Pharma Multidisciplinary Research Journal (PMRJ) Open Access
2024, Volume 1, Issue 2; ISSN Online: 3006-2896,
https://pmrj.epua.online/index.php/pmrj

Original Article

Social Distancing Practice and Associated factors in response to COVID-19 Pandemic in Hawassa City

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Abstract

Background: Coronavirus disease (COVID-19) is a highly contagious acute respiratory disease, caused by a coronavirus. The disease disrupts health systems and results in social, political, and economic crises. One of the best prevention methods for COVID-19 is social distancing. However, there are limited studies that quantify individual social distancing practice and the associated factors across the globe and in particular in Sidama National Regional State regarding COVID-19. Therefore, this study assessed social distancing practices and associated factors in response to the COVID-19 pandemic in Hawassa City, Sidama National Regional State, Ethiopia,2021.

Methods: A community-based cross-sectional study design was conducted among 853 Households from August to September 2021. A multistage stratified sampling method was utilized. Data were collected using a structured, interviewer-administered questionnaire and analyzed using SPSS version 23. Multivariable logistic regression analysis was used to identify factors associated with individual-based social distancing practice. Adjusted odds ratios (AORs) with 95% confidence interval (CI) were computed to assess the presence and strength of associations.

Results: In this study, 57.2% [95% CI: (53.7%, 60.5%)] of the study participants have good social distancing practices for the prevention of COVID-19. Being completion of primary [AOR=2.01 (95% CI:1.25-3.25)], Secondary [AOR=1.65 (95% CI:1.09-2.49)] and College and above educational level [AOR=2.00 (95% CI:1.28-3.13)], Poor knowledge [AOR=0.59 (95% CI:0.44-0.81)], high perceived susceptibility [AOR=1.56 (95%CI: 1.12-2.18)] and low perceived self-efficacy [AOR=0.49 (95%CI: 0.31-0.78)] were significantly associated with good social distancing practice.

Conclusion: Individual-based social distancing practice for the COVID-19 pandemic among the community was low. The knowledge, risk perception, educational status, and self-efficacy of participants were identified to be the major factors for the observed low practice. Therefore, the city health department should focus on providing health education to lift the social distancing practices of the communities.

Keywords: *Individual-based social distancing; Practice, COVID-19, Hawassa City*

Introduction

Coronavirus Disease 2019 (COVID-19) caused by the novel coronavirus (SARS-COV-2) has posed a medical emergency and a global crisis rapidly as of December 2019. It originated in Wuhan, a city in the Hubei Province of China. The viruses are a large family of viruses that cause illnesses ranging from the common cold to more severe diseases such as Middle East respiratory syndrome (MERS-COV) and severe acute respiratory syndrome (SARS-COV-1)(1). The most important form of transmission of the virus is through person-to-person occurring mainly via respiratory droplets, and through contact with contaminated surfaces and then touching our mouth, nose, and probable eyes (1,2).

By December 1st, 2019, over 260 million cases and 5.1 million deaths had been documented worldwide until November 28th, 2021. The WHO American region bears the greatest disease burden, accounting for more than 96,627,452 (37%) confirmed cases to date. In contrast, the WHO African and Western Pacific regions have reported the lowest numbers, with 6,261,502 (2%) and 10,170,912 (4%) cases, respectively (3).

Across the globe, countries have implemented several control measures to respond to COVID-19, to slow down transmission and reduce mortality. Social distancing is among the measures used to control the spread of COVID-19 (4). Most world countries depend on social distancing as one of the key behavioral interventions approaches to mitigate the spread of the diseases (5). It is one category of non-pharmaceutical interventions (NPI) that deliberately increases the physical space between people thereby reduces the possibility of new infections (6). Social distancing can be defined as behaviors applied by individuals to avoid contagion (7) such as reducing contact frequency with others (8), keeping adequate space between themselves and others when communicating face to face (9), staying at home for extended periods, and avoiding crowds (10). Generally, social distancing, or maintaining a physical distance of at least six feet away from other people decreases the chance of transmitting the disease (9). Evidence from past influenza pandemics revealed the role of social distancing practice in reducing the spread of the virus (10,11). But there is a wide discrepancy from country to country on the practice of social distancing. For instance, in Thailand it is 73.4% (12), Bangladesh 87.97% (13), and the United Kingdom 45.2% (14).

Many countries have applied social distancing and movement restrictions to reduce the spread of viral respiratory disease transmissions. There are various demographic, psychological, and social factors that are associated with the maintenance of social distancing behaviors during a pandemic (15-18). While many advanced countries globally are presently adopting social distancing protocols, enforcing such guidelines in Ethiopia could

pose challenges due to unique customs, cultural values, educational levels, and socioeconomic conditions of its populace. Additionally, the feasibility of remote work options in Ethiopia contrasts starkly with other parts of the world further complicates implementation efforts.

There are limited studies that quantify individual social distancing practices and the associated factors across the globe and in particular in Sidama National Regional State regarding COVID-19. Therefore, this study assessed the practice of social distancing and associated factors in response to COVID-19 in Hawassa City, Sidama National Regional State, Ethiopia.

Methods and Materials

Study setting and period

Hawassa serves as a capital city of Southern Nations, Nationalities, and People Region (SNNPR), and Sidama Regional State and is located 275 km far from Addis Ababa, the capital city of the country. The city has 8 administrative sub-cities and has 20 urban and 12 rural kebeles (lowest administrative units in Ethiopia with approximately 1,000 households). According to the central statistical agency report of Ethiopia, the total population of the site was estimated to be 385, 257 (51.4% males and 48.6% females) with a total of 78,623 households. Hawassa has a predominantly young population. Approximately 65% of the residents are under 25 years old. Only about 5.5% of the population is over 50 years old. The annual population growth rate for the city is 4.02%. Specifically, there is a 4.8% growth rate in urban areas and 2.8% growth rate in rural areas (19). There are 2 governmental Hospitals, 12 Governmental health Centers, and 13 health posts. Besides these, there are 4 privately owned general hospitals, 2 Specialty clinics, and 44 medium clinics in the city. The study was conducted from August 15 - September 15, 2021.

Study design and population

A community-based cross-sectional study design was employed. All adult populations residing in Hawassa City were included in the study. Subjects who are under 18 years of age and individuals who are unable to communicate and severely ill were excluded from the study.

Sample size determination and sampling procedure

The sample size was calculated by using Epi info version 7.1 statistical package by taking 95% confidence level, 80% power, 1:1 ratio between exposed and unexposed, and adjusted odds ratio (AOR) of 1.9 (16), with a design effect of 2 and 10% non-respondent, the final sample size was 894. A multi-stage sampling technique was used to select the study subjects. In the first stage, out of seven sub-cities, two sub-cities were randomly selected. In two sub cities, there exist six kebeles. From each sub city, one kebele was randomly chosen. Next, a simple random sampling technique was employed to select

households from the selected sub city kebeles. The sampling frames obtained from the respective kebele administrative offices were used for household selection. In case where multiple potential respondents were present in a household, the lottery method was used to select a single respondent.

Study Variables

In this study, the dependent variable was social distancing practice. Eight items were prepared to determine participants' social distancing practice towards COVID-19 prevention measures. The items have three alternative options, "always", "occasional", and "never". Participants who answered ≥50% of correct answers among the total social distancing practice-related questions were regarded as having good practice. While participants who answered < 50% of the questions were taken as having poor practice (20). Independent variables were socio-demographic factors such as sex, age, educational status, marital status, occupation, household wealth status, and family size; knowledge and attitude towards social distancing for the responses of susceptibility, perceived seriousness, perceived self-efficacy, perceived benefits, and perceived barriers(20).

Perceived susceptibility: refers to how likely an individual considered oneself (his/her families) would be infected with COVID-19 if no preventive measure was taken (21).

COVID-19. Moreover, risk perceptions towards COVID-19: Self-perceived health status, Perceived susceptibility, Perceived severity, Worry about the COVID-19, Presence of respiratory symptoms in the past 14 days, Left Ethiopia in the previous month, and Perceived trust of health message; Chronic medical history such as Diabetes, Cancer, HIV/AIDs, Asthma, and Chemotherapy.

For some predictor variables, such as:

Knowledge: Participants who answered ≥50% of correct answers among the total knowledge-related questions were regarded as having good knowledge (20).

Attitude: Participants who answered ≥50% of correct answers among the total attitude-related questions were regarded as having a positive attitude (20).

For each of the following variables: perceived susceptibility, perceived seriousness, perceived self-efficacy, perceived benefits, and perceived barriers, we considered participants who scored ≥50% of questions related to each of those variables as having high perceived

Perceived seriousness: is the perceived chance of having a COVID-19 cure and survival if infected with COVID-19(22).

Perceived self-efficacy: is a person's belief in his or her ability to practice social distancing practice (23).

Perceived Benefits: is perceived benefits of practicing social distancing for the prevention of COVID-19.

Perceived Barriers: Perceived barriers to social distancing practice as a preventive measure of COVID-19

Data collection procedures

The data were collected by using a structured interviewer-administered questionnaire. Eight diploma holder health professionals participated in the data collection and one-degree holder health professional supervised the overall data collection. Two days of training was given for data collectors and supervisor. During data collection, personal protective equipment like sanitizer, face mask, and gloves were given to data collectors and supervisor. The tool contains socio-demographic characteristics, household wealth status, knowledge, and attitude towards COVID 19, chronic conditions, and risk perceptions towards COVID-19 and travel history. The questionnaire was first prepared in English and then translated to Amharic by a fluent speaker of both languages and then be translated back to English. A pretest was done by taking 5% of the sample size among kebeles in Hawassa city which was not selected for the actual study one week prior to data collection to check whether the questionnaire is correct and consistent. Cronbach's alpha test of 7.6 was obtained to check reliability of the tool.

Data processing and analysis

The collected data were coded, entered, and cleaned by Epi-DATA version 3.5 and exported to the statistical package for social science (SPSS) version 23.0 for analysis. Descriptive statistics were used to describe the data. Binary logistic regression analysis was employed to examine the statistical association between compliance with social distancing practices and the independent variables. Household wealth status was analyzed by using principal component analysis by using common household assets of urban residents. Principal component analysis was computed for constructing the wealth index of study participants. The computed wealth index has been ranked into five equal groups namely, from the lowest to the highest group: Poorest, Poor, Medium, Rich, and Richest. Variables with *P* values<0.25 on the unadjusted analysis were entered into a multivariable logistic regression model to find out independent predictors of Social distancing practice adjusting for other factors in the model. An adjusted odds ratio (AOR) with 95% CI was estimated to assess the strength of associations and statistical significance was declared at a p-value <0.05.

Results

Socio-demographics characteristics of participants

Out of the total of 894 sampled participants, 853 of them were voluntarily interviewed with a response rate of 95.4%. From the total respondents, 51.3% of them were males. The Median with Interquartile Range (IQR) age of respondents was 30% (25-37) years of age, 594 (69.6%) were married and 101 (11.8%) of the participants were unable

to read and write. One-fifth (20.9%) of the study participants were government-employed. More than two-fifths (43.1%) of the participants have a family size of ≥5 About 38.6% of the study participants have below medium wealth index (Table 1).

Table 1: The Socio-demographic characteristics of study participants at Hawassa City, 2021 (n=853)

Variable	Category	Frequency	Percent (%)
Age	≤20	80	9.4
	21–25	168	19.7
	26-30	214	25.1
	31-35	138	16.2
	>35	253	29.7
Sex of respondent	Male	438	51.3
	Female	415	48.7
Marital status	Married	594	69.6
	Single	220	25.8
	Divorced	21	2.5
	Widowed	18	2.1
Educational status	Unable to read & write	101	11.8
	Able to read & write	86	10.1
	Primary	140	16.4
	Secondary	266	31.2
	College^{+}	260	30.5
Occupational status	Government employed	178	20.9
	Private employed	182	21.3
	Merchant	157	18.4
	Housewife	156	18.3
	Others*	180	21.1
Religion	Orthodox	316	37
	Protestant	344	40.3
	Muslim	142	16.6
	Catholic	28	3.3
	Others$^{@}$	23	2.7
Family size	≤2	119	14
	3-4	366	42.9
	≥5	368	43.1
Wealth index	Poorest	181	21.2
	Poor	148	17.4
	Medium	198	23.2
	Rich	159	18.6
	Richest	167	19.6

*daily laborers, students, taxi drivers@:Adventist, Jehovah,

History of Chronic Medical characteristics of the study participants

Individuals with chronic conditions are often aware of their vulnerability to infections. They may be more cautious and diligent in maintaining a safe distance from others to reduce the risk of exposure to COVID-19. Regarding the chronic medical history of the study participants, 59 (6.9%) had Diabetes Mellitus (DM), 88

(10.3%) had hypertension, and 72 (8.4%) had HIV/AIDs (Table 2).

Table 2: The medical condition of the study participants at Hawassa City, 2021

Variable	Category	Frequency	Percent (%)
Do you have DM	Yes	59	6.9
	No	794	93.1
Do you have HTN	Yes	88	10.3
	No	765	89.7
Do you have Cardiac	Yes	16	1.9
Problem	No	837	98.1
Do you have Asthma	Yes	69	8.1
	No	784	91.9
Do you have Cancer	Yes	3	0.4
	No	850	99.6
Do you have HIV/AIDS	Yes	72	8.4
	No	781	91.6

Perception of the study participants with COVID-19 Prevention Practice

Of the total, 304 (35.6%) and 726 (85.1%) of the study participants had low perceived susceptibility and high perceived severity towards COVID-19 and its prevention methods.

Participants' Social Distancing for COVID-19 Prevention

In this study, more than half, 488 (57.2%) [95% CI (53.7, 60.5%)] of the study participants have good social distancing practices for the prevention of COVID-19. Two-thirds (66.7) of the study participants responded that they always avoid contact with someone who is displaying symptoms of coronavirus. Two-fifth (40%) of respondents never maintained 2-meter distance between themselves and other people (Table 3).

Table 3: The social distancing Practice of Study Participant for COVID-19 Prevention at Hawassa City, 2021

Questions		Responses		
		Always No (%)	Occasional No (%)	Never No (%)
Avoid contact with someone who is displaying symptoms of coronavirus		569(66.7)	201(23.6)	83(9.7)
Avoid non-essential use of public transport when possible		238(27.9)	404(47.4)	211(24.7)
Work at home		167(19.6)	393(46.1)	293(34.3)
Avoid large and small gatherings in public spaces (pubs, restaurants, leisure centers)		178(20.9)	447(52.4)	228(26.7)
Avoid gatherings with friends and family		189(22.2)	430(50.4)	234(27.4)
Maintaining non-contact greetings		310(36.3)	373(43.7)	170(19.9)
Maintain 2 meters distance between yourself & other people		341(40)	372(43.6)	140(16.4)
Stay home when ill		369(43.3)	332(38.9)	152(17.8)
Overall social distancing practice	Good	488	57.2% [53.7%-60.5%]	
	Poor	365	39.5%	

Factors associated with social distancing practice for prevention of COVID-19

In the bivariable binary logistic regression, several factors; namely, age of respondents, educational status, attitude level, knowledge status, wealth status, perceived susceptibility, perceived self-efficacy, perceived barriers, and perceived benefits – were identified as candidates for the multivariable binary logistic regression analysis based on their p-values (<0.25). Subsequently, in the multivariable model, knowledge status, perceived susceptibility, educational status, and self-efficacy were found to be significantly associated with good social distancing practices (p-value < 0.05).The odds of good social distancing practice were notably higher among households with primary education [AOR=2.02 (95% CI: 1.25-3.25)], households with primary education [AOR=2.02 (95% CI: 1.25-3.25)], secondary education [AOR=1.65 (95% CI: 1.09-2.49)], and College and above [AOR=2.00 (95% CI: 1.28-3.13)] compared to those with no formal education. Respondents with poor knowledge about social distancing were 41% less likely to practice social distancing [AOR=0.59 (95% CI: 0.44-0.81)]. Additionally, individuals with high perceived susceptibility were 1.56 times more likely to practice social distancing [AOR=1.56 (95% CI: 1.12-2.18)]. Conversely, those with low perceived self-efficacy had a 51% reduced likelihood of good social distancing practices [AOR=0.49 (95% CI:0.31-0.78)](Table 4).

Table 4: The Factors associated with individual-based social distancing practices for the prevention of covid-19 among Households of Hawassa City, Southern Ethiopia, 2021

Variables	Practice				COR (95% Cl)	AOR (95% Cl)
	Good		Poor			
	No.	(%)	No.	(%)		
Sex of respondent						
Male	258	52.9	180	49.3	1.15 (0.87-1.51)	1.13 (0.84-1.51)
Female	230	47.1	185	50.7	1	1
Age of respondents						
≤20	47	9.6	33	9.0	1.06(0.63-1.76)	1.02(0.57-1.83)
21-25	98	20.1	70	19.2	1.04(0.70-1.04)	0.98(0.62-1.56)
26-30	117	24.0	97	26.6	0.89(0.62-1.29)	0.88(0.57-1.36)
31-35	81	16.6	57	15.6	1.05(0.69-1.61)	1.03(0.66-1.63)
>35	145	29.7	106	29.6	1	1
Educational status						
No formal education	82	16.8	105	28.8	1	1
Primary completed	90	18.4	50	13.7	2.30(1.46-3.61)	2.02 (1.25-3.25)**
Secondary completed	156	32.0	110	30.1	1.81(1.24-2.65)	1.65 (1.09-2.49)**
College and above	160	32.8	100	27.4	2.04(1.39-3.00)	2.00 (1.28-3.13)**
Occupational status						
Employed#	202	41.4	158	43.3	0.92(0.70-1.21)	0.82(0.59-1.13)
Unemployed	286	58.6	207	56.7	1	1
Family size						
≤2	62	12.7	57	15.6	0.76(0.50-1.15)	0.72(0.44-1.17)
3-4	210	43.0	156	42.7	0.94(0.70-1.27)	0.97(0.69-1.37)
≥5	216	44.3	152	41.7	1	1
Wealth index						
Poorest	104	21.3	77	21.1	1	1
Poor	84	17.2	64	17.5	0.97(0.62-1.50)	1.06(0.67-1.68)
Medium	118	24.2	80	21.9	1.09(0.72-1.64)	1.09(0.71-1.67)
Rich	78	16	81	22.2	0.71(0.46-1.09)	0.73(0.46-1.14)
Richest	104	21.3	63	17.3	1.22 (0.79-1.87)	1.21(0.77-1.89)
At least one Chronic disease						
Yes	142	29.1	116	31.8	1.13(0.84-1.12)	1.28(0.93-1.77)
No	346	70.9	249	68.2	1	1
Attitude						
Positive	413	84.6	317	86.8	1.19(0.81-1.77)	1.37(0.87-2.14)
Negative	75	15.4	48	13.2	1	1
Knowledge						
Good	325	66.5	197	54.0	1	1
Poor	163	33.4	168	46.0	0.58(0.44-0.77)	0.59(0.44-0.81)**
Perceived Susceptibility						
Highly susceptibility	301	61.7	248	67.9	1.31(0.99-1.75)	1.56(1.12-2.18)*
Low susceptibility	187	38.3	117	32.1	1	1
Perceived Severity						
Not severe	66	13.5	61	16.7	0.77(0.53-1.13)	0.76(0.50-1.15)
Severe	422	86.5	304	83.3	1	1
Perceived Self-efficacy						
Low self-efficacy	51	10.5	65	17.8	0.53(0.36-0.80)	0.49(0.31-0.78)**
High self-efficacy	437	89.5	300	82.2	1	1
Perceived Barriers						
Not barriers	381	78.1	306	83.8	1.45(1.02-2.07)	1.45(0.99-2.10)
Barriers	107	21.9	59	16.2	1	1
Perceived Benefits						
Not benefited	50	24.2	35	16.6	1.07(0.68-1.69)	1.17(0.69-1.99)
Benefits	438	89.8	330	90.4	1	1

P-value <0.05, ** p-value <0.001, ***p-value<0.0001; # Government and private employed

Discussion

Among all 853 selected subjects, an overall proportion of good individual-based social distancing, 488 (57.2%) [95% CI: 53.7%-60.5%] was obtained among Hawassa City Households. Having good knowledge of COVID-19, perceived susceptibility, educational status, and self-efficacy were found to be independent factors of factors affecting the prevalence of individual-based social distancing practices at Hawassa City Households.

The prevalence of good social distancing obtained in this study is higher than studies done in Gamo zone 35.3, southern Ethiopia (24), and the United Kingdom 45.2% (14) of respondents were practicing social distancing. This discrepancy could be due to the aforementioned studies were conducted in the early stage of the outbreak and the difference in socio-economic factors. However, the result is lower than the study conducted in Uganda (85.3%) (25), and UK 94.2% (14), Thailand 73.4% (12) and 87.97 (13). This might be due to the difference in the timing of the study, the distribution of the outbreak across the nation's cities or towns, and the socio-demographic characteristics of the participants. Moreover, this study is conducted at a time when different governmental sanctions were lifted off, particularly the state of emergency was completely removed.

Concerning physical distancing, less than half (40%) of respondents maintained 2 meters distance between themselves and other people. This is higher than a study conducted in Nigeria, 20.4% (26). The possible explanation could be due to the difference in socio-demographic characteristics and study period. However, the study result is lower than a large-scale study conducted at 58 countries on Global Behaviors and Perceptions 69% (27), Italy 85.6% (28) and USA 60.4% (29). The possible explanation for this lower practice could be due to the participant's behavior of adopting the newly introduced rules and regulations. Furthermore, the number of cases distributed was enormously surging in the nations as compared to Ethiopia.

Respondents who have poor knowledge about social distancing practices have 38% reduced social distancing practices as compared to respondents who have good knowledge about social distancing practices. This finding is supported by the study carried out in Hubei, China (30), Pakistan (31), and the United States of America (32). This might be due to the fact that respondents who know COVID-19's cause, mode of transmission, symptoms, and prevention methods would have a higher probability of social distancing practice.

The odds of good social distancing practices were 51% reduced among individuals who have a low perceived self-

efficacy perception for the prevention of COVID-19. Similarly, the odds of individuals who have high perceived susceptibility perception of contracting COVID-19 were found to be positively significantly associated with social distancing practice. This finding is in line with a study conducted in Hong Kong, China (33), South Korea (34), USA California State University and Los Angeles (35). Likewise, a large survey conducted in 48 countries also concluded the same result (36). This indicated that the perceived level of personal susceptibility has created fear of seeing hard-hitting emotional messaging. As a result, individuals became aware and adhered to social distancing practices to reduce their perceived threat.

Furthermore, the study participants' level of education is also significantly associated with the level of social distancing practice. According to the finding of this study, individuals who completed primary, secondary, and college and above education have a higher probability of practicing social distancing compared to individuals with no formal education. The finding of this study supported by a study conducted in South Africa revealed that individuals with secondary and higher levels of education were more likely to practice social distancing (37). This might be related with those who were educated can read guidelines, understand information easily and engaged in seeking and sharing updated information about COVID-19. As a result, this finding may give a hint at the need for adequate and updated information for those individuals with no formal education.

The strength of this study is that it is a pioneer community-based study in the study area assessing individual-based social distancing practice and associated factors among Hawassa City Households. The study utilized a high sample size. Moreover, we employed principal component analysis to compute the wealth status of the study participants. On the other hand, as this study was exclusively conducted in the urban community, the findings may not be generalized to all people living in Ethiopia. In addition, there may be social desirability bias, even if minimized through indirect questions and not supported with a qualitative component. The study was cross-sectional, and the cause-and-effect relationships were under caution. Thus, we strongly recommend further study by employing a mixed study design to understand well enough about social distance practice. Therefore, those issues must be considered while interpreting the study findings

Conclusion

In this study, the overall level of adherence to good social distancing practices was found to be low compared to a large-scale global study conducted in 58 countries. Among the potential factors, knowledge status, perceived susceptibility, educational status, and self-efficacy were significantly associated with social distancing practices. Emphasis should be placed on providing continuous awareness campaigns to increase community knowledge, particularly regarding the mechanisms of COVID-19 prevention technique, which is social distancing, practices. This could involve not only increasing awareness but also addressing misconceptions, ensuring access to accurate information, and utilizing diverse communication channels to reach various populations. Furthermore, the national health bureau, in collaboration with the regional health department, should design strategies to enhance the community's perception, knowledge, and self-efficacy in practicing social distancing to prevent COVID-19.

Declaration

Ethical approval

Ethical approval was obtained from the Institutional Review Board of Pharma College, School of Graduate Studies Department of Public Health. Verbal informed consent was obtained from participants before the administration of the questionnaire. In addition, participants of the study were told that they could refuse to continue or skip questions whenever they felt comfortable. To ensure confidentiality; participants' data was linked to a code number. Personal privacy and cultural norms were respected. Moreover, during data collection, a participant having clinical features related to COVID-19 was screened by a thermometer, and in case a suspected case was obtained immediate linkage was attempted with the task force established to manage the COVID pandemic in the city.

Consent to publish

Not applicable

Availability of data and materials

The data sets used/or analyzed during the current study is available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

Funding

Pharma College has funded the research. The funding institution had no part in the study design, information gathering, and

analysis, judgment to publish, or development of the manuscript.

WS has granted the full fund from Pharma College to conduct the study.

Authors' contributions

WS, YM, AA, KT, WG, and AG were involved in the conception and design of the study, data collection supervision, data processing, cleaning, analysis and interpretation of the results, and development of the manuscript. Each gave final approval of the version to be published and agreed to be accountable for all aspects of the work.

Acknowledgments

We would like to express our heartfelt thanks to Pharma College Research and Community Service Office for financial and all-around support in conducting this study. We would also like to acknowledge the Hawassa City Health Department for their kind support and collaboration. Our special thanks go to our data collectors, supervisors, and study participants.

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