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Knowledge, Attitude and Practices of Public Transport Drivers towards COVID-19 Transmission and its Protective Measures in Jimma Town, Southwest Ethiopia

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Abstract

Background: Corona Virus disease (COVID-19) is a public health emergency of international concern. It has huge stress on global health systems and economies of all countries in the world. In the developing countries, where the health system has been already fragile it has the double burden and more challenging. There is an increased risk of COVID-19 with the use of public transportation. The best option in halting its transmission in public transport is by increasing the public transport drivers' knowledge, attitude and practice on its preventive measures. Hence, the aim of this study was to assess the knowledge, attitude, and practices of public transport drivers towards COVID-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.

Methods: A cross-sectional study design was conducted from August 15 /2020 to September 15/2020. The data was collected through face-to-face interviews by using structured and pretested questionnaires. After the data was cleaned and checked for completeness and consistency, the analysis was performed by using SPSS version 24. Binary and multivariable logistic regression was conducted to determine a statistically significant association between dependent and independent variables. Factors with a p-value < 0.25 in the bivariate logistic regression were taken as the candidate for multiple logistic regressions. Variables at p< 0.05 on multivariate logistic regression were considered statistically significant.

Results: A total of 624 participants were enrolled and resulted in 1.6% non-response rates. The mean age of the respondents was 28.11 ± 4.89 in years. About 56.3%, 46.5%, 44.4% of respondents respectively have good knowledge, attitude, and practice towards COVID-19 transmission and its protective measures. Having health insurance was a predictor of poor knowledge [p = 000, OR = 4.756, CI = (2.466, 9.712)] of public transport drivers towards COVID-19 transmission and its protective measures. More than 10 hours duration of deriving [p = .000, OR = 11.630, CI = (7.688, 17.598)] was a predictor of poor attitude, and age between 25 to 30 years [p = .033, OR = .602, CI = (.378, .959)] is significantly associated with poor attitude towards COVID-19 transmission and its protective measures. Similarly, having health insurance [p = .000, OR = .306, CI = (.211, .444)] was significantly associated with the poor practice of public transport drivers towards COVID-19 transmission and its protective measures. Cigarette smoking [p = .010, OR = .065, CI = (.008, .522)] was significantly associated with the poor practice of public transport drivers towards COVID-19 transmission and its protective measures.

Conclusion: The knowledge, attitude, and practice of public transport drivers' towards Covid-19 transmission and its protective measures were low. Further training should be conducted to upgrade the public transport driver's knowledge, attitude, and practices towards COVID-19 transmission and its protective measures. And also researchers were recommended to undertake prospective interventional studies.

Keywords: *Corona Virus; COVID-19; Severe Acute Respiratory Syndrome; Transport Driver; Ethiopia*

Introduction

Corona viruses (CoV) are a large family of viruses that cause illnesses ranging from the common cold to the more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV) [1]. The 2019 novel corona virus (nCoV) is a new strain that has not been previously identified in humans which was first detected in Wuhan, China in December 2019 and has been rapidly spread to the country and all around the world [2]. On 30th January 2020, the WHO declared that the current outbreak constituted a public health emergency of international concern [3].

The virus has now been named severe acute respiratory syndrome corona-2 (SARS-CoV-2) in which case, the disease is known as Corona virus Disease (COVID-19) by the International Committee of Taxonomy of Viruses and World Health Organization (WHO) [4,5]. The ongoing COVID-19 pandemic has spread very quickly, and by May 02, 2020, the virus had reached 215 countries (213 countries and territories, and 2 international conveyances) altogether, resulting in 3,181,642 laboratory-confirmed infections and 224, 301 confirmed deaths, and as of August 05, 2020 the total confirmed cases reached above 18.8 million and more than 707,158 confirmed deaths world-wide [6]. Now a day as reported by WHO, globally there have been 205,338,159 confirmed cases of COVID-19, including 4,333,094 deaths and, a total of 4,428,168,759 vaccine doses have been administered as of 12 August 2021 [7].

In Ethiopia, the first official announcement of the first COVID-19 case was on the 13th of March 2020, as of May 02, 2020, 133 people have been infected with COVID-19, 3 people have died from COVID-19 and 66 people have recovered, and as of August 05, 2020 the total confirmed cases reached above 19,875 and 343 people have died and above 7000 people have recovered from COVID-19 [6].

According to current evidence, COVID-19 virus is transmitted human to the human due to close contact with an infected person, exposed to coughing, sneezing, respiratory droplets or aerosols by fomites. Respiratory droplets or aerosols can penetrate the human body (lungs) via inhalation through the nose, mouth or eyes [8-13]. COVID-19 is a public health emergency of international concern and pretense complex challenges to global psychological resilience [14]. The corona virus disease (COVID-19) has huge stress on global health systems and economies of all countries in the world. It has complex effect on different sectors including health, Socioeconomic, tourism, education, and others. Everywhere, but especially in some developing countries where the health system is already fragile [15-19], which have been struggling to address the preexisting burden of diseases with limited resources, which will become even more challenging during COVID-19. The economic implications related to COVID-19 in those countries include a high cost of care, market failures in pluralistic health systems, high out of pocket expenses, the added burden of non-communicable diseases, missed economic opportunities, and socioeconomic consequences like unemployment and poverty [16].

Although the number of cases and deaths is rising in an alarming rate, the challenge of COVID-19 is wide spectrum due to absences of specific antiviral drugs [20]. The only option to reduce the infection of COVID-19 is to control the source of infection, cut off transmission routes and protect the susceptible population [21,22], and it will be more terrible for low and middle-income countries because of very poor and fragile health care system [23]. This was aggravated by a lot of factors in those countries [22,23]. Ethiopia, being one of the developing countries with limited trained human and material resources, is expected to be affected most by the global COVID-19 pandemic in spite of several actions being under taken to control the spread of the disease in addition to the important preventive measures [24,25].

To guarantee the final success, adherence to preventive measures is vital. Lack of knowledge, attitudes, and practices (KAP) towards COVID-19 is the major factor [26,27]. Adequate knowledge is a prerequisite for establishing prevention beliefs, forming favorable attitudes, and promoting positive behaviors, and an individual's cognition and attitudes towards diseases affect the effectiveness of their strategies and behaviors to a certain extent [28,29].

There is an increased risk of respiratory virus transmission with the use of public transportation [30]. COVID-19 is one of the most challenging respiratory viruses [31]. It has a high transmission rate among passengers in train [32], bus, and air plane [33]. Majority of middle and long transportation service in our country Ethiopia has been given by bus and minibus [34-36]. The only option in halting the transmission of COVID-19 in public transport is increasing the public transport drivers and passengers' knowledge on its preventive measures [37,38].

To the level of the investigators' knowledge, there is no similar study conducted in this area. Hence, this this study will assess knowledge, attitude and practices of public transport drivers towards noble corona virus (COVID-19) transmission and its protective measures in Jimma Town, Southwest Ethiopia.

Methods

Study area and period

The study was conducted in Jimma Town, the capital city of Jimma Zone, which is 335 Km at southwest of Addis Ababa, the capital city of Ethiopia. The town has a total area of 14950 square Km. the study was conducted from August 15 /2020 to September 15/2020.

Study design

A Cross-sectional study design was conducted to achieve the objectives of the study.

Population

Source population: All public transport drivers who received a legal driving license and had been giving transport services in the town during the study period were included.

Study population: All sampled public transport drivers who received a legal driving license and was giving a transport service in the town during the study period.

Sample Size Determination: The sample size (n) required for the study was calculated using the formula to estimate a single population proportion formula by considering the following assumptions. Zα/2 = critical value for normal distribution at 95% confidence level which which is equal to 1.96 (Z value at alpha = 0.05), d = margin of error 0.05, and P = 50 % because estimation proportion of KAP of transport drivers towards COVID-19 is unknown and design effect 1.5 was considered. Based on the formula, the representative sample was calculated be 384. Then, the sample size was multiplied by design effect (384 × 1.5 = 576) and a 10% none respondent rate was added to 576 and result in the final sample size of 634.

Sampling procedure*:* In Jimma Town, Bajaj transport services, Taxi transport services, and Bus transport services are the major means of transportation. For the present study, the site (terminals) was obtained from Jimma Town transport bureau. The representative terminals (five terminals) was selected using simple random sampling (lottery) methods and the sample size was proportionally allocated for Bajaj transport drivers, Taxi transport drivers, and Bus transport drivers.

Study variables

- **Dependent variables**: Includes knowledge, attitude, and practices.
- **Independent variables**: Includes age, sex, religion, residences, marital status, educational status, income, year of service, type of vehicle they drive, time of driving (night/day), substance use (alcohol, chat, cigarette), health insurance, medical conditions of the driver, length of driving in a day and ownership of the vehicle.

Operational definition:

- **Good knowledge**: Summated knowledge assessing question's score less than mean value.
- **Poor knowledge**: Summated knowledge assessing question's score greater than mean value.
- **Good attitude**: Summated attitude assessing question's score less than mean value.
- **Poor attitude:** Summated attitude assessing question's score greater than mean value.
- **Good practice:** Summated practice assessing question's score less than mean value.
- **Poor practice:** Summated practice assessing question's score greater than mean value.

Data collection tool: For this study a structured questionnaire was used. The questionnaire was adapted from tools developed by WHO training material for the transmission, detection, prevention, response, and control of COVID-19 and by modification from other similar studies [26,39-45]. The questionnaire includes socio-demographic characteristics, knowledge, attitude, and practice of the participants towards Covid-19 transmission and its protective measures.

Data collection procedure: Face to face interviews was employed for the data collection and it was conducted by the well trained and experienced data collectors. During face to face interview, an appropriate distance was kept between data collectors and interviewee; personal protective equipment (PPE) such as facemasks and glove was worn by all the data collectors and participants; and alcohol and sanitizers was used.

Data quality assurances

Conceptual and operational definitions of terms were used according to the objective of the study. The questionnaires was prepared in English and translated to dominant local languages Amharic and Afaan Oromoo and back to English by two different language expertises. Training was given for data collectors. A pretest was conducted on 5% of the samples in Agaro town before the actual data collection. Amendment of the questionnaires was done after the pre-test. Facilitators and supervisors were assigned to control and guide the data collection and sample collection process to increase the chances of consistency in data collection. The data was cleaned and checked for completeness and consistency before the data entry and double data entry into Epi-data 3.1 was done.

Data management and analysis

The data entered into Epi-data 3.1 was exported to Statistical Package for Social Science (SPSS version 24). Then, the data generated was analyzed using binary and multivariable logistic regression to determine the frequency, percentage, and association between dependent and independent variables. Factors with p-value < 0.25 in the bivariate logistic regression analysis was taken as a candidate for multiple logistic regressions for further cofounding effects. The crude and adjusted odds ratios with a 95% confidence interval was used to show the strength of the association between independent and dependent variables. The result of multivariate logistic regression was considered as statistical significance at $p< 0.05$. The result was presented by using a graph, tables and figures.

Ethical consideration

Prior to conducting the study, ethical clearance was obtained from Jimma University IRB/committee. Authorized cooperation letter was written from Jimma University IRB/committee to Jimma Zone and City Administration Transport Offices. A request for permission

letter having detail explanation of the research, the reasons behind the research and kind of research that would be conducted in the study area was approved by authorities at City administration and Zonal Transport Bureau. Informed consent was obtained from individual participants. All the interviews with subjects were handled confidentially after getting informed consent of the participants and assuring the confidential nature of the responses. The right of the participants to refuse answering for a few or all of the questions was respected

Results

A total of 624 participants were enrolled and result in 1.6% non response rates. Majority of the respondents were males which accounts to 604 (97%). Almost half of the respondents were 278 (44.6%) in age range of between 25 - 30 years. Majority were single 372 (59.6%) and almost all of the respondents 575 (92.1) were residents of Jimma town (Table 1).

Variables		Frequency	Percentages
Sex	Male	605	97.0
	Female	19	3.0
Age	< 25 years	192	30.8
	25 - 30 years	278	44.6
	30 - 35 years	96	15.4
	> 35 years	52	8.3
Marital status	Single	372	59.6
	Married	235	37.7
	Divorced	8	1.3
	Widowed	9	1.4
Residence	Jimma Town	575	92.1
	Out of Jimma Town	48	7.7

Table 1: *Sociodemographic characteristics of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

Almost half 259 (41.5%) of the respondents were having less two years of service. Majority 409 (65.5%) of the driver's vehicle was taxi. Owner of the vehicles were private and not drivers in about 390 (62.5%). Almost all of the drivers' 609 (97.6%), drive on day time per a single 24 hours. The deriving time was about 5 to 10 hours in half 324 (51.9%) of the respondents and half of 322 (51.6%) the drivers have health insurance. Majority 534 (85.6%) of the drivers were non smokers (Table 2).

Variables		Frequency	Percentages
Years of service	< 2 years	259	41.5
	2 to 3 years	139	22.3
	3 to 4 years	108	17.3
	4 to 5 years	28	4.5
	> 5 years	84	13.5
Types of Vehicles	Bajaj	409	65.5
	Taxi	213	34.1
	Bus	2	.3

Owner of the Vehicles	Self	221	35.4
	Other's	390	62.5
	Government's	13	2.1
When you derived most of the time	Day	609	97.6
	At night	6	1.0
	Both	8	1.3
Duration of driving per 24 hours	< 5 hours	5	.8
	5 to 10 hours	324	51.9
	> 10 hours	284	45.5
Do you have health insurance	Yes	322	51.6
	No	302	48.4
Do you have medical problem	Yes	71	11.4
	No	553	88.6
Alcohol drinking status	Yes	269	43.1
	No	355	56.9
Cigarette smoking status	Non smokers	534	85.6
	Current smokers	75	12
	Past smokers	15	2.4

Table 2: *Job related and behavioral factors of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

Almost all of the respondents 616 (98'75%) were heard of COVID-19 and aware of its contagious nature. Majority 528 (84.6%), 601 (96.3%) were updated on COVID-19 and aware of its common symptoms respectively. About 514 (82.4%), 602 (96.5%) were aware infectiousness of COVID-19 patient and its dangerous nature respectively. Majority 607 (97.3%), 603 (96.6%) of respondent respond that COVID-19 can be transmitted by close contact and through contaminated objects respectively. More than half 377 (60.4%) responded that COVID-19 has no specific treatment. Majority responded that, washing hands 609 (97.6%), disinfecting objects 609 (97.6%), social distancing 615 (98.6%) and avoiding crowded area 546 (87.5%) can prevent COVID-19 (Table 3).

Variables		Frequency	Percentages
Have you heard of COVID-19 disease	Yes	616	98.7
	No	8	1.3
COVID-19 is a contagious disease	Yes	616	98.7
	No	8	1.3
Do you get an update on COVID-19?	Yes	528	84.6
	No	96	15.4
Do you know common symptoms of COVID-19 pandemic	Yes	601	96.3
	No	23	3.7
COVID-19 is dangerous in drugs and substance users	Yes	602	96.5
	No	22	3.5

COVID-19 transmitted by close contact	Yes	607	97.3
	No	17	2.7
COVID-19 can be transmitted through contaminated objects	Yes	603	96.6
	No	21	3.4
Persons with COVID-2019 cannot infect the virus	Yes	514	82.4
	No	110	17.6
Eating wild animals would result in COVID infection	Yes	335	53.7
	No	289	46.3
A person can get COVID-19 through mosquito bite	Yes	129	20.7
	No	495	79.3
A person can get COVID-19 through water and food	Yes	376	60.3
	No	248	39.7
sneezing are less common in persons infected	Yes	569	91.2
	No	55	8.8
there is no effective vaccine for COVID-19	Yes	552	88.5
	No	72	11.5
COVID-19 has no specific treatments	Yes	377	60.4
	No	247	39.6
Washing hands with soap and water can prevent COVID -19	Yes	609	97.6
	No	15	2.4
Cleaning and disinfecting objects and surface	Yes	609	97.6
	No	15	2.4
Social distancing is the best option to prevent COVID -19	Yes	615	98.6
	No	9	1.4
Individuals should avoid going to crowded to prevent COVID -19	Yes	546	87.5
	No	78	12.5
Isolation is effective ways to reduce the virus	Yes	599	96.0
	No	25	4.0
Patient infected with virus should isolated	Yes	565	90.5
	No	59	9.5
Prevalence of COVID-19 disease is increasing	Yes	510	81.7
	No	114	18.3

Table 3: *Knowledge of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

Eating wild animals 335 (53.7%) and mosquito bite 129 (20.7%) can result in COVID-19. As majority of the respondents 510 (81.7%) COVID-19 is increasing. Isolation of COVID-19 positive patient is best measure to decrease the transmission in about 599 (96%) (See table 3). More than half (56. 3%) of the respondents have good knowledge of Covid-19 transmission and its protective measures (Figure 1).

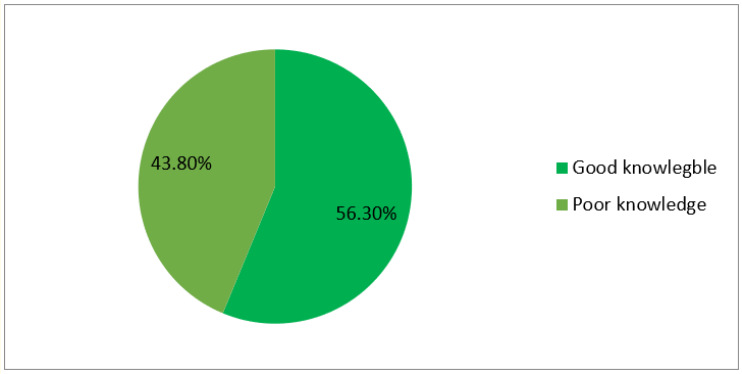

Figure 1: *Level of knowledge of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

As majority of respondents 481 (77.1%) avoiding contact with individuals having flu-like syndrome can prevent COVID-19 transmission. More than half of the respondents responded that regular hands wash 379 (60.7%) and mask wearing 395 (63.3%) can prevent COVID-19 transmission (Table 4).

Variables		Frequency	Percentages
Afraid to contact people who have flu-like symptoms	Agree	481	77.1
	Disagree	135	21.6
	Neutral	8	1.3
Afraid of eating raw food	Agree	233	37.3
	Disagree	384	61.5
	Neutral	7	1.1
Never forgot to wash my hands	Agree	379	60.7
	Disagree	234	37.5
	Neutral	11	1.8
Worn a mask during giving transport services	Agree	395	63.3
	Disagree	214	34.3
	Neutral	15	2.4
Afraid to give services who are from abroad	Agree	268	42.9
	Disagree	331	53.0
	Neutral	25	4.0
Afraid to go church and mosques	Agree	231	37.0
	Disagree	373	59.8
	Neutral	20	3.2
Alcohol-based washing is good for prevention	Agree	585	93.8
	Disagree	36	5.8
	Neutral	3	.5

I protect my clients from infection	Agree	417	66.8
	Disagree	184	29.5
	Neutral	23	3.7
Happy to give cross-country services	Agree	268	42.9
	Disagree	113	18.1
	Neutral	243	38.9
Public transportations minimize the spreading	Agree	466	74.7
	Disagree	147	23.6
	Neutral	11	1.8
Driving at night reduces the risk	Agree	251	40.2
	Disagree	359	57.5
	Neutral	14	2.2

Table 4: *Attitude of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

More than half 359 (57.5%) of the respondents disagree with whether driving at night reduces the risk of COVID transmission. Additionally, majority 466 (74.7%) agree that public transportations minimize the transmission (See table 4). More than half (53.5%) of the respondents have poor attitude towards COVID-19 transmission and its protective measures (Figure 2).

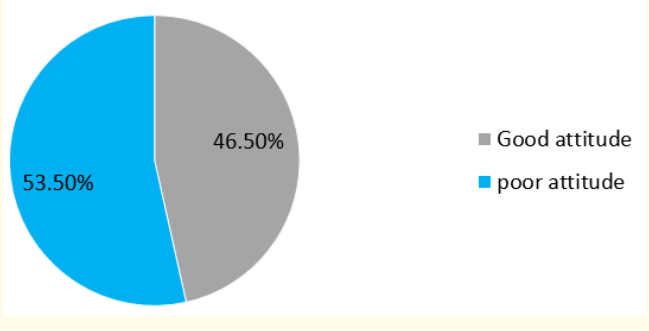

Figure 2: *Level of attitude of public transport drivers towards COVID-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

Allmost all of the respondents (46.3% always and 45.4% sometimes) were practicing frequent hand wash. Less than half of the drivers (44.6%) avoided handshaking while majority 418 (67%) practice healthy life style (Table 5).

Variables		Frequency	Percentages
Do you wash your hands frequently?	Yes	289	46.3
	Sometimes	283	45.4
	No	52	8.3
Do you wear a face mask and gloves?	Yes	237	38.0
	Sometimes	246	39.4
	No	141	22.6

Do you use traditional medication for COVID-19?	Yes	237	38.0
	Sometimes	79	12.7
	No	308	49.4
Do you avoid handshaking?	Yes	278	44.6
	Sometimes	109	17.5
	No	237	38.0
Do you quit drinking alcohol?	Yes	305	48.9
	Sometimes	95	15.2
	No	224	35.9
Do you practice a healthy lifestyle?	Yes	418	67.0
	Sometimes	85	13.6
	No	121	19.4
Do you stay at home?	Yes	184	29.5
	Sometimes	165	26.4
	No	275	44.1
Do you cough and sneeze?	Yes	495	79.3
	Sometimes	61	9.8
	No	68	10.9

Table 5: *Practice of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

More than half of the drivers (55.6%) practice towards Covid-19 transmission and its protective Measures was poor (See figure 3).

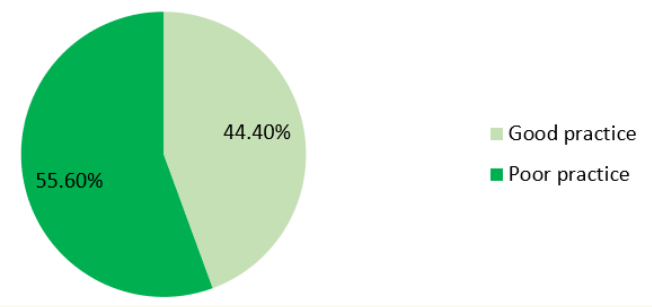

Figure 3: *Level of practice of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

On bivariate analysis age, duration of driving, time of driving, alcohol drinking status, smoking status, health insurance, and medical problem of the driver were factors associated with poor knowledge and were candidate for multivariate analysis. On multivariate analysis only health insurance was significantly associated with poor knowledge. Accordingly, public transport drivers' knowledge towards Covid-19 transmission and its protective measures was about five [p = 000, OR = 4.756, CI = (2.466, 9.712)] times in those having health insurance as compared to those without health insurance (Table 6).

On bivariate analysis age, duration of driving, time of driving, alcohol drinking status, smoking status, ownership of the vehicle, and medical problem of the driver were factors associated with poor attitude and were candidate for multivariate analysis. On multivariate analysis only age and duration of deriving was significantly associated with poor knowledge. Accordingly, public transport drivers' attitude towards Covid-19 transmission and its protective measures was about six times in those less than 25 years age [p = .033, OR = .602, CI = (.378, .959)] as compared to those in between 25 to 30 years. In addition, public transport drivers' attitude towards Covid-19 transmission and its protective measures was about eleven times in those greater than 10 hours duration of deriving [p = .000, OR = 11.630, CI (7.688, 17.598)] per 24 hour as compared to less than 5 hours (See table 6).

On bivariate analysis age, duration of driving, time of driving, alcohol drinking status, smoking status, ownership of the vehicle, and medical problem of the driver were factors associated with poor practice and were candidate for multivariate analysis. On multivariate analysis only age and duration of deriving was significantly associated with poor knowledge. Accordingly, public transport drivers' practice towards Covid-19 transmission and its protective measures was about six times in non smoker [p = .010, OR = .065, CI = (.008, .522)] as compared to current smoker. In addition, public transport drivers' practice towards Covid-19 transmission and its protective measures was about eleven times in those without health insurance [p = .000, OR = .306, CI = (.211, .444)] as compared to those having insurance (See table 6).

Variables		Status of knowledge		Bivariate		Multivariate	
		Good	Poor	p-value	COR (95%CI)	p-value	OR (95%CI)
Age	< 25 years	102	90	.689	.882 (.478, 1.629)	.737	1.076 (.702, 1.649)
	25-30 years	163	115	.250	.706.390, 1.277)	.670	.884 (.502, 1.557)
	30-35 years	58	38	.223	.655 (.332, 1.294)	.879	1.056 (.524, 2.129)
	>35 years	26	26		1		1
Duration of driving	< 5 hours	4	1	.922	.895 (.098, 8.154)	.263	3.759 (.371, 38.13)
	5 to 10 hours	119	205	.000	6.168 (4.299, 8.85)	.530	2.120 (.204, 22.06)
	> 10 hours	222	62		1		1
Time of driving	Day	342	267	.113	5.465 (.668, 44.690)	.392	2.809 (.263, 29.958)
	At night	2	4	.055	14.00 (.944, 207.597)	.357	4.228 (.197, 90.715)
	Both day and night	7	1		1		1
Alcohol drinking status	Alcohol drinker	168	101	.007	.640 (.463, .883)	.747	.935 (0.619, 1.411)
	Non drinker	183	172		1		1
Smoking status	Non smoker	295	239		1		1
	Current smoker	46	29	.321	.778 (.474, 1.277)	.079	1.741 (.9373.234)
	Past smoker	10	4	.238	.494 (.153, 1.594)	.538	1.491 (.418, 5.317)
Health insurance	Yes	251	71	000	7.141 (5.001, 10.196)	.000*	4.756 (2.466, 9.712)
	No	100	202		1		1
Medical problem of the driver	Yes	51	20	.006	.465 (.270, .801)	.626	.859 (.467, 1.581)
	No	300	253		1		1
Variables		**Status of Attitude**		**Bivariate**		**Multivariate**	
		Good	**Poor**	**p-value**	**COR (95%CI)**	**p-value**	**AOR (95%CI)**
Age	< 25 years	79	113		1		
	25-30 years	148	130	.727	.894 (.477, 1.676)	**.033***	.602 (.378, .959)
	30-35 years	42	54	.053	.549 (.299, 1.007)	.964	.985 (.525, 1.849)
	>35 years	20	32	.534	.804 (.403, 1.600)	.533	.770 (.338, 1.753)
Duration of deriving	< 5 hours	4	1		1		1
	5 to 10 hours	119	205	.079	5.054 (.827, 30.896)	.115	4.470 (.694, 28.774)
	> 10 hours	222	62	.000	13.687 (9.275, 20.199)	.000*	11.630 (7.688, 17.598)

Smoking status	Non smoker	295	239		1		1
	Current smoker	46	29	.053	3.18 (1.985 , 10.27)	.589	1.200 (.619, 2.329)
	Past smoker	10	4	.422	1.667 (.478, 5.807)	.260	.447 (.110, 1.816)
Time of driving	Day	342	267	.131	3.456 (.692, 17.258)	.831	.808 (.115, 5.667)
	At night	2	4	.047	15.000 (1.031, 218.3)	.239	7.598 (.260, 22.18)
	Both day and night	7	1		1		1
Medical problem of the driver	Yes	51	20	.000	.347 (.204, .589)	.172	.636 (.332, 2.17)
	No	300	253		1		1
Alcohol drinking status	Alcohol drinker	168	101	.000	2.043 (1.481 , 2.819)	.208	.752 (.483, 1.172)
	Non drinker	183	172		1		1
Ownership of the vehicle	Self	68	153	.009	5.062 (1.507, 17.01)	.403	1.883 (.427, 8.311)
	Other's	213	177	.305	1.870 (.566, 6.17)	.985	1.014 (.233, 4.413)
	Government's	9	4		1		1
Variables		**Status of Practice**		**Bivariate**		**Multivariate**	
		Good	**Poor**	**p-value**	**COR (95%CI)**	**p-value**	**AOR (95%CI)**
Age	< 25 years	79	113		1		1
	25-30 years	148	130	.243	.802 (.553, 1.162)	.814	.951 (.625, 1.446)
	30-35 years	42	54	.735	1.090 (.661, 1.797)	.726	1.110 (.619, 1.993)
	>35 years	20	32	.188	.661 (.358, 1.223)	.088	.532 (.258, 1.097)
Smoking status	Non smoker	295	239		1		1
	Current smoker	46	29	.339	1.272 (.777, 2.081)	.010*	.065 (.008, .522)
	Past smoker	10	4	.034	5.087 (1.127, 22.97)	.056	.127 (.015, 1.056)
Year of service	< 2 years	103	156				1
	2 to 3 years	74	65	.191	.191 (.501, 1.148)	.132	.697 (.436, 1.114)
	3 to 4 years	52	56	.287	.287 (.499, 1.228)	.322	.774 (.466, 1.285)
	4 to 5 years	15	13	.659	.659 (.383, 1.834)	.857	.926 (.400, 2.114)
	> 5 years	42	42	.402	.402 (.748, 2.063)	.344	1.344 (.728, 2.481)
Ownership of the vehicle	Self	68	153	.054	.719 (.515, 1.00)	.437	.610 (.175, 2.126)
	Other's	213	177	.948	1.039 (.329, 3.279)	.332	.543 (.158, 1.864)
	Government's	9	4		1		1
Time of driving	Day	342	267	.763	1.239 (.307, 5.00)	.426	2.034 (.354, 11.698)
	At night	2	4	.217	5.000 (.388, 67.037)	.264	4.986 (.297, 83.626)
	Both day and night	7	1				1
Health insurance	Yes	251	71	.000	.373 (.269, 0.518)	.000*	.306 (.211, .444)
	No	100	202		1		1
Medical problem of the driver	Yes	51	20	.059	.620 (.377, 1.019)	.450	.812 (.473, 1.394)
	No	300	253		1		1

Table 6: *Factors associated with poor knowledge, attitude, and practice of public transport drivers towards Covid-19 transmission and its protective measures in Jimma Town, Southwest Ethiopia.*

Discussion

As far as the knowledge of the researchers, there is no previous study conducted to assess knowledge, attitude and practices of public transport drivers towards COVID-19 transmission and its protective measures. In the current study, knowledge, attitude and practices

of public transport drivers towards COVID-19 transmission and its protective measures was studied. Accordingly, about 56.3%, 46.5%, 44.4% of respondents respectively have good knowledge, attitude and practice towards COVID-19 transmission and its protective measures. As compared to the knowledge attitude was lower and practice was much lower. This decrease in practice may be because of decrease in good attitude towards COVID-19 transmission and its protective measures. This may demand adequate training for public transport drivers for improvement of their knowledge, attitude, and practice.

There was lack of study done among transmission and its protective measures as far as the researchers search. But in Ethiopia there are a lot of research done to assess the knowledge, attitude and practices toward COVID-19, from all the available study it was concluded that the knowledge, attitude and practices toward COVID-19 as well as preventive techniques utilization was not adequate it needs further work [46-49].

Similarly in study done among adult population in Sidama Regional State 43.9%, 37.5%, and 24.4% of the study participants had demonstrated good knowledge, high attitude and proper practice, respectively [50].

However, 89.7%, 93%, and 88.2% among food industry workers in Bangladesh respectively have a good level of knowledge, attitude, and practices regarding COVID-19 [51]. This was higher than the result our study which may be due to difference in awareness level, educational status, country specific interventions and area of working environment.

In this study, public transport drivers' knowledge towards Covid-19 transmission and its protective measures was about five [p = 000, OR = 4.756, CI = (2.466, 9.712)] times in those having health insurance as compared to those without health insurance. In addition, public transport drivers' attitude towards Covid-19 transmission and its protective measures was about six times in those less than 25 years age as compared to those in between 25 to 30 years [p = .033, OR = .602, CI = (.378, .959)]. Also, public transport drivers' attitude towards Covid-19 transmission and its protective measures was about eleven times in those greater than 10 hours duration of deriving [p = .000, OR = 11.630, CI (7.688, 17.598)] per 24 hour as compared to less than 5 hours. However, public transport drivers' practice towards Covid-19 transmission and its protective measures was about six times in non smoker [p = .010, OR = .065, CI = (.008, .522)] as compared to current smoker. Finally, public transport drivers' practice towards Covid-19 transmission and its protective measures was about eleven times in those without health insurance [p = .000, OR = .306, CI = (.211, .444)] as compared to those having insurance.

The comparison of factors associated with public transport drivers' knowledge, attitude and practice towards Covid-19 transmission and its protective measures was a little bit difficult because of the lack of the available literature on the same idea. The limitation of this study was the absence of standard tool in assessing public transport drivers' knowledge, attitude and practice towards Covid-19 transmission and its protective measures that made us to adapt published article and tool on the area to assess it. Further researchers were recommended to undertake prospective interventional studies the area.

Conclusion

The knowledge, attitude and practice of public transport drivers' towards Covid-19 transmission and its protective measures was low. Having health insurance and being in between 25 to 30 years age was significantly associated with poor knowledge. Duration of deriving greater than ten hours was significantly associated with poor attitude. Being non-smoker and lack of health insurance significantly associated with poor practice. Further researchers were recommended to undertake prospective interventional studies.

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