1.9%, and several day 6.5% (Table 2).

Coping Strategies Towards COVID-19-Related Anxiety Among the Community Members

About half, 290 (50.6%) respondents coped with anxiety that occurred as a result of COVID-19. The proportion of study participants who coped with anxiety due to COVID-19 were 216 (47.68%) in rural and 74 (61.67%) in urban. Respondents who have chronic illness coped from anxiety related to COVID-19 were 38 (52.05%) and the remaining variables are explained in Table 3. Findings of the current study reveal that 75.5% and 18.9% of study participants had tended to lie sick in bed always and medium amount, respectively (Table 4).

Factors Associated with the Level of COVID-19-Related Anxiety Among Community Members

In the multivariable logistic model, residence (p=0.017), distance from the health facility (p=0.037), and source of information from TV/radio (p=0.020) were statistically significant variables (Table 5).

The odds of having a dysfunctional level of anxiety among study participants of the urban resident were 56% less likely (AOR= 0.44, 95% CI: 0.23, 0.86) as compared to rural residents. Those respondents who have no information from TV/radio-related COVID-19 had 1.76 times (AOR=1.76, 95% CI: 1.09, 2.84) higher odds of having dysfunctional anxiety than their counterpart. The odds of having dysfunctional anxiety was reduced by 42% (AOR=0.58,95% CI:0.34, 0.97) in respondents walking long distance of more than 1 hour as compared to those residing near a health facility.

Discussion

This study aimed to assess levels of anxiety and coping strategies in the communities of Bale Zone and East Bale

Table 3 Copying Strategies from Anxiety Due to COVID-19 in Relation to the Socio-Demographic Characteristics of Respondents Among Communities of Bale Zones, Southeast Ethiopia,2020 (n=573)

Variables	Category	Coping Strategies	
		Coped Frequency (%)	**No coped Frequency** (%)
Age of respondents	<25	64(49.61)	65(50.39)
	25–34	115 (53.99)	98 (46.01)
	35–44	55 (52.38)	50 (47.62)
	>44	56 (44.44)	70 (55.56)
Gender	Male	198 (51.70)	185 (48.30)
	Female	92 (48.42)	98 (51.58)
Residence	Rural	216 (47.68)	237 (52.32)
	Urban	74 (61.67)	46 (38.33)
Level of education	No formal education	59 (40.69)	86 (59.31)
	primary education (1–8)	106 (46.70)	121 (53.30)
	Secondary school (9–12)	66 (52.80)	59 (47.20)
	Collage and above (12+)	59 (77.63)	17 (22.37)
Average monthly income ETB	<500	38 (39.58)	58 (60.42)
	500–1499	82 (42.93)	109 (57.07)
	1500–2500	59 (53.64)	51 (46.36)
	>2500	111 (63.07)	65 (36.93)
Occupation	Governmental employ	53 (75.71)	17 (24.29)
	NGO employ	20 (74.07)	7 (25.9)
	Private worker	62 (55.86)	49 (44.14)
	Farmer	144 (41.50)	203 (58.50)
	Other	11 (61.11)	7 (38.89)
Marital status	Married	219 (49.89)	220 (50.11)
	Single	64 (54.70)	53 (45.30)
	Divorced/widowed	7 (41.18)	10 (58.82)
Role in the family	Father/Mother	219 (48.78)	230 (51.22)
	Son	54 (58.06)	39 (41.94)
	Daughter	17 (54.84)	14 (45.160
chronic illnesses	Yes	38 (52.05)	35 (47.95)
	No	252 (50.40)	248 (49.60)
House ownership	Yes	211 (50.00)	211 (50.00)
	No	79 (52.32)	72 (47.68)

(*Continued*)

Table 3 (Continued).

Variables	Category	Coping Strategies	
		Coped Frequency (%)	**No coped Frequency** (%)
Distance from health Facility	Near to health facility	220 (58.82)	154 (41.18)
	Long distance >1 hour	70 (35.18)	129 (64.82)
Substance use	Yes	94 (50.00)	94 (50)
	No	196 (51.00)	189 (49.09)
Information from Religious leader	Yes	42 (37.50)	70 (62.500)
	No	248 (53.80)	213 (46.20)
Information from radio/ TV	Yes	200 (50.38)	197(49.62)
	No	90 (51.14)	86 (48.86)
Information from Social media	Yes	95 (59.38)	65 (40.63)
	No	195 (47.22)	218 (52.78)
Information from Health Worker	Yes	17 (36.96)	29 (63.04)
	N0	273 (51.80)	254 (48.20)
Information from Announcement	Yes	25 (51.02)	24 (48.98)
	No	265 (50.57)	259 (49.43)

Zone, Southeast Ethiopia. According to the findings of the current study 16.58% (95CI: 13.8%, 19.9%) of the study participants had dysfunctional anxiety related to COVID-19. This study is in line with the findings of the study conducted in Singapore (14.5%).[22]

These rates of prevalence are lower than those reported from China (70.78%), (22.6%), (25%),[5,23,24] and (28.8%).[25] This might be the reason why the Tang F et al study conducted in China was among quarantined respondents, in which mental health was worse in the quarantined area than in un-quarantined areas, and deteriorated most in the quarantined unaffected areas, depression and anxiety were common mental health problems among people in quarantine. In addition to this, the continuous spread of the epidemic, strict isolation measures, and delays in starting schools, colleges, and universities across the country is expected to influence the mental health of college students. College students' anxiety about COVID-19 might have been related to the effect of the virus on their studies[26] and future employment.[24]

On the other hand, the students' anxiety may have been caused by the gradually increasing distances between people resulting from the quarantine. It is known that anxiety disorders are more likely to occur and worsen in the absence of interpersonal communication.[27] Furthermore, during the COVID-19 outbreak, disinformation and false reports about the COVID-19 have bombarded social media and stoked unfounded fears among many citizens, which may confuse people and harm people's mental health.[28] Also, many citizens expressed their negative feelings, such as fear, worry, nervousness, and anxiety.

According to the finding of our study, about half 50.6% (95CI: 46.5%, 54.7%) of study participants were coped with anxiety related to COVID-19, this may be more of the study participants are from the rural part which did not have enough knowledge (understanding) and lacks reliable information or facts related to COVID-19.

Multivariable logistic regression analysis showed that those respondents who had no information from TV/radio-related COVID-19 had 1.76 times higher

Table 4 Respondents Coping Strategies from Anxiety Due to COVID-19 Among Communities of Bale Zones, Southeast Ethiopia, 2020 (n=573)

Items	Never N (%)	A Little Bit N (%)	A Medium Amount, N (%)	Always N (%)
Can you follow a lot of directions at once, even in a crisis	138 (24.1)	334 (58.3)	49 (8.6)	52 (9.1)
Did you call the problem what it is and try to see the whole picture	95 (16.6)	295 (51.5)	89 (15.5)	94 (16.4)
Did you gather as much information as possible to increase my options	45 (7.8)	233 (40.7)	96 (16.8)	199 (34.7)
Generally try to make everything work in my favor	53 (9.3)	309 (53.9)	94 (16.4)	117 (20.4)
Can think of nothing else, except what's bothering me	69 (12.0)	84 (14.7)	217 (37.9)	203 (35.4)
Try to get more resources to deal with the situation	86 (15.0)	303 (52.8)	92 (16.1)	92 (16.1)
Use humor in handling the situation	38 (6.6)	321 (56.0)	100 (17.5)	114 (19.9)
Can solve problems more effectively under stress	71 (12.4)	339 (59.2)	79 (13.7)	84 (14.7)
Take strength from spirituality or the successes of courageous people	36 (6.3)	168 (29.3)	112 (19.6)	257 (44.8)
Can benefit from my past experiences for what is happening now	90 (15.7)	311 (54.3)	100 (17.5)	72 (12.5)
Try to be creative and come up with a new solution	256 (44.7)	223 (38.9)	59 (10.3)	35 (6.1)
Brainstorm as many possible solutions as I can even if they seem far out	228 (39.8)	230 (40.1)	45 (7.9)	70 (12.2)
Tend to lie sick in bed	13 (2.3)	19 (3.3)	108 (18.9)	433 (75.5)
Give up easily too often	32 (5.6)	35 (6.1)	170 (29.7)	336 (58.6)
Develop a plan with a series of actions to deal with the event	178 (31.0)	267 (46.6)	68 (11.9)	60 (10.5)

odds of having dysfunctional anxiety than their counterparts. Unexpectedly, these findings indicated more dysfunctional anxiety among study participants who had no information from TV/radio regardingCOVID-19. This finding contradicts to the previous study, where social media exposures were associated with higher anxiety.[29] This could be justified as evidence showed that during a severe social change due to pandemic, there is usually a high need for information and sense seeking by individuals and the mass media are generally perceived to best satisfy these needs.[30] In particular, the general public depend closely on the media to obtain information regarding pandemic guidance to the public on the response. One of the reasons why people usually need more information in the context of pandemic time is to reduce the anxiety caused by uncertainty in the pandemic time.[31,32] Research indicated that in the pandemic/epidemic time, uncertainty and uncontrollable feelings were positively related to anxiety.[33] In addition to this lack of household electric broadcast facilities, such as TV or radio, may hinder them to have the real information such as its severity, way of transmission, and how to prevent pandemic because much of communication by government and health agencies is done via

Table 5 Factors Associated with Level of Anxiety Due to COVID-19 Among Community of Bale Zones, Southeast Ethiopia, 2020

Variables	Category	Level of Anxiety		COR(95% CI)	AOR(95% CI)
		Dysfunctional	No Dysfunctional		
Age of respondents	<25 years	27 (20.93)	102 (79.07)	1.00	1.00
	25–34 years	37 (17.37)	176 (82.63)	0.794 (0.46,1.38)	0.82 (0.44, 1.51)
	35–44 years	16 (15.24)	89 (84.76)	0.68 (0.34, 1.34)	0.62 (0.29, 1.34)
	>44 years	15 (11.90)	111 (88.10)	0.51 (0.26 1.01)	0.46 (0.21, 1.03)
Gender	Male	62 (16.19)	321 (83.81)	1.00	
	Female	33 (17.37)	157 (82.63)	1.09 (0.68,1.73)	
Residence	Rural	81 (17.88)	372 (82.12)	1.00	1.00
	Urban	14 (11.67)	106 (88.33)	0.61 (0.33,1.11)	**0.44 (0.23,0.86)****
Level of Education	No formal education	24 (16.55)	121 (83.45)	1.69 (0.72,3.96)	2.17 (0.85, 5.49)
	Primary (1–8)	35 (15.42)	192 (84.58)	1.55 (0.68,3.51)	1.65 (0.71, 3.86)
	Secondary (9–12)	28 (22.40)	97 (77.60)	**2.45 (1.05,5.71)***	2.22 (0.91, 5.45)
	Collage and above(12+)	8 (10.53)	68 (89.47)	1.00	1.00
Average monthly income ETB	<500	14 (14.58)	82 (85.42)	0.94 (0.47, 1.89)	
	500–1499	33 (17.28)	158 (82.72)	1.15 (0.66, 2.01)	
	1500–2500	21 (19.09)	89 (80.91)	1.30 (0.70, 2.44)	
	>2500	27 (15.34)	149 (84.66)	1.00	
Occupation	Governmental employ	11 (15.71)	59 (84.29)	1.00	
	NGO employ	2 (7.41)	25 (92.59)	0.42 (0.09, 2.08)	
	Private worker	18 (16.22)	93 (83.78)	1.04 (0.46, 2.35)	
	Farmer	62 (17.87)	285 (82.13)	1.17 (0.58, 2.35)	
	Other	2 (11.11)	16 (88.89)	0.67 (0.13, 3.34)	
Marital status	Married	70 (15.95)	369 (84.05)	1.00	
	Single	22 (18.80)	95 (81.20)	1.22 (0.72, 2.07)	
	Divorced/widowed	3 (17.65)	14 (82.35)	1.13 (0.32, 4.03)	

Role in the family	Father/Mother	73 (16.26)	376 (83.74)	0.81 (0.32, 2.04)	
	Son	16 (17.20)	77 (82.80)	0.87 (0.31, 2.45)	
	Daughter	6 (19.35)	25 (80.65)	1.00	
Chronic illnesses	Yes	12 (16.44)	61 (83.56)	0.99 (0.51, 1.92)	
	No	83 (16.60)	417 (83.40)	1.00	
House ownership	Yes	73 (17.30)	349 (82.70)	1.00	
	No	22 (14.57)	129 (85.43)	0.82 (0.49, 1.37)	
Distance from health Facility	Near to health facility	68 (18.18)	306 (81.82)	1.00	1.00
	Long distance >1 hour	27 (13.57)	172 (86.43)	0.71 (0.44, 1.15)	**0.58 (0.34,0.97)****
Substance use	Yes	36 (19.15)	152 (80.85)	1.31 (0.83, 2.07)	1.40 (0.87, 2.25)
	No	59 (15.32)	326 (84.68)	1.00	1.00
Information from Religious leader	Yes	18 (16.07)	94 (83.93)	1.00	
	No	77 (16.70)	384 (83.30)	1.05 (0.59,1.83)	
Information from radio/ TV	Yes	57 (14.36)	340 (85.64)	1.00	1.00
	No	38 (21.59)	138 (78.41)	**1.64 (1.04,2.59***	**1.76 (1.09,2.84)****
information from Social media	Yes	22 (13.75)	138 (86.25)	1.00	
	No	73 (17.68)	340 (82.32)	1.35 (0.80, 2.26)	
Information from Health Worker	Yes	5 (10.87)	41 (89.13)	1.00	
	No	90 (17.08)	437 (82.92)	1.69 (0.65, 4.39)	
Information from Announcement	Yes	8 (16.33)	41 (83.67)	1.00	
	No	87 (16.60)	437 (83.40)	1.02 (0.46, 2.25)	

Notes: * statically significant in bi-variable;**statistically significant in multivariable.
Abbreviations: AOR, Adjusted Odd Ratio; CI, Confidence Interval; COR, Crude Odd Ratio 1.00, Reference group

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mass media. The source of information for these people is mainly simple talks and saying from persons in the community. Even anxiety might not be only regarding the pandemic, it may also relate with thinking from where to acquire the right information.

Study participants from urban residents were less likely to have dysfunctional anxiety by 56% as compared to study participants from rural residents. This finding is similar to a study conducted in China.[24] The possible reason for these could be that urban residents are relatively more educated, economically improved, have better information from media, accessible infrastructure, and improved technologies.

Walking a long distance of more than 1 hour from the health facility was significantly associated with a lower risk of dysfunctional anxiety by 42% than those residing near the health facility. This might be due to those respondents who are near the health facility frequently hearing about the risk of transmission of this contagious disease and may have information about those suspected, confirmed cases, and deaths related to COVID-19 which in turn may increase the level of dysfunctional anxiety. In addition to this, anxiety-related factors like the exposure to close contacts with those COVID-19 exposed individuals also aggravate their psychological problems.[34]

Limitation of Study

The cross-sectional design of this study precludes drawing conclusions regarding causality or temporal precedence. Employing tools that use self-reported data to assess the severity of symptoms of anxiety-related COVID-19 and the frequency of usage of a coping strategy.

Conclusion

Findings from the current study revealed that about one out of six of the study participants had COVID-19-related dysfunctional anxiety and nearly half of them coped with COVID-19-related anxiety. Residence, distance from health facility, and information from radio/TV were statistically significant variables to COVID-19-related dysfunctional level of anxiety among the study community. Accordingly, being an urban dweller and walking a long distance of more than 1 hour from the health facility were the factors that decreased the odds of having dysfunctional anxiety, whereas respondents who had no information from radio/TV increased the odds of having dysfunctional anxiety-related COVID-19. It is good if the concerned health programmer gives priority in rural areas to disseminate reliable, scientifically supported, and timely information for the community regarding pandemic COVID-19. It is also better if the concerned body considers factors identified in this study and puts them into action. It is also recommended that health workers frequently create awareness about COVID-19, which may have a multiplier effect to decrease the dysfunctional levels of anxiety and increase coping in the community.

Abbreviations

AOR, Adjusted Odd Ratio; CAS, Corona Anxiety Scale; CAPS, Coping and Adaptation Process Scale; CI, Confidence Interval; COR, Crude Odd Ratio; COVID, Coronavirus Disease.

Data Sharing Statement

The datasets used and analyzed during the current study are available from the corresponding authors on reasonable request.

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Author Contributions

All authors made substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; agreed to submit to the current journal; gave final approval for the version to be published; and agreed to be accountable for all aspects of the work.

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Disclosure

The authors declare that there are no competing interests.

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