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RESEARCH ARTICLE

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COVID-19: Knowledge, Attitudes, and Practices of Prevention and Associated Factors among Gimbi Town Residents Western F Ethiopia at an Early Phase

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ABSTRACT

Introduction: Corona virus disease 2019 ("COVID-19") is a newly occurred respiratory disease that is resulted from a novel corona virus.

Objective: to investigate knowledge, attitudes, and practices towards prevention of corona virus and contributing factors among Gimbi Town residents, West Wollega, Ethiopia.

Method: Community based cross sectional study design was undertaken between May 16/2020to 20/2020 on a total of 460 using systematic random sampling face to face interview method was used for data collection. SPSS version 25.00 was used for in which variable having p-value <0.25 in bi-variable analysis was considered as candidate for final model. P-value ≤0.05 was taken as for significant variable. A one-way analysis of variance (ANOVA) was done to assess the mean differences.

Result and Conclusion: A total of 460 respondents were included with a response rate of 99.8%. In this study 64.3%, 58.5% and 48.3% of the study participants were regarded as having good knowledge, favorable attitude and good practice respectively. Variables like educational status at ((AOR=3.12, 95%CI (1.1-8.8)), age, at ((AOR=3.89, 95%CI, (1.19-12.65)), were independently associated with knowledge. In another way knowledge had significant association ((AOR=2.67, 95%CI (1.76-4.06)) with attitude, while age had association with practice at ((AOR=3.37, 95%CI (1.29-8.78)) in final model.

More than half of respondents have good knowledge and satisfactory attitude that was not similarly implemented into practice. This reveals that efforts are needed in behavioral change for practice and enforcing the law to improve the practices of the community.

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Introduction

Current global pandemic Coronavirus Disease 2019 ("COVID-19") is an emerging respiratory disease which is resulted by a novel coronavirus and it was first reported in December 2019 in Wuhan, China [1]. The past outbreaks of coronaviruses such as Severe Acute Respiratory Syndrome-Coronavirus (SARS-CoV) and Middle East Respiratory Syndrome-Corona virus (MERS-CoV) in 2003and 2015, reveals uniformity with the current pandemic, which the first was reported in December 2019, and it is currently the disease that put the world under unanswerable question [2].

Among reported case 2.4% of individuals were under 19 years of age at early phase. A very small proportion of those aged under 19 years have developed severe (2.5%) or critical disease (0.2%) [3]. Evidence from many countries indicates there is certain sort of good knowledge level and satisfactory attitude that might not easily implanted into practice [4]. In many African countries, online assessments were conducted in which most has its drawback that is only educated participants will be involved. However, in this study, the author has attempted to address total community without limit of infra structure like internet interview in which both educated and uneducated respondents will be addressed. This might make the result good for policy makers and clinicians for intervention. Besides this, no studies were conducted in Gimbi town to evaluate resident's level of knowledge, attitude, and practice towards COVID-19 and its management, which is very crucial in control of the disease. First COVID-19 case was figured out on March 13, 2020 in Ethiopia. Month later on May 11, 2020, cases were increased to 250 [5]. It is Obvious that good Knowledge, Attitude and Practice are a essential in the control pandemic disease like COVID-19 [3]. Attempts have under taken in Ethiopia like other countries in Ethiopia as well to practice different prevention strategies following the report of first case.

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Which includes half and complete lockdown on certain area, closure of religious institution on prohibition of massive praying, avoiding mass gatherings, and closing schools. Different task forces were established at the national and local levels. Therefore, this study aimed at identifying COVID-19 knowledge, attitude, practice, and associated factors towards the prevention among Gimbi town residents. Good Knowledge, Attitude and Practice are a tool that can hopefully be used to control the spread of COVID-19.

Methods

Study Design, Study Setting and Time of the Survey

A Community based cross-sectional study design was employed.

The survey was undertaken in Gimbi town from May 16-20/2020 which is found in Oromia National regional state, west Wollega zone, located to the west at distance of 441 km from Ethiopia's capital city.

Reference population

All Gimbi town residents

Study population

All sampled residents in Gimbi town greater than 18years who are residing in the town

Inclusion criteria

All residents living in Gimbi town at time of data collection and age greater than 18yrs

Exclusive criteria

Critical ill patients were excluded from the study during data collection.

Sample size and sampling procedure

Sampling Size Determination

A single population proportion formula was used to determine participants by considering 50% as prevalence as there is no study done on this topic in this area 5% margin of error and 20% estimated non–response rate.

$$n = \frac{(Z\alpha/2)2P\,(1-P)(1.96)^2 0.5(1-0.5)}{0.05^2} = 384$$

Where; n = the sample size required

N= Number of households, P = 50 %(since no research done on this topic), d = margin of sampling error tolerated

Zα/2 = the standard normal variable at (α-1) or 95% confident level = 1.96Since the total population is >10,000 no need of correction formula. The sample size found to be 384. A non-response rate of 20 %(77) was added to determined sample size giving total sample size is 461.

Sampling Procedure/Technique

Proportional allocation of study population was employed before starting of data collection. A "K" value of 25 was used for recruiting the participants. Accordingly for the first kebele was (01) and K was calculated as K^{th}=3284/128= 25 (every twenty-five households). The second Kebele (02) k^{th}=2365/93=25((every twenty five households and the third Kebele (03)=K^{th} =2345/92=25((every twenty five households), and for the fourth Kebele(04) K^{th}=2398=26((every twenty six households). Simple random method was under taken to identify the first household.

Data Collection Tool

Tool for data collection was obtained from previously conducted study. The questionnaire has sections four on part I socio-demographics, Part II Knowledge, part III attitude and Part IV practice parts.

Data Quality Control

Data collectors obtained training on how to collect the data as per the objective of the study. The training has included how to handle consent for participation and how to assure confidentiality of the participant's. Pretest was conducted on five percent of the sample size at Tole town, which is found at distance of 60 KM away from the Gimbi to the East direction. Result of pretest was used to amend the tool for actual data collection. Supervisors to check completeness of the collected data supervised one time of data collection. The tool was prepared in English language, and then translated to locally spoken language Afan Oromo again back to English to check its consistency.

Data Analysis

The data was analyzed by using SPSS version 25.00 software. Bi-variable analysis was employed to obtain candidate variables for the final model. Variable with p-value <0.25 in bi-variable analysis was considered final model to decide variable associated with the outcome variable. Results having a p-value ≤0.05 were taken as significant variable. A one-way Analysis of variance (ANOVA) was done to assess the mean differences for the overall level of knowledge, attitude and practice among the participants.

Ethical Approval

The study was approved by Institutional Review board of Gimbi general Hospital with letter no GGH/0033/2020 on May 1/2020. Written consent was obtained from all study participants.

Results

Four hundred sixty (460) respondents were included in the study yielding 99.8% response rate. Among the respondents, almost eighty percent were married, 307(66.7%) were females and 82(17.8%) were a government employee. Of the total participants, one hundred forty-seven (32%) attended secondary school and only 44(9.6%) of them were unable to read and write (Table 1).

Table 1: Socio-demographic characteristics of the study participants in Gimbi Town, Western Oromia, 2020

Character/variables	Variable Labels	Frequency(n=460)	Percent (%)
Sex	Male	153	33.3
Religion	Orthodox	140	30.4
	Protestant	198	43.0
	Adventist	49	10.7
	Muslim	69	15.0
	Waqefata	4	0.9
Ethnicity	Oromo	448	97.4
	Amahara	6	1.3
	Gurage	6	1.3
Marital status	Married	367	79.8
	Single	84	18.3
	Others	9	1.9
Educational status	Can't read and write	44	9.6
	Primary School	146	31.7
	Secondary school	147	32.0
	Diploma	60	13.0
	Degree and above	63	13.7
Occupation	Physical labor	98	21.3
	Unemployed	147	32.0
	Student	63	13.7
	Merchant	70	15.2
	Government Employee	82	17.8
Presence of HW in the family	Yes	59	12.8
	No	401	87.2
Relationship	Father/Mother	10	2.2
	Husband/Wife	10	2.2
	Daughter/Son	11	2.4
	Brother	15	3.3
	Sister	10	2.2
	Others	3	0.7

Around half of the participants 242(52.6%) age were between 15-29 years with a mean standardization of 32.4±12.343 years (Figure 1).

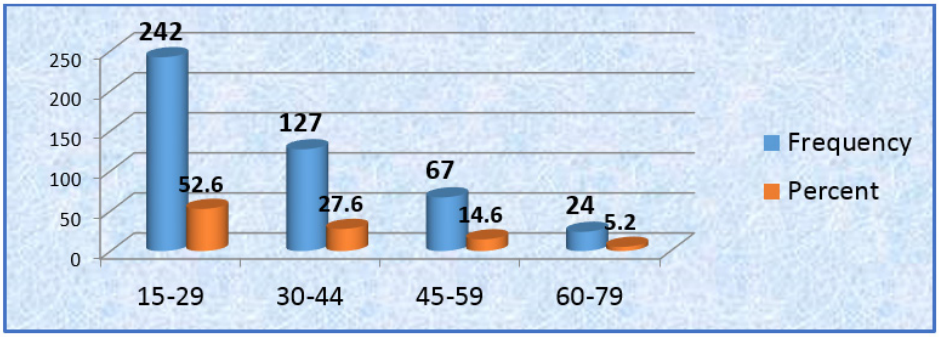
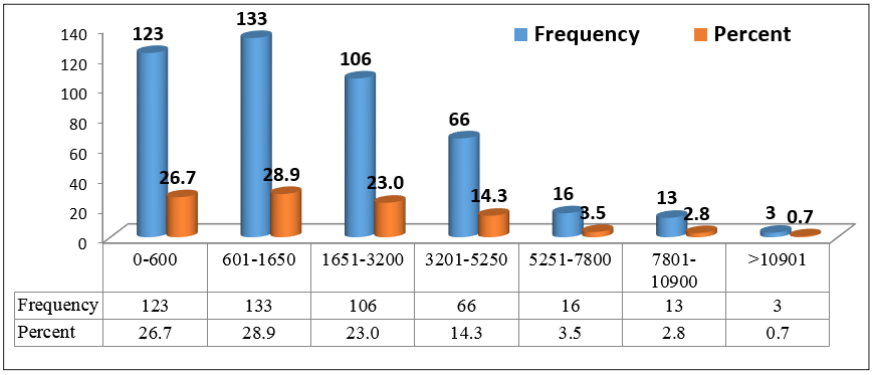


Figure 1: Age category of study participants of Gimbi town residents ,2020

From total assessed only 3 (0.7%) earns monthly income of more than 10,9019 ETB and the highest percentages were between 601-1650 ETB (Figure2).



	0-600	601-1650	1651-3200	3201-5250	5251-7800	7801-10900	>10901
Frequency	123	133	106	66	16	13	3
Percent	26.7	28.9	23.0	14.3	3.5	2.8	0.7

The highest percentage of respondents were unemployed followed by physical labor (Figure 3).

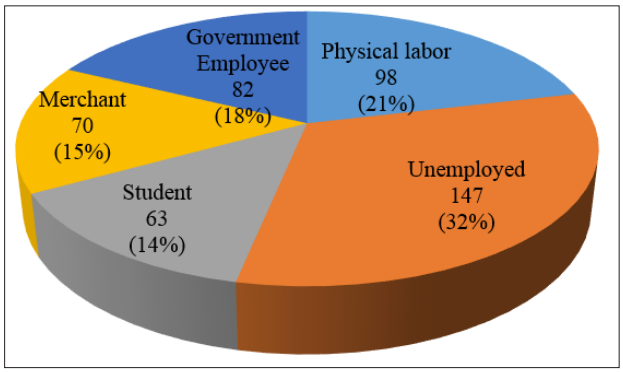


Figure 3: Occupational status

Based on the results of this study, almost all 459(99.8%) heard about COVID-19 of which media is a source of information for 446(97%) of them. More than ninety-six percent of the study respondents knew the sign and symptoms of novel corona virus. Four hundred forty-five (96.7%), 444(96.5%) mentioned fever, dry cough, headache, and sore throat are common manifestations of the disease. In addition, 96.5% of the respondents can identify of the mode of transmission of novel corona virus, and 432(93.9%) of them know, as know, there is no ultimate cure from novel corona virus disease (Table 2).

Table 2: Awareness/Knowledge of the study participants towards prevention of COVID-19 in Gimbi Town, Western Oromia, 2020

Knowledge assessing Questions	Incorrect (%)	Correct (%)
Heard about COVID-19	1(0.2)	459(99.8)
Source of information (Media)	13(2.8)	446(97)
Fever is symptom of COVID-19	15(3.3)	445(96.7)
Dry cough is a symptom of COVID-19	16(3.5)	444(96.5)
Myalgia is a symptom of COVID-19	39(8.5)	421(91.5)
Headache and Sore throat are the symptom of COVID-19	16(3.5)	444(96.5)
COVID 19 can spread through air by coughing or sneezing, close personal contact, such as touching or shaking hands and touching an infected object or surface.	16(3.5)	444(96.5)
Stuffy nose, runny nose, and sneezing are common in persons infected with the COVID-19 virus.	272(59.1)	188(40.9)
Currently there is no effective cure for COVID-19, but early symptomatic and supportive treatment can help most patients recover from the infection.	28(6.1)	432(93.9)
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly, have chronic illnesses, and are obese are more likely to be severe cases.	59(12.8)	401(87.2)
Eating or contacting wild animals would result in the infection by COVID-19 virus.	101(22)	359(78)
Persons with COVID-19 can transmit the virus to others when a fever is not present.	252(54.8)	208(45.2)
Ordinary residents can wear general medical masks to prevent the infection by COVID-19 virus.	61(13.3)	399(86.7)

It is necessary for children and young adults to take measures to prevent infection by COVID-19 virus.	73(15.9)	387(84.1)
To prevent the infection by COVID-19, individuals should avoid going to crowded places such as train stations and avoid taking public transportations.	23(5)	437(95)
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	17(3.7)	443(96.3)
People who have contact with someone infected with the COVID-19 virus should be immediately isolated in a proper place. The observation period is 14 days.	19(4.1)	441(95.9)

Almost all participants 458(99.6%) agreed as early identification of COVID-19 can augment treatment outcome, however, only 258(56.1%) agreed as stigmatizing suspected cases of COVID-19 is not good. In circumstance when number of COVID-19 cases increases; closing educational centers, restricting access to religious sites, locking down, and quarantining of the cities by government authorities were agreed by 97.4%, 93 %, and 93% of respondents respectively (Table 3).

Table 3: Attitude of the study participants towards prevention of COVID-19 in Gimbi Town, Western Oromia, 2020

Attitude assessing Questions	Disagree (%)	Agree (%)
Early detection of COVID-19 can improve treatment outcome	2(0.4)	458(99.6)
COVID-19 disease can be treated at home	290(63)	170(37)
Health education can help to prevent COVID-19 transmission	13(2.8)	447(97.2)
COVID-19 is a curable disease	39(8.5)	421(91.5)
Restriction of travel is good for prevention of COVID-19 transmission	8(1.7)	452(98.3)
Quarantining of patients with COVID-19 in special hospitals is good for prevention of dissemination of disease.	4(0.9)	456(99.1)
Any recovered case of COVID -19 have to be added to his/ her family after recommended days of supervision under health workers	23(5)	437(95)
Stigmatizing suspected cases while they inform you ,as they have sign and symptoms of COVID-19 is not good	202(43.9)	258(56.1)
Closing educational centers by authorities in case of increase in the number of COVID-19 cases is a good measure	12(2.6)	448(97.4)
Authorities should be prepared to restrict access to religious sites and mosques if the number of COVID-19 cases increases	32(7)	428(93)
If the number of COVID-19 cases increases, authorities should be ready to lock down and quarantine the cities	32(7)	428(93)
COVID-19 disease results in death in some cases	299(65)	161(35)

In current survey, more than half of the study respondents270(58.7) had visited any crowded places and 42(9.1%) of the respondents traveled to areas where confirmed cases of COVID-19 were present and only less than half of those who traveled 20(47.6%) worn mask during their travel. Three hundred and nine (67.2%) of the respondents practice cough etiquettes, however, only less than half, 220(47.8%), 210(45.7%), and 179(38.9%) of the respondents wash their hands frequently, have alcohol hand-rub in their homes and keep their physical distance respectively (Table 4)

Table 4: Practice of the study participants towards prevention of COVID-19 in Gimbi Town, Western Oromia, 2020

Practice Assessing Questions	Yes (%)	No (%)
In recent days, have you gone to any crowded places?	190(41.3)	270(58.7)
To prevent contracting and spreading of COVID-19,did you avoid public transportations?	285(62)	175(38)
To prevent contracting and spreading of COVID-19, did you practice frequent hand washing?	220(47.8)	240(52.2)
To prevent contracting and spreading of COVID-19, Did you pay more attention to your personal hygiene than usual?	296(64.3)	164(35.7)
In your home, is there a constant supply of water throughout the day?	373(81.1)	87(18.9)
Do have alcohol hand rub in your home?	210(45.7)	250(54.3)
Do you wash your hands with water and soap or alcohol hand rub by keeping the steps	346(75.2)	114(24.8)
Do you keep your physical distancing while you walk on street at least 2m?	179(38.9)	281(61.1)
Have you participated in porridge ceremony in the last two months?	56(12.2)	404(87.8)

In the last two months, did you travel to areas where confirmed cases of COVID-19 patients were present?	42(9.1)	418(90.9)
If yes, have you worn facemask during your travel?	20(47.6)	22(52.4)
In the last two months, did you eat uncooked foods like raw meat?	28(6.1)	432(93.9)
Do you practice cough etiquettes like covering mouth during coughing and sneezing with tissue or flexed elbow?	309(67.2)	151(32.8)
Do you shake hands while you greet your friends/relatives?	48(10.4)	412(89.6)
You should not touch your eyes, nose, and mouth with unwashed hands?	76(16.5)	384(83.8)
Do you frequently clean and disinfect touched objects and surfaces?	425(92.4)	35(7.6)

Respondents mean Awarness standardization was 85.5±9.89. In addition to this, respondents were also asked questions regarding their attitude and practice regarding the prevention of COVID-19. Accordingly the mean score of attitude and practice assessing questions was 82.7 and 41.8. In general, 64.3%, 58.3%, and 48.3% of the survey's respondents were regarded as having good knowledge, a favorable attitude, and good practice regarding the prevention of COVID-19 disease (Table-5).

Table 5: Respondents level of Knowledge, Attitude and Practice regarding COVID-19 in Gimbi Town, Western Oromia, 2020

Variable	Category	Frequency	%	Score			
				Mean	SD	Minimum	Maximum
Knowledge	Good	296	64.3	85.5	9.89	33.33	100
	Poor	164	35.7				
Attitude	Favorable	269	58.5	82.7	11.17	50	100
	Unfavorable	191	41.5				
Practice	Good	222	48.3	41.8	11.32	7.69	84.62
	Poor	238	51.7				

A one-way Analysis of variance (ANOVA) was done to assess the mean differences for the overall level of KAP among participants in between the study participants. Accordingly, practice mean score of participants had a significance difference among: age groups(60 -79yrs) with (15-29yrs) ,(30-45yrs),(45-59yrs) with p-value of 0.036 ,0.026 & 0.043 respectively (Table 6).

Table 6: One-way Analysis of variance (ANOVA) to assess mean difference of overall level of KAP among Gimbi town residents,2020

Dependent Variable	Age category	Age category	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Mean knowledge score	15-29	30-44	-.56246	1.08552	.605	-2.6957	1.5708
		45-59	.64019	1.36762	.640	-2.0474	3.3278
		60-79	-2.18319	2.12012	.304	-6.3496	1.9832
Attitude mean score	15-29	30-44	-1.37741	1.22583	.262	-3.7864	1.0316
		45-59	-1.12865	1.54440	.465	-4.1637	1.9064
		60-79	-3.46074	2.39417	.149	-8.1657	1.2442
Practice mean score	15-29	30-44	.51659	1.23788	.677	-1.9161	2.9493
		45-59	.37195	1.55959	.812	-2.6929	3.4368
		60-79	-5.09112*	2.41771	.036	-9.8424	-.3399
	45-59	15-29	-.37195	1.55959	.812	-3.4368	2.6929
		30-44	.14464	1.70584	.932	-3.2076	3.4969
		60-79	-5.46307*	2.68754	.043	-10.7446	-.1816
	60-79	15-29	5.09112*	2.41771	.036	.3399	9.8424
		30-44	5.60771*	2.51453	.026	.6662	10.5492
		45-59	5.46307*	2.68754	.043	.1816	10.7446

*. The mean difference is significant at the 0.05 level.

Accordingly, this finding there is a significant difference among knowledge vs. educational status of participants with those educational categories. Respondents those can't read and write with primary, degree and above with a p-value of 0.036 and 0.006 respectively (Table 7).

Table 7: One-way Analysis of variance (ANOVA) to assess mean difference of overall for level of KAP among Gimbi town residents,2020

Dependent Variable	Educational status	Educational status	Mean Difference	Std. Error	Sig.	95% CI	
						Lower Bound	Upper Bound
Mean knowledge score	Can't read and write	Primary School	-3.57202*	1.69402	0.036	-6.9011	-0.2429
		Secondary school	-2.89734	1.6926	0.088	-6.2238	0.4291
		Diploma	-3.28283	1.955	0.094	-7.1249	0.5592
		Degree and above	-5.34632*	1.9352	0.006	-9.1495	-1.5432
		Diploma	2.06349	1.7768	0.246	-1.4284	5.5553
Attitude mean score	Can't read and write	Primary School	-4.79452*	1.91456	0.013	-8.557	-1.032
		Secondary school	-2.63605	1.91306	0.169	-6.3956	1.1235
		Diploma	-3.47222	2.20958	0.117	-7.8145	0.87
		Degree and above	-5.09259*	2.18721	0.02	-9.3909	-0.7943
	Primary School	Can't read and write	4.79452*	1.91456	0.013	1.032	8.557
Practice mean score		Secondary school	2.15847	1.30075	0.098	-0.3978	4.7147
		Diploma	1.3223	1.70717	0.439	-2.0326	4.6772
		Degree and above	-0.29807	1.67812	0.859	-3.5959	2.9997
	Degree and above	Can't read and write	5.09259*	2.18721	0.02	0.7943	9.3909
		Primary School	0.29807	1.67812	0.859	-2.9997	3.5959
		Secondary school	2.45654	1.6764	0.144	-0.8379	5.751
		Diploma	1.62037	2.00818	0.42	-2.3261	5.5668
	Diploma	Can't read and write	3.34499	2.23693	0.136	-1.051	7.741
		Primary School	4.82262*	1.7283	0.005	1.4262	8.2191
		Secondary school	2.89901	1.72658	0.094	-0.4941	6.2921
		Degree and above	4.22466*	2.03303	0.038	0.2294	8.22

*. The mean difference is significant at the 0.05 level.

In this study, participants Knowledge mean score and practice mean score of participants had a significant difference among the occupational status of respondents (physical labor and Government Employee, student and Government Employee, unemployed and merchants with a p-value of 0.025,0.009,0.05 respectively (Table 8).

Table 8: One-way Analysis of variance (ANOVA) to assess mean difference of overall for level of KAP among Gimbi town residents,2020

Variable	Occupational status	Occupational status	Mean Difference	Std. Error	Sig.	95% CI	
						Lower Bound	Upper Bound
Mean knowledge score	Physical labor	Unemployed	-1.17914	1.28427	0.359	-3.703	1.3447
		Student	0.99773	1.59029	0.531	-2.1275	4.1229
		Merchant	-1.12925	1.54113	0.464	-4.1579	1.8994
		Government Employee	3.31508*	1.47388	0.025	-6.2115	-0.4186
	Student	Physical labor	-0.99773	1.59029	0.531	-4.1229	2.1275
		Unemployed	-2.17687	1.48295	0.143	-5.0912	0.7374
		Merchant	-2.12698	1.71022	0.214	-5.4879	1.2339
		Government Employee	-4.31281*	1.64988	0.009	-7.5551	1.0705
Practice mean score	Physical labor	Unemployed	-2.53794	1.4727	0.086	-5.4321	0.3562
		Student	-0.32269	1.82362	0.86	-3.9065	3.2611
		Merchant	0.69074	1.76724	0.696	-2.7822	4.1637
		Government Employee	-2.47731	1.69013	0.143	-5.7987	0.8441
	Unemployed	Physical labor	2.53794	1.4727	0.086	-0.3562	5.4321
		Student	2.21525	1.70053	0.193	-1.1266	5.5571
		Merchant	3.22868*	1.63993	0.05	0.0059	6.4515
		Government Employee	0.06062	1.55653	0.969	-2.9982	3.1195
	Merchant	Physical labor	-0.69074	1.76724	0.696	-4.1637	2.7822
		Unemployed	-3.22868*	1.63993	0.05	-6.4515	-0.0059
		Student	-1.01343	1.96115	0.606	-4.8675	2.8406
		Government Employee	-3.16805	1.83768	0.085	-6.7794	0.4433

*. The mean difference is significant at the 0.05 level.

In multi-variable analysis, educational status had a significant association with knowledge of participants

[AOR =3.12 ,95%CI (1.1--8.8)]. Age, monthly income, knowledge also independently had significant association with attitude of participants with [AOR=3.89,95%CI,[1.19-12.65],[AOR=1.69,95%CI,[1.01-2.80],[AOR=2.67,95%CI[1.76-4.06] respectively. The age group (60-79yrs) were four times knowledgeable than the age group (15-29yrs), participants of medium-income had a favorable attitude than those of low income by two folds. Also, participants who had good knowledge had a favorable attitude than those with poor knowledge by three folds (Table 9.).

Table 9: Multi-variate analysis of socio- demographic characteristics with knowledge ,attitude and practice scores of COVID-19,among Gimbi town residents, 2020

Variables		Knowledge status		AOR[95%CI]	P-value
		Poor (%)	Good(%)		
Educational status	Formal Education	133(81.1%)	204(68.9%)	1	
	Higher Education	31(18.9%)	92(31.1%)	3.12(1.1-8.8)	0.032*
		Unfavorable attitude	Favorable attitude		
Age in years	15-29	90(54.95%)	152(51.45)	1	
	30-44	41(25%)	86(29.1%)	3.89(CI(1.19-12.65)	0.024*
	45-49	26(15.95%)	41(13.9%)		
	60-79	7(4.3%)	17(5.7%)		
Monthly income	Low	137(83.5%)	225(76%)	1	
	Medium	23(14%)	59(19.9%)	1.69CI(1.01-2.80)	0.044*
	High	4(2.4%)	12(4.1%)		
Knowledge level	Poor	92(48.2%)	99(51.8%)	1	
	Good	72(26.8%)	197(73.2%)	2.67(CI(1.76-4.06)	<0.001*
		Poor Practice	Good practice		
Age in years	15-29	128 (53.8%)	114(51.4%)		
	30-44	65(27.3%)	62(27.9%)		
	45-49	39(16.4%)	28(12.6%)		
	60-79	6(2.5%)	18(8.1%)	3.37(CI(1.29-8.78)	0.013*

1=Reference *=Significant

There is a significant correlation between the knowledge of participants and the attitude of participants with (Pearson correlation) (r=0.339)and a p-value of <0.001. We consider the correlation is statistically significant and also there is a positive correlation, but there is no correlation found with knowledge of participants and practice scores of study participants (Table 10).

Table 10: Correlations between knowledge ,attitude and practice towards prevention ofCOVID-19 among Gimbi town residents,2020

Dependent variables	Stastical-test	Respondent knowledge score	Respondent attitude mean score	Practice mean score
Mean knowledge score	Pearson correlation	1	0.339**	.032
	Sig.		0.000	.497
Attitude mean score	Pearson Correlation	.339**	1	.010
	Sig.	.000		.823
Practice mean score	Pearson Correlation	.032	.010	1
	Sig.	.497	.823	

**. Correlation is significant at the 0.01 level

Discussions

In current survey we want to identify the knowledge, attitude, practice status and factors associated with COVID-19 prevention of among residents in Gimbi town.

This study revealed as, almost all study participants have heard about COVID-19, which is in line with research conducted in Saudi Arabia [6]. The result of this study by far is very low when compared with the result in Afghanistan and northwest Syria [7,8].

This low coverage of information by health workers might be due to the high coverage given by different types of Medias because of the seriousness of the disease and as disease is new.

More than ninety-six percent of the study participants were aware of the sign and symptoms of COVID-19. Four hundred forty-five (96.7%) mentioned as fever, dry cough, headache, and sore throat are common manifestations of the disease. The results of this study are higher than the study conducted in the U.S and Peruvian [9,10]. This might be due difference in media coverage among the countries.

In addition, greater than ninety-six percent of the respondents were aware of the mode of transmission of COVID-19 and nearly ninety-four percent of them know, as currently, there is no effective cure for COVID-19 disease. This high respondent's awareness might help to decrease community transmission.

The mean knowledge score of the study participants was 85.5 with a standard deviation of ±9.89 and the correct answer rate of knowledge assessing questions was (40.9%-96.7%). This result was lower than that of a study conducted on Chinese residents [11]. This might be related to the difference in the educational status of the study population. Greater than sixty-four percent of respondents had good knowledge regarding COVID-19. This result was higher than the study conducted in in North east Ethiopia in Dessie and Kombolcha, Iran & Sudan [4,12,13].This might be due to the difference in the study period.

There is a significant difference with the educational status of participants. In line with research conducted in Iran, Bangladesh and China [1,14,15].

There is a significant correlation between knowledge of participants and attitude of participants with (Pearson correlation) (r=0.339)and p-value of <0.001, This study is similar to a study conducted in In Tigria region and Iran [15,7].

Almost all participants agreed as early detection of COVID-19 can improve treatment outcome, however, only (56.1%) agreed as stigmatizing suspected cases of COVID-19 is not good. This might be due to the fact that the disease is new and need awareness for community. The majority of respondents agree that majority of respondents respectively agreed closing educational centers, restricting access to religious sites, locking down, and quarantining of the cities by government authorities. This is higher than the study conducted in Sudan this difference might be due difference in knowledge status of participants [16].

In general, the overall favorable attitude was 58.5 % regarding the prevention of COVID-19.The result is lower than study result from Addis Ababa Ethiopia [16]. As Addis Ababa the first site in country were first case and death was recorded it influence attitude of people towards the disease. This lower than study result from China figuratively and systematic review by Firomsa in 2020 [1,2]. However, there was a great gap in exercising this attitude to the practice in study area.

The age group (60-79yrs) was four times knowledgeable than the age group (15-29yrs), participants of medium-income had a favorable attitude than those of low income by two folds. It inline study result from Tigria region [17].

Participants who had good knowledge had a favorable attitude than those with poor knowledge by three folds. This is because the people's behavior toward COVID-19 is influenced by their knowledge [2].

More than half of the study participants had visited any crowded places. Which is consistent with stud result from Tigria region [17]. However much lower than the study conducted in China in which only four percent visited crowded places [11]. This difference might be due to the socio-economic status of the country.

Only less than ten percent of the respondents traveled to areas where confirmed cases of COVID-19 were present and less than half of those who traveled wore the mask during their travel during the study period. Which is lower than the study conducted in Tanzania and Nepal [18,19]. It might be due to inadequate access to mask in this study area and level of attitude towards prevention of COVID-19.

Only (38.9%) keep their physical distance. This can favor the easy transmission of COVID-19 in the community. The highest percentage of the study participants did not keep their physical distance due to overcrowding. This finding was lower than the study conducted in Malaysian& Nepal [19,20].

Overall means score of the practice of the participants was 41.8% with std. 11.3, 48.3% had good practice towards the prevention of COVID-19. This result was lower than the study conducted in Iran [8].This practice difference might be due to socio-economic status, educational status, and health coverage. The practice of participants had an independent association with age group with ((AOR= 3.36(CI (1.13, 9.94)). This study is similar to a study conducted in Paraguay [21].

Conclusions

More than half of respondents have good knowledge and satisfactory attitude that was not similarly implemented into practice. As greater than half of participants were poorly practicing routine preventive measures of COVID-19 during the study period which can sustain community transmission. This reveals that efforts are needed in behavioral change for practice and enforcing the law to improve the practices of the community.

Operational Definition

Poor knowledge: Respondents obtaining scoring less than mean of 15 question about knowledge COVID-19. Good knowledge: participants with score of greater than mean of 15 knowledge based question about COVID-19.

Unfavorable attitude: Participants with score of less than mean for the attitude questionnaire constituting 12 items.

Favorable Attitude: Participants with the score of greater than mean for 12 attitude-assessing items. .

Poor practices: Individuals with the result of less than mean score of practice assessing items of 19 questions

Good Practice: respondents with greater than mean of 19 practice screening questions.

List of Abbreviation

ANOVA one-way analysis of variance, AOR adjusted odd ratio,

ETB-Ethiopian Birr OVID--Corona virus disease, KAP- Knowledge, attitude and practice, MERS-CoV -Middle East Respiratory Syndrome-Corona virus, OR-Odd ratio SARS-CoV-Severe Acute Respiratory Syndrome-Coronavirus ,US-United state &WHO-World health organization.

Declarations

Ethical Approval and Consent to Participate

Ethical clearance letter was obtained from Gimbi town health office and then a formal letter had written to each Kebele, Confidentiality was assured.

Consent to Publish

Not Applicable

Availability of Data and Materials

All the data and materials are available with the authors.

Competing Interests

The authors declare that they have no competing interest.

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Authors' Contributions

KE, MT and AM has been involved in proposal development, drafting the study protocol, drafting the study design, and training of data collectors, data entry, analysis and interpretation of data. GF* involved in design, interpretation of data, reviewing intellectual content; supervise overall drafting, as well he has provided important overall process of the manuscript review.

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