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Misconceptions About COVID-19 and Associated Factors Among Residents of Dilla Town, Southern Ethiopia

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Original Research

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Abstract

Background: Despite the implementation of various coronavirus disease 2019 (COVID-19) prevention and control strategies, the rate of COVID-19 is alarmingly increasing in Ethiopia as well as worldwide. The success of COVID-19 prevention measures is highly influenced by a lack of knowledge and misconceptions. This study aimed to assess misconceptions about COVID-19 and associated factors among residents of Dilla Town, southern Ethiopia.

Methods: A community-based cross-sectional study was conducted from December 1 to 30, 2020. Data were collected from 415 individuals using structured interviewer-based questionnaires. Logistic regression analyses were used to identify the relationship between the dependent and independent variables.

Results: The proportion of respondents who have a high misconception about COVID-19 was 41.1%. Study participants who had poor knowledge were 2.1 (95% confidence interval [CI]: 1.1-3.8) times more likely to have a misconception about COVID-19 than their counterparts. Respondents who had access to information from more than 2 sources were 3.29 (with 95% CI: 1.2-9.2) times less likely to have a misconception about COVID-19 when compared with those who had access to 2 or fewer information sources.

Conclusions: A significant proportion of people have misconceptions about COVID-19 in the study area. To resolve these misconceptions, health sectors and stakeholders need to improve the residents' knowledge by delivering COVID-19–related information from credible sources on a routine basis.

Coronavirus disease 2019 (COVID-19) is a global public health problem as declared by the World Health Organization (WHO) on March 11, 2020.[1] Globally, more than 84 million people have contracted the virus and around 1.9 million have died after 1 y of its occurrence.[2] Soon after the first case of COVID-19 was confirmed in Ethiopia in March 2020, the government announced measures such as mandatory quarantine periods for all travelers, restrictions on public gatherings, school closures, mandatory wearing of face masks in public places, and fewer passengers on public transport to contain the spread of the virus.[3] Despite the deployment of the above-mentioned prevention measures, a total of 123,388 confirmed cases and 1923 deaths had been reported by December 30, 2020, in Ethiopia.[2,4]

The success of preventive measures against the COVID-19 pandemic is highly dependent on public knowledge and the beliefs of the communities.[5,6] Various theories and models describe the potential influences of an individual's perceptions, beliefs, and attitudes toward behaviors, which are also applicable to COVID-19 control and prevention. For instance, both socio-cultural theory[7] and cognitive theorists[8] place a strong emphasis on how beliefs and attitudes influence the acquisition of behavior. Similarly, The Health Belief Model[9] shows individuals' perception of health problems influences their likelihood of practicing healthy behavior. Thus, people may disregard the prescribed preventive measures, such as the compulsory wearing of face masks in public places, maintaining physical distance, regular hand washing with soap or alcoholic-based agents, and so on, due to their misconceptions about the virus.

Since the inception of the pandemic of COVID-19, various misconceptions regarding the virus have been conveyed through the media and word of mouth.[10,11] The COVID-19–related misconceptions spread quicker than evidence-based information from numerous sources, which the WHO describes as "myth busters."[12] The COVID-19–related misconceptions have multiple dimensions, including the virus's true presence, its geographical distribution, susceptible population, and prevention and treatment options, particularly in Africa, including Ethiopia.[10,13,14] Among those misconceptions, "exposure to the sun or high temperatures prevents the virus,[15]" "drinking alcohol protects you against the COVID-19 pandemic,[14]" "the virus cannot be spread in places with hot and humid weather,[14]" "the virus can be killed by religious

hymns,[16]" and " young and healthy people do not need to take precautions against the virus[10,13]" are common.

The myths and incorrect information that have been conveyed in society could lead to malpractices regarding the COVID-19 pandemic,[17] which could have consequences for health problems, economic problems, and social problems. Obviously, failing to take COVID-19 prevention measures creates enormous threats to virtually all sectors, including health, the economy, transportation, education, agriculture, religion, politics, security, etc.[13] As a result, misconceptions have an impact on both short- and long-term COVID-19 prevention and control efforts.[18] To prevent the spread of the virus, it is critical to focus on measures such as awareness creation to debunk COVID-19–related misperceptions and incorrect belief misinformation.[18,19] There are limited community-based investigations regarding COVID-19–related misconceptions in Ethiopia. Hence, assessing the level of residents' COVID-19–related misconceptions and associated factors is crucial to halting COVID-19 transmission and its consequences.

Methods

Study Area and Period

A community-based cross-sectional study design was done from December 1 to 30, 2020. The survey was conducted at 4 randomly selected kebeles (smallest administrative unit) out of 9 kebeles in Dilla Town, southern Ethiopia. Dilla Town is 1 of the 2 city administrations in the Gedeo zone, which is at a distance of 365 km from the capital city, Addis Ababa. The total population of the town is 99,067, of which 52,034 are females and the rest, 47,033, are males.[20] Until during data collection (December 30, 2020), there were more than 116 confirmed cases of COVID-19 with a 100% cure rate, and there was 1 COVID-19 center and 1 quarantine and treatment center.

Population

The study was conducted on the individuals who were selected from all the populations found in the selected kebeles. Randomly selected individuals who were family members of systematically selected households were included in the study. Individuals who lived in the selected kebeles for more than 6 months and individuals over the age of 18 y were included in the study. Individuals who were seriously ill and who were not available during the time of data collection after 2 visits were excluded from the study.

Sample Size Determination

The sample size was determined by using a single population proportion formula by considering the following statistical assumptions: Z = 95% confidence interval (CI); P = proportion of community misconception about COVID-19, which is 56.9% in Gondar Town[15]; d = 5% margin of error. Using the following single proportion formula:

$$n = \frac{(z\dot{\alpha}/2)^2 \mathrm{P} \times (1 - \mathrm{P}),}{\mathrm{d}^2}$$

Where: n = initial sample size,

$n = \frac{(1.96)^2 \times 0.569(1-0.569)}{(0.05)^2} = 377$, by considering a 10% nonresponse rate;

The total sample size was calculated as: $n = 377 + 377*10/100 = 415$.

Sampling Technique

Four of 9 kebeles in Dilla Town were randomly selected, and then the sample size was distributed to the selected kebeles based on their respective number of households. After the sample size was distributed, a systematic random sampling technique using sampling fraction (K) was used to select the households from the selected kebeles. The sampling interval K was determined by dividing the number of households in all selected kebeles ($n = 10337$) by the sample size ($n = 415$), which was 10337/415 = 25. Therefore, households were selected at an interval of every 25 houses. Finally, 1 individual older than 18 y old who was selected using simple random sampling by the lottery method was interviewed from each selected household.

Study Variables

The dependent variable of this study is misconception about COVID-19, whereas the independent variables are socio-demographic variables (age, gender, religion, educational level, marital status, occupational status, and income), knowledge questions, information exposure, self-perceived health status (health condition), and confirmed COVID-19 history.

Data Collection Tools and Measures

The data were collected using a structured questionnaire, which was prepared from a WHO document on myths about COVID-19[12,21] and similar previous studies.[15,22–24] The questionnaire comprised 33 items that fell into the following 6 sections: socio-demographic characteristics (9 items), information access (3 items), perceived health condition (2 items), confirmed COVID-19 history (2 items), knowledge about COVID-19 (7 items), and COVID-19 related misconceptions (10 items). The respondent's knowledge, which focuses on the cause, mode of transmission, main clinical symptoms, and preventive measures, was assessed using "yes/no" and "list-answer" questions. Each correct response gets a score of 1, and each incorrect response receives a score of 0. The items were summed up to form a total knowledge score ranging from 0 to 7, with higher scores indicating greater knowledge.

A dependent variable (the respondents' COVID-19 misconceptions) was assessed using a 3-point scale, ranging from agree (1), no opinion (2), and disagree (3). The consistency between the items of misconception about COVID-19 was tested by using Cronbach's alpha test, which resulted in an acceptable range (0.729). Before recoding and summing up, the responses to the first question, which is an affirmative question, were reversed. Respondents' level of misconception was assessed using dichotomizing of the responses by recoding "agree" and "no opinion" to "1" and "disagree" to "0". The "Agree and No opinion" responses were categorized into the same category because respondents who did not disagree with incorrect questions about COVID-19 obviously had misconceptions about COVID-19. The items were summed up to form a total misconception score ranging from 0 to 10, with higher scores indicating higher misconception. Finally, respondents who scored greater than or equal to 8 were categorized as having high misconceptions, whereas those who answered below 8 were categorized as having low misconceptions.

Operational Definitions

Misconception

A widely held view or opinion on COVID-19 that lacks scientific foundation due to a flaw in thinking or understanding about the disease.[25] Participants who scored 8 or above on misconception

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questions were coded as having high misconceptions based on adapted and modified Bloom's cutoff points.[26]

Knowledge

Participants who scored 4 or more knowledge questions correctly were coded as having "good knowledge", while those who scored below 4 were considered to have "poor knowledge".

Data Collection Procedures and Quality Management

The prepared questionnaire was translated into the Amharic language and back to English by the selected Amharic and English language experts. For the data quality control, the questionnaire was checked and pretested on 21 (5% of the total sample size) individuals before the actual data collection. A total of 20 data collectors with health backgrounds were involved in data collection. Intensive training was given on the objective of the study, the data collection instruments, and data collection procedures for data collectors. The data collectors followed recommended COVID-19 prevention measures like wearing a face mask, avoiding hand shaking, and keeping a distance from respondents during face-to-face interviews. The overall data collection process was strictly followed by the supervisors and principal investigators. The data were checked for completeness and consistency of the collected information on a daily basis by supervisors and principal investigators.

Data Processing and Analysis

Data entry, cleaning, and analysis were carried out by using SPSS version 20 software. Before the analysis, data cleaning was conducted by replacing missing values and removing and/or correcting irrelevant and outlier data accordingly. The data were checked for autocorrelation using the Durbin Watson value, which is 1.902, and analysis of variance (ANOVA) ($F = 4.38$, $p < 0.001$), which shows almost no autocorrelation among variables. The assumptions of logistic regression (model adequacy and multicollinearity of the independent variables) were checked using appropriate methods. The absence of multi-collinearity was checked by the variance inflation factor (VIF). Model adequacy was checked by using the Hosmer and Lemeshow goodness of fit test. The data were summarized and presented using frequency, percentage, median, mean, and standard deviation in the form of text, tables, and figures. A chi-squared test was done to assess the difference between multidimensional COVID-19–related misconceptions (using 10 items) by socio-demographic variables. Bivariable and multivariable logistic regression was used to test for associations between dependent and independent variables. A candidate variable with a *P*-value <0.25 at 95% CI in bivariable logistic regression was selected for multivariable analysis. In multivariable analysis, a *P*-value of less than 0.05 was considered statistically significant.

Results

A total of 415 respondents participated in the study, with a 100% response rate. The respondents' average age was 32.3 (±10.67) y, and 252 (60.7%) were in the age group of 20-29 y. Of the total, 212 (51.9%) were females, 257 (61.9%) were married, 136 (32.8%) were government employees, and 264 (63.6%) of the respondents had learned secondary and above (Table 1).

Table 1. Socio-demographic characteristics of the respondents in Dilla Town, southern Ethiopia (n = 415)

Variable	Category	Frequency	Percentage
Sex	Male	203	48.9
	Female	212	51.9
Age (in years)	<20	60	14.5
	20-29	252	60.7
	30-39	73	17.6
	>40	30	7.2
	Mean(±SD) in years	32.3(Mean)	(±10.67)SD
Marital status	Single	142	34.2
	Married	257	61.9
	Others	16	3.8
Occupational status	Merchant	88	21.2
	Employed	136	32.8
	Housewife	63	15.2
	Others	128	30.8
Educational status	No formal education	67	16.1
	Primary	84	20.2
	Secondary and above	264	63.6
Annual income in (ETB)	≤1000	135	32.5
	1001-3000	139	33.5
	3001-5000	82	19.8
	>5000	59	14.2
	Median(Mean)	1666(Median)	2976(Mean)
Perceived general health status	Perceived well/ healthy	313	75.4
	Perceived unhealthy	102	24.6
History of confirmed COVID-19	Yes	16	3.9
	No	399	96.1

Knowledge of Respondents About COVID-19

Among the total number of respondents, 352 (84.8%) had good knowledge of COVID-19 and 63 (15.2%) had poor knowledge of COVID-19. More than three-fourths of the respondents mentioned the typical symptoms of COVID-19 like fever, dry cough, shortness of breath, and fatigue. The majority (89.2%) of respondents say the main mode of transmission is by means of air droplets (Table 2).

Information Exposure of Respondents About Covid-19

The majority (99.5%) of the respondents had access to information about COVID-19 and its preventive measures from different sources of information. Of them, 386 (93%) of the respondents had access to COVID-19 information from more than 2 sources of information. Almost three-fourths of the study participants have access to information from television, followed by one-fifth from radio (Figure 1).

Respondents' Misconceptions About COVID-19

Among the study participants, 65 (15.7%) agreed that COVID-19 only affects the elderly, and 55.3 (13.3%) agreed on the issue that

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Table 2. Knowledge of respondents on COVID-19 in Dilla Town, southern Ethiopia ($n = 415$)

Items	Frequency (%)	
	Yes (%)	No (%)
Participants who mentioned >=2 signs and symptoms of COVID-19	332(80)	83(20)
Did you know that there is no effective treatment for COVID-19?	311(74.7)	104(25.3)
Asymptomatic people with COVID-19 can infect others	368(88.7)	47(11.30
Did you know the methods of COVID-19 transmission?	403(97.1)	12(11.3)
Participants mentioned >=2 ways of COVID-19 transmission	313(75.4)	103(24.6)
Did you know the method of preventing COVID-19?	414(99.8)	1(0.2)
Respondents mentioned >=2 prevention methods for COVID-19	395(87.2)	53(12.8)
Overall knowledge	Good knowledge	352(84.8)
	Poor knowledge	63(15.2)

Table 3. COVID-19–related misconceptions among residents of Dilla Town, southern Ethiopia (n = 415)

Items	Frequency (%)		
	Agree (%)	No opinion (%)	Disagree (%)
We should take care about the virus because it is deadly	335(80.7)	2(0.5)	78(18.8)
The coronavirus only affects the elderly	65(15.7)	11(2.9)	338(81.4)
COVID-19 does not affect Africans	65(15.5)	19(4.5)	331(79.8)
Traditional medicines protect us from the virus	173(41.7)	43(10.3)	198(47.7)
COVID-19 does not survive in hot and humid weather	109(26.3)	77(18.5)	229(55.2)
COVID-19 is being propagated for political purposes	67(16.1)	62(15)	286(68.9)
Currently, there is no COVID-19 in our area	55(13.3)	48(11.5)	312(75.2)
Currently, there is no need to use a face mask	36(8.7)	29(7.2)	349(84.1)
There is no need to keep social distance	42(10.1)	17(4.1)	356(85.8)
Media reduced attention because COVID-19 was controlled	76(18.3)	44(10.2)	295(71.7)

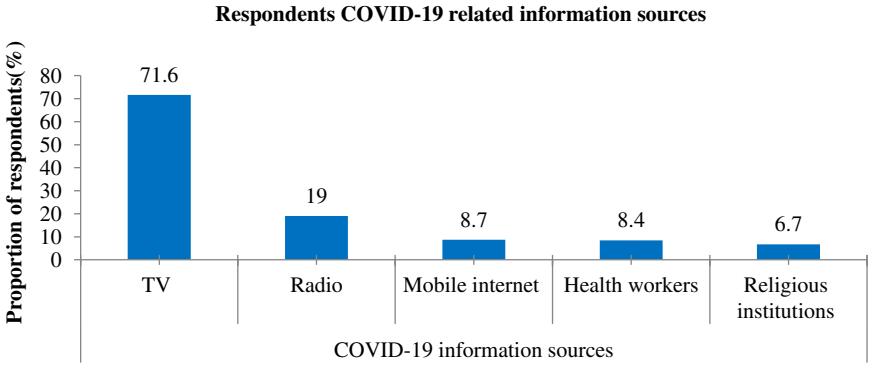

Figure 1. Respondents COVID-19–related information access in Dilla Town, southern Ethiopia ($n = 415$).

there is no need to wear a face mask because there is no COVID-19. In this study, the overall magnitude of the community's misconception about COVID-19 was found to be 41.1%, with a 95% CI (36.9-46.2) (Table 3; Figure 2).

Multidimensional COVID-19 Misconceptions by Socio-Demographic Characteristics

The respondents' perception toward "taking care of the virus because it is deadly" and "coronavirus only affects the elderly" significantly differed based on respondents' general health status ($P < 0.05$). Respondents who perceive they have a good health status have low misconceptions about the severity of COVID-19. This could be due to their accurate information seeking from health professionals and other sources, as they have a higher risk perception for COVID-19 than others. The chi-squared test indicated that believing "COVID-19 does not affect Africans" was significantly different by respondents' educational status and age ($P < 0.05$). Respondents whose educational status was secondary school and above had a lower misconception of Africans' susceptibility to the virus ($\chi^2 = 10.78$; $P < 0.05$) compared with lower graders and nonattendants of formal education. Additionally, respondents

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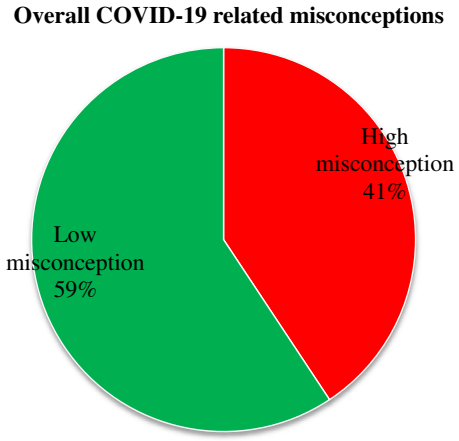

Figure 2. The overall level of COVID-19–related misconceptions among residents of Dilla Town, southern Ethiopia. ($n = 415$).

whose age was above 30 y had low misconceptions about African susceptibility to the virus compared with younger respondents ($\chi^2 = 7.05$; $P < 0.05$). Regarding their perception of the presence of COVID-19 in the study area and home remedies' effectiveness for COVID-19 prevention, there is no significant difference by respondents' socio-demographic characteristics (Table 4).

Factors Associated With Respondents COVID-19–Related Misconceptions

In the bivariable logistic regression analysis, age, marital status, educational status, knowledge, having a history of confirmed COVID-19 and the number of information sources about COVID-19 were significantly associated factors with the respondents' misconception of COVID-19. In the multivariable logistic regression, knowledge, having a history of confirmed COVID-19 and the number of information sources about COVID-19 remained significantly associated with the respondents' misconception of COVID-19. Participants who had poor knowledge were 2.14 times (adjusted odds ratio [AOR] = 2.14; 95% CI 1.18-3.88) more likely to have a COVID-19–related misconception when compared with those who had good knowledge (Table 5).

Discussion

COVID-19 is now a topic of discussion in the media and among the general public. People's understanding of COVID-19 differs depending on the situation in low-income countries like Ethiopia. Because of this, we have investigated COVID-19–related misconceptions and associated factors among residents of Dilla Town. The proportion of Dilla Town residents who have high misconceptions about COVID-19 was found to be 41.1% (95% CI, 36.9-46.2). The most common misconceptions were: "Traditional medicines can protect against the virus," (41.7%), "COVID-19 does not survive in hot and humid weather conditions," (26.3%), and "COVID-19's news is propagated for political reasons,"(16.1%). The current COVID-19–related misconceptions finding is lower than the study conducted in south-west Ethiopia and Gondar City, which showed 54.6% and 56.9% of respondents have perceived myths and unhealthy beliefs about COVID-19, respectively.[15,24]

The finding of this study shows, 352(84.8%) of respondents had good knowledge of COVID-19. The finding is similar to the study conducted in sub-Saharan African countries, which shows 89.9% of respondents have good knowledge.[27] In contrast, the finding is higher than the studies done in Saudi Arabia and eastern Ethiopia, where the overall correct rate of knowledge was 68% and 45.4%, respectively.[26,28] The disparity with the Saudi Arabia finding could be explained by the fact that the previous study used the Internet for data collection, whereas the current study used face-to-face interviews. In the case of the study from eastern Ethiopia, the difference could be explained by the way knowledge is measured, which the previous study used mean as a cutoff point, while the current study used half the score of knowledge questions as a cutoff point.

Regarding factors influencing respondents' misconceptions, previous history of COVID-19, knowledge, and information access were potential factors. The results of the study show that respondents who had no previous history of COVID-19 were 5.4 (with 95% CI: 1.1-25.8) times more likely to have a misconception than their counterparts. The previous history of COVID-19 may indicate that individuals may get accurate information from health professionals, which reduces misconceptions and misunderstandings about COVID-19. We could not compare the finding with previous studies because there is limited available data about the association of misconceptions with having a previous history of COVID-19. Respondents with poor knowledge were 2.1 (with 95% CI: 1.1-3.8) times more likely to have high misconceptions about COVID-19 than those with good knowledge. The current study's findings agreed with those of a previous study conducted in Gondar, which found that respondents with poor knowledge were 1.1 times more likely than their counterparts to have a misconception about COVID-19.[15] Information access is another significant factor that affects respondents' misconceptions. The study participants who had received COVID-19 information from more than 2 sources were 3.2 (with 95% CI: 1.2-9.2) times less likely to have had a misconception about COVID-19. The finding is similar to the study conducted in Dessie and Gondar, which shows respondents who had heard about the number of COVID-19–infected people were less likely to have misconceptions about COVID-19 than their counterparts.[4,29] The finding is also supported by the WHO's perspective on the effect of information access on disease surveillance, outbreak investigation, and prevention by refuting misconceptions.[30]

The study's finding shows that age, marital status, and educational status were not significantly associated with respondents' misconceptions. The possible explanation of the insignificant association of the variables with misconceptions could be due to the novelty of COVID-19, in which all people have similar exposure to information from different sources in the town. The finding is supported by the study from sub-Saharan Africa, Bangladesh, and Gondar, which shows both marital status and educational status were not significantly associated with study participants' misconceptions about COVID-19.[15,16,27]

Limitations

This study was cross-sectional, so it cannot demonstrate a cause-and-effect relationship. In addition, the findings of this study may not be generalizable to the whole population of Ethiopia because our study does not incorporate a wide study area in which the information was collected from 1 town. Moreover, the findings of this study may not be consistent in future years as the data were collected during the first year of COVID-19 progression.

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Table 4. Multidimensional COVID-19–related misconceptions by socio-demographic variables

		Age (in years)		Educational status			General health status		Marital status		Occupation	
Items	Responses	≤30	>30	No formal education	Primary	Secondary and above	Healthy	Unhealthy	Married	Others˜	Employed	Unemployed
We should be worried about the virus because it is deadly	Agree	177	159	57	71	208	268	68	206	130	109	227
	Disagree	42	36	10	12	56	44	34	50	28	27	51
	No opinion	0	1	0	1	0	1	0	1	0	0	1
X^2 (*P*-value)		1.15(0.56)			6.63(0.16)			18.95(0.000) *		0.83(0.66)		0.63(0.73)
Coronavirus only affects the elderly	Agree	33	33	9	17	40	56	10	42	24	18	48
	Disagree	182	156	53	66	219	252	86	208	130	115	223
	No opinion	4	7	5	1	5	5	6	7	4	3	8
X^2 (*P*-value)		1.55(0.46)			8.65(0.07)			8.63(0.01) *		0.12(0.94)		1.29(0.52)
COVID-19 does not affect Africans	Agree	36	30	9	12	45	49	17	35	31	18	48
	Disagree	179	152	52	65	214	252	79	207	124	115	216
	No opinion	4	14	6	7	5	12	6	15	3	3	15
X^2 (*P*-value)		7.05(0.02) *			10.78(0.02) *			0.88(0.64)		5.76(0.05)		3.61(0.16)
Homemade remedies like a hot cup of coffee or tea will help kill or protect us from the virus	Agree	90	83	32	43	98	123	50	104	69	48	125
	Disagree	106	93	27	33	139	159	40	126	73	76	123
	No opinion	23	20	8	8	27	31	12	27	16	12	31
X^2 (*P*-value)		1.24(0.74)			7.92(0.24)			7.02(0.07)		2.13(0.55)		7.51(0.05)
The COVID-19 does not survive in hot and humid weather	Agree	57	53	16	23	71	89	21	61	49	35	75
	Disagree	133	96	28	47	154	171	58	144	85	77	152
	No opinion	29	47	23	14	39	53	23	52	24	24	52
X^2 (*P*-value)		9.14(0.01) *			14.19(0.007) *			3.18(0.20)		3.40(0.18)		0.17(0.92)
COVID-19 is propagated for political purpose	Agree	37	30	7	12	48	54	13	32	35	26	41
	Disagree	155	132	45	56	186	215	72	188	99	95	192
	No opinion	27	34	15	16	30	44	17	37	24	15	46
X^2 (P-value)		2.11(0.35)			8.16(0.08)			1.36(0.51)		7.30(0.03) *		2.97(0.23)
Currently, there is no COVID-19 in our area.	Agree	30	25	8	13	34	41	14	26	29	15	40
	Disagree	168	145	49	62	202	243	70	202	111	108	205
	No opinion	21	26	10	9	28	29	18	29	18	13	34
X^2 (P-value)		1.45(0.49)			1.46(0.83)			5.62(0.06)		5.91(0.05)		1.74(0.42)
No need of using face mask because there is no COVID 19	Agree	20	16	7	5	24	29	7	21	15	12	24
	Disagree	186	164	56	71	223	261	89	222	128	117	233
	No opinion	13	16	4	8	17	23	6	14	15	7	22
X2 (P-value)		1.70(0.64)			2.79(0.83)			1.12(0.77)		3.99(0.26)		3.76(0.29)
No need of keeping social distance because there is no COVID 19	Agree	21	21	9	5	28	35	7	25	17	11	31
	Disagree	189	167	55	73	228	264	92	226	130	121	235
	No opinion	9	8	3	6	8	14	3	6	11	4	13
X^2 (P-value)		0.14(0.93)			5.02(0.28)			2.16(0.34)		5.58(0.06)		1.72(0.42)
Media decrease COVID-19 awareness creation because it was controlled.	Agree	38	39	12	23	42	63	14	45	32	22	55
	Disagree	161	135	45	47	204	218	78	183	113	96	200
	No opinion	20	22	10	14	18	32	10	29	13	18	24
X^2 (P-value)		1.12(0.57)			16.72(0.002)*			2.21(0.33)		1.30(0.52)		2.57(0.27)

*p-value <0.05, ˜*Others=single, widowed, and divorced.*

Table 5. Factors associated with respondents' misconceptions toward COVID-19 in Dilla Town, southern Ethiopia ($n = 415$)

Variables	Degree of misconception		COR (95% CI)	AOR (95% CI)
	Low ($N = 243$)	**High ($N = 172$)**		
Age (in years)				
≤ 30	140	79	1	1
>30	103	93	1.60(1.08-2.37)*	1.25(0.83-1.92)
Educational background				
No formal education	29	38	2.25(1.30-3.88)*	2.03(1.12-.70)
Primary	47	37	1.35(0.82-2.23)*	1.24(.072-2.13)
Secondary and above	167	97	1	1
Marital status				
Single	80	62	1	1
Married	158	99	1.24(0.82-1.87)	1.29(0.81-2.06)
Others[a]	5	11	3.5(1.2-10.4)	3.82(1.19-12.21)
Have history of COVID-19				
Yes	14	2	1	1
No	229	170	5.19(1.16,23.16)*	5.4(1.13-25.83)*
Knowledge				
Good knowledge	219	133	1	1
Poor knowledge	24	39	2.67(1.54 - 4.65)**	2.14(1.18-3.88)*
Information sources				
≤ 2 sources	220	167	3.6(1.36,9.79)*	3.29(1.18,9.16)*
> 2 sources	23	5	1	1

Abbreviations: AOR, adjusted odds ratio; COR, crude odds ratio; CI, confidence interval, ETB, Ethiopian Birr.
[a]Others, widowed and divorced.
*P-value < 0.05.
**P-value < 0.001.

Conclusions

The proportion of respondents who have high misconceptions about COVID-19 was high (41.1%). Misconceptions about COVID-19 were significantly influenced by knowledge of COVID-19 and access to information. To resolve misconceptions related to COVID-19, health education programs that can change communities' beliefs should be taken into consideration. Hence, public health agencies and organizations should address these misconceptions by delivering accurate, repeatable, and sufficient information through credible and reliable sources. Moreover, incorporating a misconceptions monitoring system into other systems like surveillance and management of COVID-19 is needed.

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Ethical standards. Before the data collection procedure, written consent was obtained from the Dilla University institutional review board. The respondent's right to dignity was respected, and verbal consent was obtained from respondents before data collection. To keep the confidentiality of each respondent, their names were not included. Data collectors wore protective face masks and kept their physical distance from study participants.

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