

**ADHERENCE TOWARDS COVID-19 PROTOCOL AND ITS  
ASSOCIATED FACTORS ON HEALTHFUL LIVING AMONG  
STUDENTS OF OGUN STATE COLLEGE OF HEALTH  
TECHNOLOGY, ILESE-IJEBU, OGUN STATE, NIGERIA.**

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**Abstract**

*The purpose of this research work was to examine the level of adherence towards COVID-19 protocols and its associated factors on healthful living among students of tertiary institutions. Given the high degree of uncertainty about the history of the disease and the need to protect health status of students and staff. Teaching and other activities on campus were suspended as a result of global lockdown due to outbreak of COVID-19. Descriptive survey research design was adopted for the study. Two hundred (200) respondents were randomly selected among students of Ogun State College of Health Technology, Ilese-Ijebu, Ogun State. Self-developed questionnaire was used to elicit response. Data obtained were analyzed by simple percentage. Three hypothesis were formulated and tested. The findings reveal that 80% strongly agreed that adherence to COVID-19 protocol as a form of healthful living corroborate the Health education practice on campus, 12% agree while 8% disagree. 70% strongly agree that Health education practice can reduce the spread of COVID -19 not necessarily lockdown, 15% agree while 10% strongly disagree and 5% disagree. It also reveals that, 20% of the respondent strongly agreed that COVID-19 infected person with fever can infect other people, 78% agreed, 2% strongly disagree. It also shows that 4% of the respondent strongly agreed that frequent hands washing with soap and water for at least (20) twenty seconds and use of sanitizer is a means of preventing COVID-19, 78% agreed, 10% strongly disagree while 8% disagree. Finally, the study concluded that adherence to COVID-19 protocol, Healthy living and enhanced Health education practice and not necessarily lockdown could be applicable in the future. The following recommendation were made, the management of the institution must devise means of making the students adhere to all COVID-19 protocols as enjoyed by the Federal Government, ensured students use face mask before accessing any offices or lecture rooms.*

**Key words:** Adherence, protocol, Health education practices, Healthful living

## Introduction

The corona virus disease called COVID-19 disease first emerged as a presentation of severe respiratory infection in Wuhan, China in late 2019. By January 2020, lower respiratory samples taken from affected patients were sequenced and demonstrated a novel coronavirus Severe acute respiratory syndrome 2, (SARS-CoV-2) (Huang, Wang, Li (2020). The first two cases in the UK were seen in late January. In March 2020, the WHO declared SARS-CoV-2 a pandemic, as with other coronaviruses, (WHO Director-General, 2020). The virus is an RNA virus which encodes four major structural proteins, spike (S), membrane (M), envelope (E) and a helical nucleocapsid (N). The infection is primarily transmitted by person to person spread through respiratory aerosols, direct human contact and fomites. Estimates of the basic reproduction number were initially between 2 and 3 although a recent estimate was as high as 5.7. This high transmissibility indicates that stringent control measures, such as active surveillance, physical distancing, early quarantine and contact tracing are needed in order to control viral spread. Wang, Wang, Chen, Qin. (2019)

After the initial exposure, patients typically develop symptoms within 5-6 days (incubation period) although about 20% of patients remain asymptomatic throughout infection. Polymerase chain reaction (PCR) tests can detect viral SARS-CoV-2 RNA in the upper respiratory tract for a mean of 17 days, although transmission is maximal in the first week of illness. Symptomatic and pre-symptomatic transmission (1-2 days before symptom onset), is thought to play a greater role in the spread of SARS-CoV-2 than asymptomatic transmission. (WHO 2020). Considering its pandemic nature and absence of effective treatment, the *World Health Organization (WHO)* has designed various mitigation strategies to combat the spread of COVID-19. These include, staying at home, social distancing, wearing masks, and applying hand hygiene as the common precaution measures to break the pandemic. In addition, in response to the pandemic, countries across the globe took various measures to slow the spread of the virus down and protect vulnerable groups from getting infected of the virus. These measures are vital in decreasing mortality and reducing the overburden of the health care systems Alzoubi, Nedal, Al-Mnayyis, Abu-Lubad, Amin, Al-Shagahin. (2020). Such protective measures are believed to decrease further COVID-19 transmissions overall and in particular to protect individuals at increased risk for severe illness, include older adults, people with underlying medical conditions, and frontline health workers in particular.

The virus that causes COVID-19 spreads easily among people, and more continues to be discovered over time about how it spreads. Data has shown that it spreads mainly from person to person among those in close contact (within about 6 feet, or 2 meters). The virus spreads by respiratory droplets released when someone with the virus coughs, sneezes, breathes, sings or talks. These droplets can be inhaled or land in the mouth, nose or eyes of a person nearby, In some

situations, the COVID-19 virus can spread by a person being exposed to small droplets or aerosols that stay in the air for several minutes or hours called airborne transmission. It's not yet known how common it is for the virus to spread this way. Noor, Waqar, Reza, Waseel, Akbar, Shah, (2020)

The severity of COVID-19 symptoms can range from very mild to severe. Some people may have only a few symptoms, and some people may have no symptoms at all. Some people may experience worse symptoms, such as worsened shortness of breath and pneumonia, about a week after symptoms start. People who are older have a higher risk of serious illness from COVID-19, and the risk increases with age. People who have existing medical conditions also may have a higher risk of serious illness. Certain medical conditions that may increase the risk of serious illness from COVID-19 include: It can also spread if a person touches a surface or object with the virus on it and then touches his or her mouth, nose or eyes, but the risk is low. Some reinfections of the virus that causes COVID-19 have happened, but these have been uncommon

Despite the repeated consensus that adhering towards such guidelines is the most effective way to defuse the novel coronavirus, school's risk perception and poor adherence towards COVID-19 mitigation measures remain problems. A significant proportion of students did not perceive the virus as a risk for health. People also think that it originated from a laboratory, and mostly causes mild symptoms, and affects only the elderly, Kebede, Birhanu, Fufa, Yitayih, Abafita, Belay, (2020). These negative behaviors toward COVID-19 within the institution remain a great concern and can be mainly associated with lack of knowledge, misperception about the disease, lack of appropriate information, and the social and economic factors as well as lack of government concern. Although people's adherence towards mitigation measures is highly affected by their knowledge, behavior and practices, a lot of information they get could be fake, Ahmed, Zeinab, Maha, Hany, Mohamed, Mohamed, (2020). Furthermore, most people supposed that COVID-19 is a stigmatized disease despite efforts on risk communication and public education.

The WHO 2020 state that the risk of developing COVID-19 is still low for most people. However, the risk is higher for anyone in close contact with people who have COVID-19, such as students of tertiary institutions and healthcare workers. Viruses can also spread more in certain areas, such as highly populated campuses. Older adults are most at risk of severe illness, as are people with the following chronic health conditions: serious heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies, kidney disease, chronic obstructive pulmonary disease (COPD), and obesity, which occurs in people with a body mass index (BMI) of 30 or higher, sickle cell disease, a weakened immune system from a solid organ transplant and type 2 diabetes

Moreover COVID-19 has been declared as a public health threat globally and nationally, the Ogun State government initiated a screening program, established

isolation centers in addition to community awareness and strong enforcement to slow the nationwide spread of the virus. Ilese-ijebu where Ogun State College of Health Technology was located was also not an exception of Government directives. In the college, efforts were made by the authority to ensure students adherence towards COVID-19 mitigation. The measures include assessing their level of compliance with handwashing, use of facemask, keeping physical distance, not travelling to crowded public place and homestay. Hence, individual were considered as having good adherence towards COVID-19 mitigation measures if they answer 'yes' to the median and above of the aforementioned composite variables. A study conducted by Kebede *et al.* (2020) in Ethiopia identified that young people were less likely to practise accurate preventive measures, and in turn, such behaviors would be challenging for the containment processes of the virus in the future. Taking into account the likelihoods of youths' adherence to the preventive measures is weaker, this study was carried out to inquire the associated risk factors affecting the youths' adoption of preventive measures among students of Ogun state College of Health Technology, Ilese -Ijebu

An investigation of associated risk factors affecting individual's inability to practice preventive measure is an essential tool for intervention purposes. In addition, it helps assess their association with adherence to the practices of preventive measures. Cognizant of such gaps in and the limited facts about the adherence to practice of preventive measures in the study area, this research aimed to assess the association of socio-demographic, sociocultural, environmental, and individual behavioral factors concerning youth's inability to practice preventive measures for the disease.

Healthful living among students on our campuses seems to be affecting their level of studies and academic performance tremendously. The benefits of a healthful lifestyle are infinite for people of all ages, weights and abilities. Kamakhya (2017) opined that good health is not something you buy from a drugstore or department store but depending on the choices made by individuals. Healthful living can be achieved by practising the collective pattern of health-related behavior. The benefits of a healthy lifestyle cannot be overestimated, moreover repeating some healthful patterns as part of your daily or weekly activities, eating properly and exercising are enormous. Other benefits of healthful living among students include: low health care costs, decrease in illness and injury, ability to remain fit and study very well, thereby enhancing academic performance.

Managing weight is the key to achieving all the health benefits of a healthful lifestyle, reducing the weight of just ten percent will reduce the risk of heart disease and other obesity-related diseases. Unhealthful lifestyles could lead to health challenges such as osteoporosis, sleep apnea, type II *diabetes mellitus*, asthma, high blood pressure and cholesterol, skin disorders, emotional and psychological problems amongst students. Weight lifting, walking and strength training, starts and / or stops osteoporosis, although medicines alone can often lead cholesterol to

normal levels, diet and exercise benefits are better alternatives to medicines. They can be used to reduce or maintain weight, and reduce the risk of developing diabetes. Exercise and healthful diet helps the body to use insulin more efficiently and can help control, reduce and prevent many diseases. Learning to exercise, eliminate the consumption of tobacco, high fiber, and low-fat food, control body weight, and cope with stress, reduce the risk of heart disease. Students want a trim and a healthful body for various beauty, social and medical reasons. Healthful life is actually the best medicine in a study conducted by Tufts University at the New England Medical Center. Even minor weight loss can reduce the cost of medical and pharmacy, it could help to avoid bariatric surgery, and can be cured of ailments like asthma, high blood pressure, and diabetes. Berg, Hickson, Bradford and Fishburne. (2017)

Wellness is about being comfortable in your place: your body, your attitude, and your environment. A healthful lifestyle can increase the longevity of a person. And although catching some infectious things like cold or flu is sometimes indispensable, Healthy lifestyles is a better way of getting better. Making sure that the heart is healthy and bones are strong will keep to see the benefits of a healthy lifestyle, Kamakhya (2017). The best way to ensure good health is to take care of oneself. Care bets are high, but potential awards prevent premature death, unnecessary illness, and disability, control health care costs, and in old age maintain a high quality life.

With a healthy lifestyle, you are doing who you are and you do not have to be self-conscious about things you would not otherwise do if you do not care about your lifestyle moreover a healthful lifestyle, will give more control over your life, you work with your body with those aspects of life that you can work to catch them back., you will control your sleep patterns so that you can feel comfortable all day long. With a healthful lifestyle, everything works together to understand and benefit other aspects of your life style. Science has proved that healthful weight loss, healthful eating and fitness routines make dramatic improvements in health, and help control common chronic diseases such as high cholesterol, hypertension, diabetes, stress and general deficiency of stamina. Berg, Hickson, Bradford and Fishburne. (2017)

The specific objectives were to:

1. Establish the level of adherence towards COVID-19 protocols and its associated factors on healthful living among students of Ogun State College of Health Technology Ilese-Ijebu Ogun State Nigeria.
2. Find out the challenges of adherence towards COVID-19 protocols and its associated factors on healthful living among students of Ogun State College of Health Technology, Ilese-Ijebu Ogun State, Nigeria.

### Methodology

The descriptive survey research design was adopted because survey is generally broad in scope. The study area was Ogun State College of Health Technology Ilese-Ijebu, Ogun State and the population of the study comprises students of the institution. The sample for this study was two hundred (200) students of the institution. Multi stage sample techniques was adopted to select participants for this study. The instrument used to obtain information was a self-structured questionnaire with a reliability index of 0.95. The data obtained were analyzed using frequency and percentage.

### Result and Discussion

**Table 1. Socio-demographic and personal characteristics of the study participants 2021 (n = 200).**

Variables	Frequency (n)	Percent (%)
Age (in years)		
18–26	134	75.5
27–33	66	24.5
Sex		
Male	48	23.5
Female	152	76.5
<b>Variables</b>	<b>Frequency</b>	<b>Percent</b>
<b>Knowledge about COVID-19</b>		
Poor knowledge	48	23,5
Good knowledge	152	76,5
<b>Attitude towards COVID-19</b>		
Unfavorable attitude	167	77.5
Favorable attitude	33	22.5
<b>Attitude towards prevention measures of COVID-19</b>		
Unfavorable attitude	167	77,5
Favorable attitude	33	22,5
<b>Risk perception of COVID-19</b>		
High risk	152	23.5
Low risk	48	76.5
<b>Heard about COVID -19 complications</b>		
Yes	175	81,7
No	25	18.3

**Heard about preventive measures taken by the government**

Yes	175	81.7
No	25	18.3
<b>Heard about COVID – 19 symptoms</b>		
Yes	178	82.5
No	22	17.5
<b>About COVID-19 transmissions</b>		
Yes	178	82.5
No	22	17.5

**Table 2: Factors associated with adherence towards COVID-19 mitigation measures**

The association between all potential independent variables and adherence towards COVID-19 mitigation measures were analyzed using binary logistic regression.

Mitigation measures	Category	Proportion (95%CI)
Keeping physical distance 2 and above meters	Yes	55.06 (51.12, 58.93)
	No	44.94 (44.07, 48.88)
Use facemask when traveling out of home	Yes	32.42 (28.85, 36.21)
	No	67.58 (63.79, 71.15)
Travel to a crowded place	Yes	59.55 (55.63, 63.35)
	No	40.55 (36.65, 44.37)
Hand washing by soap and water in the past 2weeks	Yes	73.84 (70.23, 77.15)
	No	26.16 (22.85, 29.77)
Home stay	Yes	59.23 (55.31, 63.03)
	No	40.77 (36.96, 44.69)
Travel history in the past 2 weeks	Yes	15.41 (12.78, 18.47)
	No	84.59 (81.53, 87.22)
Overall adherence towards COVID_19 mitigation measures	Poor	48.96 (45.05, 52.89).
	Good	51.04 (47.11, 54.96)

Adherence towards COVID-19 mitigation measures was a composite variable generated from handwashing, using a facemask, keeping physical distance, not travel to a crowded place.

Since the emergence of COVID-19 pandemic, there is no definitive treatment found. Therefore, the best alternative to control the spread of this pandemic is adherence towards the recommended mitigation strategies. Accordingly, the study revealed that the overall adherence of the student's community towards COVID-19 mitigation measures was 51.01%. Of the specific mitigation measures, 73.84% of the respondents reported that they had been frequently washing their hands with water and soap. However, the result of our study is lower than studies carried out in Ethiopia (87.6%), and Malaysia (87.8%) Mansuri, Zalat, Khan, Alsaedi, Ibrahim. (2020) The possible explanation may be due to the differences in the study population, socio-demographic characteristics and the measurement tools used across the studies. there is intermittent water supply in most parts of Ethiopia and limited hand washing facilities which in turn negatively affected the adherence of the community towards hand hygiene in our study.

The findings of this study indicated that nearly half of the study participants (48.96%) had poor adherence towards COVID-19 mitigation measures. Among the mitigation strategies, hand washing was the commonest one practised by the respondents (73.84%), while most (67.58%) of the participants failed to use a face mask. The other specific mitigation measures were maintaining social distance Nevertheless, this finding is higher than studies done in Ethiopia (87.1%) and Malaysia (83.4%), Regarding maintaining social distance, 95.23% of the respondents reported that they did. This finding is higher than a study conducted in Egypt (96.1%), Mansuri, Zalat, Khan, Alsaedi, Ibrahim. (2020). A possible explanation for the difference might be the studying conditions in our study setting, there is mostly high social and physical interaction amongst students leading to overcrowding.

This study found out that the adherence of the students towards wearing a facemask as a mitigation measure was the least commonly used methods of mitigating the spread of COVID-19 infection in the study area. In this regard, 67.58% of the study participants didn't use a face mask while going out of their hostel or place of residence which is higher than studies conducted in USA (23%) and Egypt (43%). The possible reasons could be that most of the students might not be able to afford facemasks in order to use them on a daily basis when compared to students of USA and Egypt. Wise, Zbozinek, Michelini, Hagan. (2020)

This study identified that sex, level of information exposure, attitude towards COVID-19 preventive measures and risk perception of COVID-19 had statistically significant association with good adherence towards COVID-19 mitigation measures. Accordingly, female respondents were 2.39 times more likely to have good adherence towards the mitigation measures of COVID-19. This finding is in line with studies conducted in the other developed countries because female tends to travel less and adhere more to instructions

This study showed that the respondents who had a good level of information exposure were 1.58 times more likely to have good adherence towards COVID-19 mitigation measures than their counterparts. This finding is in line with a study conducted in the Netherlands, Nivette, Ribeaud, Murray, Steinhoff, Bechtiger, Hepp, (2020) which revealed that low information seeking behavior was inversely associated with compliance. This might be due to the fact that if the population had prior information about the utilization and advantage of the mitigation measures, they might develop a good attitude towards these preventive measures which in turn increase their adherence.

The other significant factor affecting the adherence of the community towards COVID-19 mitigation measures in this study was attitude towards COVID-19 preventive measures. In this regard, the respondents who had a favorable attitude towards COVID-19 preventive measures were 2.54 times more likely to adhere towards the mitigation measures than respondents who had an unfavorable attitude towards COVID-19 preventive measures. This result is in agreement with a study carried out in Jimma, Ethiopia. The possible explanation might be that the respondents who had a favorable attitude towards COVID-19 preventive measures might trust the science of mitigation measures and comply with the instructions of these guidelines.

### **Conclusion and recommendations**

Our findings have indicated that nearly half of the study participants had poor adherence towards COVID-19 mitigation measures. Sex, level of information exposure, attitude towards COVID-19 preventive measures, and risk perception of COVID-19 were factors, which significantly influenced the adherence of the student's community towards COVID-19 mitigation measures. Therefore, it is crucial to track adherence responses to the COVID19 measures, scale up the student's awareness of COVID-19 prevention and mitigation strategies through appropriate information outlets such as mainstream media on prevention strategies of COVID-19, and rely on updating information from TV, radio, and healthcare workers about COVID-19.

The findings suggested that more intervention efforts, by either communicating to or reaching out all groups, should be employed. All segments of the population should be equipped with the facts that effectively support them practice preventive measures against the disease. Finally, the results suggested that youths should abstain from substance use, keep their distance in their pastime and avoid crowding's.

Based on the findings of the study, the following recommendations were made, the management of the institution must devise means of making the students adhere to all COVID-19 protocols as enjoyed by the Federal Government, ensure students use face mask before accessing any offices or lecture rooms. Avoid overcrowding in the halls of residence and any other locations on campus.

Collections of COVID-19 vaccines or booster should be encouraging and made easy for students and staff.

## References

- Adhikari S P, Sha M, Yu-Ju W, Yu-Ping M, Rui-Xue Y, Qing-Zhi W, (2020). Epidemiology, Causes, Clinical Manifestation and Diagnosis, Prevention and Control of Coronavirus Disease (COVID-19) During The Early Outbreak Period: A Scoping Review. *Journal of Infectious Diseases of Poverty*.
- Adria'n Z, Chino-Vilca N, Ames-Guerrero R. (2020) Knowledge perception and attitudes regarding COVID-19 Pandemic in Peruvian Population. Retrieved from <https://doi.org/10.31234/osf.io/kr9ya>
- Ahmed A, Zeinab M, Maha I, Hany Z, Mohamed A, Mohamed A, (2020). Knowledge, Perceptions, and Attitude of Egyptians towards the Novel Coronavirus Disease (COVID-19). *Journal of Community Health*. <https://doi.org/10.1007/s10900-020-00827-7>
- Alzoubi H, Nedal A, Al-Mnayyis A, Abu-Lubad M, Amin A, Al-Shagahin H. (2020) COVID-19- Knowledge, Attitude and Practice among Medical and Non-Medical University Students in Jordan. *Journal of Pure and Applied Microbiology*.2020; 14(1):<https://doi.org/10.22207/JPAM.14.1.04>
- Berg S, Hickson C, Bradford B and Fishburne G. (2017), Students health and wellness; A comprehensive approach. Retrieved from <http://www.pheamenica.org/> developing students health and wellness
- Chinazzi M, Jessica T D, Marco A, Corrado G, Maria L, Stefano M, (2020) The effect of Travel Restrictions On the Spread of The 2019 Novel Coronavirus (COVID-19) Outbreak. *Journal of Sciences.*; 368:395–400. Retrieved from <http://science.sciencemag.org/>.
- Huang C, Wang Y, Li X (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 395: 497–506.
- Kamakhya K. (2017) Importance of Healthy Life Style in Healthy living. *JOJ Pub Health*. 2(5): 555596. DOI: 10.19080/ JOJPH.2017.02.555596.
- Kebede Y, Birhanu Z, Fufa D, Yitayih Y, Abafita J, Belay A, (2020). Myths, beliefs, and perceptions about COVID-19 in Ethiopia: A need to address information gaps and enable combating efforts. Retrieved <https://doi.org/10.1371/journal.pone.0243024>
- Kebede Y, Yimenu Y, Zewdie B, Seblework M, Argaw A (2020), Knowledge, Perceptions and Preventive Practices Towards COVID-19 Early in the Outbreak among Jimma University Medical Center Visitors,
- Mansuri FMA, Zalat MM, Khan AA, Alsaedi EQ, Ibrahim HM (2020). Estimation of population's response to mitigation measures and self-perceived behaviours against COVID-19 Pandemic. *Journal of Taibah University Medical Sciences*.
- Nivette A, Ribeaud D, Murray AL, Steinhoff A, Bechtiger L, Hepp U, (2020). Non-compliance with COVID-
- Noor A, Waqar A, Reza A, Waseel R, Akbar A, Shah M S, (2020). Community Perception Survey-COVID-19. Knowledge, Attitude and Practice Survey in Kabul, Kunduz and Khost Provinces. Retrieved from <https://www.humanitarianresponse.info/sites/>.

- Wang Y, Wang Y, Chen Y, Qin Q. (2019) Unique epidemiological and clinical features of the emerging 2019 novel coronavirus pneumonia (COVID-19) implicate special control measures. *Journal of Medical Virology* 2020; 92: 568–576.
- Wise T, Zbozinek TD, Michelini G, Hagan CC (2020). Changes in risk perception and protective behavior during the first week of the COVID-19 pandemic in the United States.
- World Health Organization. Coronavirus disease 2019 (COVID-19) Situation Report-25.2020. Retrieved from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>.
- World Health Organization (2020). Disease Briefing: Coronaviruses. Clarivate Analytics solution.. Retrieved from <https://clarivate.com/cortellis>.