



# Level of Adherence to Covid-19 Preventive Measures: Case Study of FUTA Shuttle Bus

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## Research Article

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## Abstract

This study assessed the level of adherence of FUTA shuttle bus operators and passengers to the covid-19 preventive measures suggested by the government, regarding the compulsory hand rinsing; physical distancing preventive measures; and wearing of a nose mask and or face mask in FUTA shuttle bus. Survey research design was employed through personal observation. The observation lasted for 7 days which entails a 7-day peak and off-peak hour count within the specified hours of 7-10 am 2-4 pm and 4-7 pm from Sunday to Saturday. Of the three hours designated for each morning, afternoon, and evening session, there seems to be no rinsing of hands by passengers, although there were provisions of veronica buckets in the Bus Park. Also, there seems to be a low level of adherence to nose masks and or face mask-wearing among the passengers, however, the FUTA shuttle bus operators were keen on ensuring physical distance in the sitting arrangement of passengers as this was discovered in all the shuttle buses that were studied. The study recommends the strict monitoring and enforcement of hand rinsing by passengers in FUTA before the departure of shuttle bus; the enforcement of nose mask and or face mask-wearing inside the shuttle bus.

**Keywords:** Adherence; Covid-19; Preventive measures; FUTA Shuttle Bus

**Abbreviations:** FUTA: Federal University of Technology Akure; COVID-19: Coronavirus; SARS CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2; WHO: World Health Organization.

## Introduction

Since the beginning of the 20th century, the world has witnessed several crises which are epidemic and endemic. In the year 1918-1920, the Spanish Flu is popularly known as Influenza occurred and affected about one-third of the world population. In the 21st century, there were disruptive events

such as the 9/11 terrorist attack that occurred at Pentagon, the SARS outbreak that occurred in the year 2003, the global economic and financial crisis that occurred between 2008-2009, the Middle East Respiratory Syndrome (MERS) outbreak that occurred in the year 2015, and the latest Covid-19 are known to have negatively affected the world economy.

The recent novel (2019-2020) Coronavirus (Covid-19) endemic was originated from Wuhan, China in December 2019. It is an acute respiratory infectious disease. Qiu Y, et al. [1] noted that it was confirmed an endemic by the World

Health Organization (WHO, 2019) [2] because of its rising human-to-human infection resulting in more than 200,000 deaths within three months ever since the beginning of the outbreak (WHO, 2020) [3]. As of 2<sup>nd</sup> September 2020, it has been reported in 213 countries and has resulted in approximately 862,234 deaths World meters (2020) [4]. Liu Z, et al. [5] noted that surprisingly, the Covid-19 infection and deaths recorded the highest rate when numerically compared to other coronavirus outbreaks like SARS-CoV, MERS-CoV, and Influenza.

Previous studies of Sohrabi C, et al. [6]; Chinazzi M, et al. [7] and others have disputed that movement restriction and control is the best method to managing and curbing the spread of such diseases. Therefore, many countries including Nigeria enforced social distancing, travel restrictions, and rescheduling of events (such as a wedding, burial) for at least 2 weeks in their respective countries. In many countries, the emergency unit also referred to as a quarantine unit was set up for curbing the spread of coronavirus. The aftermath of this order was felt on human psychology such as anxiety, stress, and depression and on socioeconomic activities such as the temporary shutting down of retail shops, retail premises, and interruption of product delivery Wilder-Smith A, et al. [8].

In Nigeria, the 14th day's travel /movement restriction order which started from 30th March 2020 till 27th July, disrupted the operation of many small and medium enterprises including the agriculture, retails, food and beverages, construction, tourism, and transport sectors. Before focusing on the impact and strategies for reducing the impact of Covid-19 on the operations of the FUTA shuttle bus operation, it is pertinent to be aware and conscious of the explanation of the crisis. According to Booth SA, et al. [9], a crisis is a condition that is experienced by an individual, or group which they find difficult to cope with using normal habitual measures. Booth further identified three types of crises, which are: Gradual threat, Periodic threat, and sudden threat.

The Covid-19 crisis can be known to be a sudden threat because the crisis came up suddenly and affected all organizations and sectors of the economy including the bus operators. Hence, they must be able to manage the crisis. Nonetheless, little is acknowledged and evaluated about the adherence to Covid-19 safety rules and personal preventive measures, such as physical distancing, use of mask, hand and cough hygiene, in bus operation. Understanding the level of adherence is essential for the containment of the Covid-19 epidemic in the long term. On this note, this study assessed the level of adherence regarding the Covid-19 preventive measures suggested by the government.

The Covid-19 endemic has up till now had a significant impact on people's mobility at the local, national, and international levels. As a result of the endemic, stringent interventions, such as travel restrictions, remote work, lockdowns, and sensitization were imposed, and have affected the operation of passenger transport. Research reveals that physical distancing policies are effective in minimizing the spread of the virus Islam JY, et al. [10]. Nonetheless, distancing has been established to be indeed challenging in some situations and for some groups of people. This is undeniably the case with public transport, especially the FUTA shuttle bus.

The brisk spread of the Covid-19 virus, which became a worldwide endemic as of the year 2020, was attributed to the hyper-mobility, globalization, recent lifestyles, and the accessibility and connectivity of citizens in Wuhan, the first epicenter Jandoc K, et al. [11]; Musselwhite C, et al. [12]. Since then, the Covid-19 endemic swiftly evolved into a condition that is labeled with profound effects on spatial interaction (mobility dynamics), lifestyle Javid B, et al. [13] and social integration. Most of the long, medium and short distant movements were minimized worldwide, leading to an unprecedented increase in tele-working.

These impacts emanated from governmental measures (majorly travel restrictions) as well as individual choices to refrain from traveling to minimize exposure to other people and the risk of contamination [14]. There is a drastic reduction in urban travel across the world, though not uniformly for all modes, as the hardest blow of the endemic was felt on public transportation [15]. Because of the unavoidability of public transportation especially for the low-income earners and the fact that it provides door-to-door service, there is a perception that public transportation has more risk than private means of transport.

In Nigeria, after the ease of lockdown and the provision of the necessary equipment that is necessary for preventing the spread of Covid-19, the tertiary education resumed activities and students travelled down from their respective locations. Also, shuttle bus operators resume operations on various campuses, but assessment level of adherence to and satisfaction of passengers to shuttle bus operations in the tertiary institutions regarding the Covid-19 preventive measures have not been well-researched, and none have been conducted on the campus shuttle of the Federal University of Akure (FUTA) [16].

FUTA shuttle bus operation's purpose is to provide an affordable, accessible, and sustainable transport mode for most people in the FUTA community which be jeopardized by the need to guarantee physical distancing. In this context, FUTA shuttle bus authorities and operators face the

unprecedented challenge of maintaining adequate levels of service while upholding the health of users and workers and, at the same time, dealing with harsh economic instability. This study assessed the level of adherence to the Covid-19 preventive measures suggested by the government on the campus shuttle of FUTA. It addressed these main questions: What is the level of adherence of FUTA shuttle bus operators to compulsory hand rinsing, physical distancing preventive measures, and passengers' wearing of a nose mask and or face mask in FUTA shuttle bus?.

There is no sureness that new waves of extensive infection will not emerge after the first crisis; hence, there is a need for proper management of preventive measures especially in the situation that involves gathering of a group of people. The study is pertinent because it gives room for a better understanding of the level of adherence regarding the covid-19 preventive measures suggested by the government on the campus shuttle of FUTA.

Furthermore, the study will reveal the extent to which the FUTA shuttle buses were able to adhere to the covid-19 measures after the movement lockdown due to the Covid-19 outbreak, and those strategies that will be impactful on the performance of the shuttle bus operation. The outcome of this study will enhance a basis for policy recommendation by the University authority regarding the covid-19 preventive measures on bus operations.

## Literature Review

### *Public transport operations in Nigeria during the covid-19 endemic*

In Nigeria, bus services are the major means of transport for intercity travel while minicab services are the major means of transport for intra-city travel among the majority of commuters because of the relative affordability Adeniran AO, et al. [17]. These services which are run by the informal sector have seats between 15 and 21 passengers for bus services while 5 and 8 for minicab services, depending on the size of the bus or car, and several seats fabricated for a vehicle by local metal smiths Tetteh S, et al. [18].

The vehicles are nonetheless, usually overloaded, presenting a potential health hazard for the spread of infectious diseases Adeniran AO, et al. [17]; Goscé L, et al. [19] such as Covid-19. Minicabs, motorcycles, tricycle services, Acheampong RA, et al. [20]; Tuffour YA, et al. [21], and bus rapid transit services exist in most Nigeria cities, for intra-city movement because of their cheap fares [17], and large vehicle fleets that ply most roads.

As a result of their informal natures, operators of bus services and some minicab services are unionized under

the National Union of Road Transport Workers (NURTW), a member of the Trade Union Congress. This enhances the commercial drivers to be able to represent their interest with the government, such that their services will be regulated through government directives, especially in times where public transport management requires a collaborative effort between the operators and government. The ministry of transport in conjunction with the ministry of health and ministry of information issue directives for intercity and intra-city bus operators during covid-19, which included the use of veronica buckets in bus terminal; compulsory rinsing of hands and regular washing of vehicles before boarding vehicles; reducing the number of occupants per vehicle; opening of windows for ventilation; and recording of passenger cell phone numbers for contact tracing.

Appropriate use of a nose mask and or face mask was also provided on the ministry's website. According to FUTA (2020), intra-state travel is doable by public transport- buses, tricycles, and taxis. The covid-19 rules guiding the intra-state travel in Nigeria, which is applicable to shuttle bus operation in all the tertiary institutions, were related to the provision of hand sanitizers for hand washing; and the earlier points. This study focused on the level of adherence between passengers and bus operators to the covid-19 preventive measures as suggested by the government on the campus shuttle of FUTA.

## Empirical Review

During the Covid-19 lockdown period, it was generally agreed that travel must be minimized, allowing only essential or unavoidable trips. As activities resume in the post-lockdown period, it gives rise to the question of physical distancing in public transport. The sparse empirical studies available hitherto do not provide conclusive evidence on the effect of physical distancing in closed environments such as public transportation facilities and vehicles.

There is, although limited, evidence depicting the significance of physical distancing in public transport can be wholly minimized if other non-pharmaceutical measures are enforced Ngonghala CN, et al. [22], such as the correct use of nose masks and or face masks, enhanced hygiene, or even a prohibition of talking (Singapore case) Cheng VC, et al. [23]; Morawska L, et al. [24], Prather KA, et al. [25]; Shen Y, et al. [26], then there is still a risk of the virus spreading without wearing a nose mask and or face mask.

In the presence of an infected passenger, physical distancing can help minimize the number of people infected but not prevent infection altogether when passengers do not wear masks. On the other hand, the latest epidemiological research shows that masks are effective in preventing or at least significantly reducing covid-19 virus spread [25,27,28].

There are public transportation systems currently running large occupancies with passenger spacing below the two-meter physical distance rule and no covid-19 outbreaks attributed to public transportation when everyone wears masks, as recently reported for Japan.

In that country, it was recently found that most covid-19 contagion clusters originated in places where people gather, eat, drink, chat, and sing, such as live music venues, gyms, pubs, and karaoke rooms. There is no link between clusters and commuter trains. The fact that close-range conversation among strangers in public transportation is infrequent has been hypothesized by virologist Hitoshi Oshitani as one of the explanations for these findings Normile D, et al. [29]. This type of result led Singapore to its decision of not enforcing strict physical distancing rules in public transportation but requiring passengers to wear nose masks and or face masks and not talk to each other.

Even though the safety gains from the universal adoption of a nose mask and or face masks are potentially large, it is unknown how much safer a public vehicle or station is if all passengers wear different types of masks (surgical, cloth, N95) at different stages of the endemic, versus if only a subset of them does it. This is a matter of utmost relevance because it can help in defining a “reasonable” occupancy level for

public transport, an element that has significant economic, operational, and social implications. Put differently, if a physical distance of two meters does not properly work in public vehicles when people do not wear masks, what should be the maximum passenger capacity of vehicles if all people use masks properly?.

The current experience in large cities in Asia, such as Tokyo and Seoul, shows that a physical distance shorter than 1 meter in public transportation seems to work well under general usage of masks and high hygiene standards; however, the current prevalence of the virus in those places is unknown. The evolution of such a method to public transportation use, without setting strong physical distancing rules, should be closely followed shortly to understand the conditions that would allow for its replication in other cities around the world.

The problem of new maximum occupancy standards due to new physical distancing requirements is a multifaceted challenge that depends on the use of nose masks and or face masks, sanitization, and ventilation, among other factors. However, conditions are likely to be less clear-cut with some passengers that are not (properly) wearing masks. It is therefore assumed that some form of physical distancing may be needed, which is the current reality in many countries.

Name of Author	Year	Topic	Methodology
Islam JY, et al. [10]	2020	Determinants of COVID-19 preventive behaviours among adults with chronic diseases in the USA: an analysis of the nationally-representative COVID-19 impact survey	The study employed data which was national representation of covid 19 impact survey, and was used to achieve the sample size of 10760 which entails adults with CDs in different categories of diseases. Respondents were contacted by mail, telephone interview, online, and web platform.
Apanga PA, et al. [30]	2021	Adherence to COVID-19 preventive measures and associated factors among pregnant women in Ghana	527 pregnant women were randomly selected across 16 health care facilities, both descriptive and multivariable logistic regression were adopted for the analyses.
Amodan BO, et al. [31]	2020	Level of adherence to COVID-19 Preventive Measures in the First Stage of the Outbreak in Uganda	The study sampled 1726 respondents. Likert scale was adopted to measures the preventive measure variables
Bante A, et al. [32]	2021	Adherence with COVID-19 Preventive Measures and Associated Factors Among Residents of Dirashe District, Southern Ethiopia	648 inhabitants in Dirashe district from June 20 to July 5, 2020, were collated multistage sampling technique was applied to select the participants. The data were assorted electronically using Open Data Kit (ODK)
Okon UA, et al. [33]	2021	Knowledge, risk perception, and adherence to covid 19 prevention advisory among police officers in Makurdi Metropolis Benue State, 2020.	348 police officers across different carde were sampled. The results of the study were presented in frequencies and proportions. Chi-square test was used for an association between variables at p-value < 0.05

Handebo S, et al. [34]	2021	Determinants of COVID-19-related knowledge and preventive behaviours among students in reopened secondary schools: a cross-sectional study	A total of 370 secondary school students were included. Bivariable and multivariable ordinal logistic regression models were fitted to identify the predictors of knowledge about COVID-19. Simple and multiple linear regression analyses were done to identify factors associated with preventive behaviour.
Shah SU, et al. [35]	2021	Association between well-being and compliance with COVID-19 preventive measures by healthcare professionals: A cross-sectional study	The multi-national survey was distributed across 36 countries through social media, word-of-mouth, and electronic mail to Participants $\geq 21$ years working in healthcare and non-healthcare related professions.
Lavoie KL, et al. [36]	2021	Determinants of adherence to COVID-19 preventive behaviours in Canada: Results from the iCARE Study	An online survey and structured questionnaire were adopted for the study. Multivariate regression models identified determinants of adherence.
Indrayathi PA, et al. [37]	2021	Perceived Social Norms as Determinants of Adherence to Public Health Measures Related to COVID-19 in Bali, Indonesia	Adherence was measured based on nine protocol indicators that were rated using a four-point Likert scale. A multiple linear regression analysis was then conducted to determine the associated factors of adherence to public health measures
Adedokun MO, et al. [38]	2020	COVID-19 and Compliance with Awareness Programmes/ Preventive Measures: A Case Study of Ibadan North Local Government, Oyo State, Nigeria	Descriptive statistics of mean and standard deviation with appropriate remarks were used to analyze the research questions.
Omemo P, et al. [39]	2020	Determinants of Adherence to the Suggested COVID-19 Prevention and Control Guidelines by Small Scale Retail Shop Operators in Rural Parts of Siaya County, Kenya	Systematic random sampling techniques were used to identify SSSOs. 122 rural SSSOs were requested to answer simple semi-structured questions posed by the enumerators
Isere E, et al. [40]	2021	The outcome of Epidemiological Investigation of COVID-19 Outbreak in the South West State of Nigeria, March to August 2020	Field epidemiology methods coordinated by the State Public Health Emergency Operations Center (PHEOC) were used in the outbreak investigation. Suspected cases were reported through the routine Integrated Disease Surveillance and Response (IDSR) network in the State.
Okueso S, et al. [41]	2020	Adherence to COVID-19 Protocol: Impact of Socioeconomic Status of Market Men and Women in Ogun State, Nigeria	The study adopted a descriptive survey research design where structured and validated questionnaires cum interview guides were used as the instrument for data collection.
Nejc, and Bojan	2020	Modeling compliance with COVID-19 prevention guidelines: the critical role of trust in science	A total of 525 attentive participants completed the online survey.
Alshammari AS, et al. [42]	2021	Factors Associated With Adherence to COVID-19 Preventive Measures Among Saudi Arabians	1,568 participants were enrolled from WhatsApp groups, aged 16 years and above from March to April 2020 in Saudi Arabia. An online Arabic self-administered questionnaire was adopted.

**Source:** Authors' compilation (2021).

**Table 1:** Summary of Empirical Review.



From the empirical review shown in Table 1, there were not many related studies on the adherence of covid-19 preventive measures by public transport operators, and there were no related studies conducted in FUTA. This study focused on the level of adherence regarding the covid-19 preventive measures as suggested by the government on the FUTA campus shuttle bus operation.

## Materials and Methods

This study adopts a survey research design through personal observation as a research instrument to collect primary data which was used to achieve descriptive statistics. The study is designed in such a way to assess the adherence of FUTA shuttle bus operators to covid-19 preventive measures during operation. The observation lasted for one week in the FUTA bus park. The survey is a technique that involves the use of other trained observers to categorize respondents' behavior. This survey enhanced a fair appraisal of passengers' and operators' compliance in real-time [43].

The most suitable study populations were the shuttle bus operators and the passengers that were observed during the bus operation; passengers were selected because they do patronize the shuttle bus for departure. The assessment was best conducted at the bus park and the bus operators together with passengers are best to assess the adherence of shuttle bus operators to covid-19 preventive measures based on the indicators set by the Federal Ministry of Health.

Primary data were collected through a structured survey of personal observations. The observation was conducted

on shuttle bus passengers in the FUTA shuttle park using research assistants before takeoff. The three variables of frequent hand rinsing, wearing nose masks and or face masks and physical distancing was considered the most effective covid-19 prevention measures in FUTA shuttle bus operation. To determine the level of adherence of FUTA shuttle bus operators to compulsory hand rinsing, personal observation was conducted by the researcher within the period of study.

To assess the level of adherence of FUTA shuttle bus operators to physical distancing preventive measures, the category of buses (whether 18-passengers bus or 14-passengers bus) were identified, and the number of passengers that occupied each of these shuttle buses from Sunday (04/07/21) to Saturday (10/07/21) between the specific hours of 7-10 am, 2-4 pm, and 4-7 pm were numerically identified and summed. To assess the level of adherence of passengers to nose mask and or face mask-wearing in FUTA shuttle bus, the number of passengers that wear nose mask and or face mask in each of these shuttle buses from Sunday (04/07/21) to Saturday (10/07/21) between the specific hours of 7-10 am, 2-4 pm, and 4-7 pm were numerically identified and summed.

## Results And Discussion

From the sample size calculated to seven hundred (700) which equals to the total number of passengers that were interviewed by the researcher and assistants in FUTA shuttle bus, only six hundred and eighty-seven (687) which is about 98.14 percent respondents provided valid responses for data analysis and reporting (Table 2).

Location	Questionnaire	Frequency	Percentage
FUTA shuttle bus passengers	Administered	700	
	Returned	687	98.14

Source: Field Survey (2021).

Table 2: A response rate of respondents.

### Adherence of FUTA Shuttle Bus Operators to Compulsory Hand Rinsing

To assess the adherence of FUTA shuttle bus operators to compulsory hand rinsing by passengers, personal observations were carried out in the Bus Park from Sunday (04/07/21) to Saturday (10/07/21) between the specific hours of 7-10 am, 2-4 pm, and 4-7 pm. It was revealed that there was the presence of Veronica buckets, but the passengers did not make use of it.

### Adherence of FUTA Shuttle Bus Operators to Physical Distancing

From the observations that were carried out regarding the adherence of FUTA shuttle bus operators to the covid-19 measures from Sunday (04/07/21) to Saturday (10/07/21) between the specific hours of 7-10 am, 2-4 pm, and 4-7 pm, it was revealed that all the shuttle bus operators adhered strictly to physical distancing measures by reducing the number of passengers apportioned to the seats. In the 18-passengers shuttle buses, the passengers were minimized to 14 as a

result of physical distancing. Also in the 14-passenger shuttle buses, the passengers were minimized to 10 as a result of

physical distancing (Table 3).

No of Passengers Observed	Periods			
	7-10 am	2-4 pm	4-7 pm	Total
Sunday (04/07/21)	318	196	134	648
Monday (05/07/21)	374	202	158	734
Tuesday (06/07/21)	388	240	192	820
Wednesday (07/07/21)	346	192	148	686
Thursday (08/07/21)	344	216	124	684
Friday (09/07/21)	322	168	138	628
Saturday (10/07/21)	286	144	134	564

Source: Author's survey (2021).

Table 3: Adherence of FUTA shuttle bus operators to physical distancing.

### Adherence of Passengers to Wearing of Nose Mask and or Face Mask in FUTA Shuttle Bus

From the observations that were carried out regarding the adherence of passengers to the wearing of a nose mask and or face mask in FUTA shuttle bus from Sunday (04/07/21) to Saturday (10/07/21) between the specific hours of 7-10 am, 2-4 pm, and 4-7 pm, it was revealed that fewer passengers adhered to the nose mask and or face mask-wearing in FUTA shuttle bus. When comparing table 3 with table 4, it was discovered that among 648 passengers that were examined, only 29 passengers wear nose masks and or face mask on Sunday which implies 4.48 percent. Among 734 passengers that were examined, only 23 passengers wear a nose mask and or face mask on Monday which implies 3.13 percent.

Among 820 passengers that were examined, only 29 passengers wear a nose mask and or face mask on Tuesday which implies 3.54 percent. Among 686 passengers that were examined, only 30 passengers wear a nose mask and or face mask on Wednesday which implies 4.37 percent. Among 684 passengers that were examined, only 15 passengers wear nose masks and or face masks on Thursday which implies 2.19 percent. Among 628 that were examined, only 25 passengers wear a nose mask and or face mask on Friday which implies 3.82 percent. Among 564 passengers that were examined only 20 passengers wear a nose mask and or face mask on Saturday which implies 3.55 percent. Despite the fact the all the shuttle bus operators adhered strictly to physical distancing measures, the majority of the passengers did not adhere strictly to the nose mask and or face mask-wearing in the FUTA shuttle bus (Table 4).

Periods	Wearing nose masks and or face masks				
	7-10 am	2-4 pm	4-7 pm	Total	Percentage
Sunday (04/07/21)	11	7	11	29	4.48
Monday (05/07/21)	13	3	7	23	3.13
Tuesday (06/07/21)	19	7	3	29	3.54
Wednesday (07/07/21)	14	9	7	30	4.37
Thursday (08/07/21)	7	3	5	15	2.19
Friday (09/07/21)	13	5	6	24	3.82
Saturday (10/07/21)	10	8	2	20	3.55

Source: Author's survey (2021).

Table 4: Adherence of Passengers to Wearing of Nose mask and or face mask in FUTA Shuttle Bus Periods Wearing nose masks and or face masks.

## Discussion

Regarding the adherence of FUTA shuttle bus operators to compulsory hand rinsing, the study found that there was the presence of Veronica buckets, but the passengers did not make use of it. This corroborates the findings of Bonful HA, et al. [44] in Ghana which found that majority of bus stations in Accra have at least one Veronica Bucket, but few passengers make use of it. This implies that the practice of hand washing was either not observed.

Regarding the adherence of FUTA shuttle bus operators to physical distancing; it was revealed that all the shuttle bus operators adhered strictly to physical distancing measures by reducing the number of passengers apportioned to the seats. This agrees with the findings of Emmanuel KJD, et al. [45] which found that there was physical distancing in paratransit (trotro) buses in Kumasi, Ghana. However, this does not agree with the findings of Bonful HA, et al. [44] in Ghana which found that social/physical distancing was rarely practiced in Ghana.

Regarding the adherence of passengers to wearing of a nose mask and or face mask in FUTA shuttle bus, it was revealed that fewer passengers adhered to the nose mask and or face mask-wearing in FUTA shuttle bus. The adherence to nose mask and or face mask was dominant on Sunday. This finding is similar to the findings of Bonful HA, et al. [44] in Ghana which found that face masks were either not worn or only worn by a few passengers in the selected bus stations, but not similar to that findings of Emmanuel KJD, et al. [45] which found that passengers wear nose mask in paratransit (trotro) buses in Kumasi, Ghana.

Lack of hand washing practice, and failure to use nose mask and or face mask at the FUTA bus stations could be as a result of many factors. It could be as a result of inadequate relevant public sensitization about the pertinence of hand washing to guide against the spread of Covid-19 infection. Another likely factor could be as a result of socio-cultural factor that may influence people not be used to wearing of face and or nose mask and washing of hands regularly in public, especially at bus stations. Lack of adequate communication by transport operators could be another factor that influences people not to wear face and or nose mask and not to wash hands regularly in bus stations [46].

## Conclusion

This study assessed the level of adherence of FUTA shuttle bus operators and passengers to the covid-19 preventive measures suggested by the government, regarding assessing the level of adherence of FUTA shuttle bus operators to compulsory hand rinsing; assessing the level of adherence of

FUTA shuttle bus operators to physical distancing preventive measures; and assessing the level of adherence of passengers to wearing of a nose mask and or face mask in FUTA shuttle bus.

This study adopts a survey research design through personal observation as research instruments to collect primary data which was used to achieve descriptive statistics. The study is designed in such a way to assess the adherence of FUTA shuttle bus operators to covid-19 preventive measures during operation. The observation lasted seven which entails a seven-day peak and off-peak hour count within the specified hours of 7-10am, 2-4pm and 4-7pm from Sunday to Saturday of the three hours designated for each of morning, afternoon, and evening sessions, there seems to be no rinsing of hands by passengers, although there were provisions of veronica buckets in the Bus Park. Also, there seems to be a low level of adherence to nose mask and or face mask-wearing among the passengers, however, the FUTA shuttle bus operators were keen on ensuring physical distance in the sitting arrangement of passengers as this was discovered in all the shuttle buses that were studied.

Based on the specific findings, it was suggested that there should be a strict monitoring and enforcement of hand rinsing by passengers in FUTA before the departure of shuttle bus; and the enforcement of nose mask and or face mask-wearing was a bit relaxed; hence the university management should be more strict in her enforcement of nose mask and or face mask-wearing especially in the FUTA shuttle bus.

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## Conflict of Interest

The author declares that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy has been completely observed by the authors.

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