PERCEPTION OF THE TRANSMISSION AND PREVENTION OF CORONA VIRUS AMONG QUANTITY SURVEY STUDENTS IN UNIVERSITY OF BENIN, BENIN CITY, EDO STATE

BY

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DEPARTMENT OF NURSING SCIENCE

SCHOOL OF BASIC MEDICAL SCIENCES

UNIVERSITY OF BENIN

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IN PARTIAL FULFILMENT OF THE REQUIRMENT FOR THE DEGREE OF BACHELOR OF NURSING SCIENCES

JANUARY, 2023

DECLARATION

This is to declare that this research project titled **PERCEPTION OF THE TRANSMISSION AND PREVENTION OF COVID-19 AMONG QUANTITY SURVEY STUDENTS IN UNIVERSITY OF BENIN** was carried out by **EVBUOMWAN OSASUMWEN,** in the department of Nursing science, school of basic medical sciences, University of Benin, Edo state.

SIGNATURE/DATE

CERTIFICATION/APPROVAL

This is to certify that this research project was carried out by **EVBUOMWAN OSASUMWEN** with matriculation number _____. This work was supervised by Dr (Mrs) Enuku and all corrections have been effected and approved for the award of Bachelor of Nursing Science degree

_____ _____

DR (MRS). C. ENUKU

PROJECT SUPERVISOR **SIGN & DATE**

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DR.(MRS). O. OKO-OSE

HEAD OF DEPARTMENT **SIGN & DATE**

ABSTRACT

This study was to determine the knowledge, attitude and perception of quantity survey students of university of Benin towards the transmission and prevention of Corona virus. This study was guided by the following aims; to determine the level of knowledge of quantity surveyor students of University of Benin towards the prevention of Corona virus, to assess the attitude of quantity survey students of University of Benin on prevention of Corona virus and to determine the perception of quantity survey students of University of Benin on the transmission of Corona virus. The study employed a cross-sectional design that also involved a convenience sampling technique, and questionnaires were made in Google form, which was used in collecting data. The study findings revealed that 56.4% of the respondents had a fair level of knowledge, all respondents (100%) have heard of covid-19. The mean knowledge score is 63.57±13.42, which suggest a fair level of knowledge. The attitude level of the respondents shows that 47(41.4%) have negative attitude towards Corona virus, while 71(58.6%) have positive attitude towards it. This suggests that the respondents have positive attitude towards the prevention of Corona virus. The study also revealed that 61(51.4%) have negative perception towards Corona virus transmission, while 57(48.6%) have positive perception towards it. This suggests that the respondent have a negative perception on the transmission of Corona virus. Result shows that the level of knowledge is fair, with positive attitude and negative perception to the transmission and prevention of Corona virus. In conclusion, Knowledge did not show significant association with perception and also there was no significant difference in perception based on gender of the students. A recommendation of need for the university community to continuously provide accurate and timely information to their students was made.

KEYWORDS: CORONA VIRUS, Prevention, Transmission, Students

DEDICATION

This research project is dedicated to Almighty God for the grace, strength and wisdom in carrying out this research work and my lovely family.

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INTRODUCTION

1.1 Background to the Study

Coronaviruses (CoV) are enveloped, single-stranded RNA viruses, that are produces flu-like symptoms. These symptoms can be characterized by severe acute respiratory symptoms, high morbidity and mortality rate. These viruses are of zoonotic origin, highly contagious, and infective (Rothan, et al, 2020). The two major coronaviruses that had attracted public health attention globally were severe acute respiratory syndrome coronavirus (SARS-CoV) in 2003, and Middle East respiratory syndrome coronavirus (MERS-CoV) in 2009 (Kannan, et al, 2020). These viruses have high mortality and infectivity and were restricted to Asia, the Middle East, and spread to a few countries via the movement of people (Sohrabi, et al, 2020).

The World Health Organization (WHO), on December 31, 2019, received a report of the presence of unknown causes of pneumonia disease in Wuhan, China (World Health Organization, 2020). Later, this disease was defined as a novel Coronavirus disease and further declared as a public health emergency of international concern by January 30, 2020 (World Health Organization, 2020).

The novel virus was renamed by the International Committee on Taxonomy of Viruses, as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that causes the 2019 Coronavirus disease (COVID-19) (Lu, et al. 2020). COVID-19 is caused by a single-stranded RNA virus belonging to the Coronaviridaefamily (Hassan, et al, 2019). This disease is similar to the previously emerged SARS-CoV and the Middle East respiratory syndrome Coronavirus (MERS-CoV) (Lin, et al, 2020). Still, unlike these, its outbreaks have become a global concern, (taken a pandemic course). Since the first report of confirmed cases of Corona virus in Wuhan China, the world has witnessed severe unprecedented rate of illness and death due to this disease, resulting in serious public health emergencies. Infection by SARS-CoV-2 in humans occurs mainly through air droplets, close contact with infected persons, especially mucus membranes secretions from nose, mouth, or eyes, contaminated surfaces, and some studies suggest digestive tract transmission (Carlos, et al, 2019). Despite the level of advancement of the health

systems in high-income countries, they appeared to have the worst hit in terms of the disease burden and the total Corona virus related deaths.

The incubation period of Corona virus is usually between 2-14days and present common symptoms as such fever, dry cough, feeling of tiredness and shortness of breath (Guan, Ni & Hu, et al., 2019). An individual can be infected with the virus when in close contact with an infected person, via respiratory droplets from an infected person. Transmission of the virus can also occur when an individual touches his/her mouth, nose or eyes with the hands contaminated with the virus (Yan-Rong, et al, 2020).

At early stages of a pandemic, preventive measures are needed to protect against possible danger and reduce the disease spread. In line with this, the Nigerian government therefore, introduced various preventive strategies which interfered with daily lives of many individuals, and have led to huge economic loss and social disruption. People were forced to stay at home, businesses and offices were compelledto shut down, exempting healthcare facilities/workers and essential commercial establishments. For Nigerians making a living in the informal economy, most of their livelihood are now threatened by the lockdown since much of their activities and businesses involve face-to-face contact. In Nigeria there is no social safety net, no access to food or unemployment benefits, most people earn their living on a daily basis. Regardless of this, there has been a high degree of compliance with the government directives. With most Nigeriansn engaging in proper hand washing, practicing social distancing and self-isolation, and avoiding going to work, school or crowded areas. Even most religious leaders agreed to stop large gatherings, forbid the shaking of hands and directed church members to pray at home and use hand sanitizers (Makinde, et al, 2020).

On the other hand, some Nigerians due to superstitions and ignorance of the science behind the infection prefer only to pray (even violating the social distancing rule by attending churches or mosques during the lockdown) and use anointing oils, talisman, herbs or rituals to prevent contracting and spreading the virus (Abati, 2020). Some also use social media platforms to spread fear, project fake news concerning the source of the virus, promote prejudice against China, incite panic buying, proffer fake cures and undermine medical advice, deliberately or ignorantly (Hassan, 2020). They opined that

lockdown, self-isolation and social distancing are un-African solutions to the pandemic (Abati, 2020).

To reduce the spread, most nations, including African countries, have applied strict prevention and control measurements to curb the disease including regulations such as general lockdown, obligatory home quarantine, ban on public gatherings, international flights restrictions and raising awareness on proper hand wash, hygiene, and sanitation as well as social distancing (Bruinen de Bruin, et al, 2019). Currently, Corona virus has spread to over 200 countries and territories, with over 7 million cases and 4,19,568 deaths globally (WHO, 2020).

The first reported case of Corona virus in Nigeria, was in Lagos on February 27, 2020. As of June 12, 2020, Corona virus cases in Nigeria have reached 15181 and 399 deaths, including healthcare workers (NCDC, COVID-19 Updates, 2020). The rate of COVID-19 infection in the African continent is on the increase, especially in Egypt and Nigeria. As of June 29, 2020, there are more than 382, 600 confirmed cases, above 9700 deaths, and around 147,000 recoveries due to COVID19 in Africa (Africa CDC, COVID-19 dashboard, 2020.), with approximately 24% of these cases from Egypt and Nigeria alone. To stop this pandemic, it is very important to initiate effective infection prevention and control measures globally, nationally, and at the community level. Consequently, it is imperative to understand the knowledge, reactions, adherence to, and acceptance of the public, of such measures that affect their daily lives in several ways especially psychologically, socially, and physically. This could be achieved through knowledge, attitude, and perception (KAP) studies (Azlan, et al, 2020). The information generated from such studies, in addition to comprehensive reviews and recommendations, could help in the fight against Corona virus and similar future threats (Gupta, et al, 2020) by improving the awareness level of the citizens and encourage positive attitudes which are necessary to beat the pandemic. These are necessary for most countries especially with the onset of community spread of the disease.

Given the importance of knowledge of preventive measures, in curbing the spread of infectious diseases such as the novel Corona virus, it is important to research on the knowledge of individuals, during this period of a pandemic. It was reported that knowledge among ordinary people about how to eliminate risks of contracting Ebola

virus led to a rapid drop in mid-2015 in the number of cases of infection (Richards 2017). Therefore, in this study, we hope to ascertain the level of the attitude, knowledge of Corona virus among a sample of Nigerians as well as their perceptions of the pandemic.

Attitude, knowledge and perception are important in controlling the spread of the disease. Knowing the cause of the disease, signs/symptoms, and the possible methods of prevention can facilitate the proactive application of preventive measures.

Students are at risk, and the existence of a single case can cause pandemics among students and applying essential preventive measures to reduce such risk among the students is important.

1.2 Statement of the Problem

Corona virus, a deadly virus that causes respiratory symptoms and sometimes death is a newly ravaging virus that needs to be dealt with. In curbing the spread of this virus, protocols have been put in place for the general public to adhere to, such as social distancing, regular hand washing or use of sanitizers, wearing of facemasks, etc.

Most citizens do not adhere to this protocols and regulations that has been made known to them so as to prevent the spread of the virus, and this is so because they believe that the virus Corona virus does not exist and so they continue to live their day to day life normally.

It is with this observation that this study aims to examine the Perception on Corona virus prevention and transmission using Quantity Survey students of University of Benin.

1.3 Objectives of the Study

The broad objective of this study was to determine the perception of quantity surveyor students of university of Benin towards the transmission and prevention of Corona virus. However, the specific objectives were;

i. To determine the level of knowledge of quantity surveyor students of University of Benin towards the prevention of Corona virus
ii. To assess the attitude of quantity surveyor students of University of Benin on prevention of Corona virus

iii. To determine the perception of quantity surveyor students of University of Benin on the transmission of Corona virus.

1.4 Research Questions

The following questions were generated during the course of this study;

i. What is the level of knowledge of University of Benin quantity surveyor students, towards the prevention of Corona virus?

ii. What is the attitude on prevention of Corona virus among quantity surveyor students of university of Benin?

iii. What is the perception of Corona virus transmission among quantity surveyor students of university of Benin?

1.5 Research Hypothesis

The following null hypothesis was tested in this study:

1. Ho: There is no significant relationship between the knowledge of Corona virus and the perception, towards the transmission and preventive measures, among quantity surveyor student of university of Benin (X^2)

2. There is no significant difference in the perception of the transmission and prevention of Corona virus among quantity surveyor students based on their gender (T-test).

1.6 Significance of the Study

This study stands to provide additional knowledge to the body of existing literature on the prevention, transmission and spread of corona virus, and in particular reference to Nigeria. The result of this study serves as good base or guide for future reference and also encourage further research on the importance of staying healthy.

Practically, the findings of this study revealed the reasons for adherence to the protocols and guidelines put in place to curb the spread of the corona virus. The result from this research will also help students develop habits of staying healthy and adhering to the guidelines that will help prevent the transmission and spread of Corona virus.

1.7 Scope of the Study

The scope of this study focused on the attitude of quantity survey students in university of Benin, Benin City, Edo State.

1.8 Operational definition of term

Student: A person who attends a school, or who studies something

Transmission: The act or process by which something is spread or passed from one person or thing to another

Corona virus: An acute respiratory illness in humans caused by a corona virus, capable of producing severe symptoms and in some cases death.

Prevention: The act or practice of stopping something bad from happening.

CHAPTER TWO

LITERATURE REVIEW

This chapter gives an insight into various studies conducted by outstanding researchers, as well as explained terminologies with regards to the perception of students on transmission and prevention of covid-19. The chapter also gives a review of the history and present status of the problem indicated by a concise review of previous studies into closely related problems.

2.1 Conceptual Review

Concept of Severe acute respiratory syndrome coronavirus 2 (SARS-COV-2)

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a strain of coronavirus that causes COVID-19 (coronavirus disease 2019), the respiratory illness responsible for the ongoing COVID-19 pandemic (Zimmer, 2021*).* The virus previously had a provisional name, 2019 novel coronavirus (2019-nCoV), and has also been called human coronavirus 2019 (HCoV-19 or hCoV-19). First identified in the city of Wuhan, Hubei, China, the World Health Organization declared the outbreak a Public Health Emergency of International Concern on 30 January 2020, and a pandemic on 11 March 2020. SARS-CoV-2 is a positive-sense single-stranded RNA virus that is contagious in humans (Chan, et al. 2020).

SARS-CoV-2 is a virus of the species severe acute respiratory syndrome–related coronavirus (SARSr-CoV), related to the SARS-CoV-1 virus that caused the 2002–2004 SARS outbreak (Coronaviridae study group, 2020). Despite its close relation to SARS-CoV-1, its closest relatives, with which it forms a sister group, are the derived SARS viruses BANAL-52 and RaTG13 (Poudel, et al. 2020). Available evidence indicates that it is most likely of zoonotic origins and has close genetic similarity to bat coronaviruses, suggesting it emerged

from a bat-borne virus (V'kovski et al. 2021). Research is ongoing as to whether SARS-CoV-2 came directly from bats or indirectly through any intermediate hosts (WHO, 2020). The virus shows little genetic diversity, indicating that the spillover event introducing SARS-CoV-2 to humans is likely to have occurred in late 2019.

SARS-CoV-2 belongs to the broad family of viruses known as coronaviruses (Fox D, 2020. It is a positive-sense single-stranded RNA (+ssRNA) virus, with a single linear RNA segment. Coronaviruses infect humans, other mammals, including livestock and companion animals, and avian species (V'kovski et al. 2021). Human coronaviruses are capable of causing symptoms and illnesses, ranging from the common cold to more severe diseases such as Middle East respiratory syndrome (MERS). SARS-CoV-2 is the seventh known coronavirus to infect people, after 229E, NL63, OC43, HKU1, MERS-CoV, and the original SARS-CoV (Zhu, et al. 2020).

Like the SARS-related coronavirus implicated in the 2003 SARS outbreak, SARS-CoV-2 is a member of the subgenus *Sarbecovirus* (beta-CoV lineage B) (Wong et al. 2019). Coronaviruses undergo frequent recombination, the mechanism of recombination in unsegmented RNA viruses such as SARS-CoV-2 is generally by copy-choice replication, in which gene material switches from one RNA template molecule to another during replication (Jackson, et al. 2021). The SARS-CoV-2 RNA sequence is approximately 30,000 bases in length, relatively long for a coronavirus which in turn carry the largest genomes among all RNA families (Kim, et al. 2020). Its genome consists nearly entirely of protein-coding sequences, a trait shared with other coronaviruses (Kim, et al. 2020).

No natural reservoir for SARS-CoV-2 has been identified. Prior to the emergence of SARS-CoV-2 as a pathogen infecting humans, there had been two previous zoonosis-based coronavirus epidemics, those caused by SARS-CoV-1 and MERS-CoV (V'kovski et al. 2021).

The first known infections from SARS-CoV-2 were discovered in Wuhan China, the original source of viral transmission to humans remains unclear, as does whether the virus became pathogenic before or after the spillover event (Eschner K, 2020).

Bats are considered the most likely natural reservoir of SARS- CoV- 2. Differences between the bat coronavirus and SARS- CoV- 2 suggest that humans may have been infected via an intermediate host although the source of introduction into humans remains unknown (Holmes, et al. 2021).

Concept of Coronavirus (Covid-19)

COVID-19, from the family of Coronavirus (others include SARS, H5N1, H1N1 and MERS), is a contagious, airborne respiratory disease, caused by severe acute respiratory syndrome coronavirus2 (SARS-CoV-2). The novel Coronavirus disease 2019 (COVID-19), first identified in Wuhan China in December 2019 (Page, et al, 2021). This disease has since spread worldwide, leading to an ongoing pandemic (Zimmer, 2021). Symptoms of COVID-19 are variable, but often include fever, cough, headache, fatigue, breathing difficulty and loss of smell and taste (Saniasiaya, et al, 2021). It has an incubation period of approximately one to fourteen days (1-14). The contagion can lead to severe respiratory issues or death. Older people are at a higher risk of contracting and developing sever symptoms. Some people continue to experience a range of effects for months after recovery, and damage to organs has been observed (center for disease control CDC, 2020). However, some infected persons are carriers for the virus with no symptoms, while others may experience only a mild illness and recover quickly and easily (Sauer, 2020).

Transmission of COVID-19 occurs when people are exposed to virus-containing respiratory droplets and airborne particles exhaled by an infected person (center for disease control CDC,

2020). Those particles may be inhaled or may reach the mouth, nose, or the eyes of a person through touching or direct disposition. The risk of infection is highest when people are in close proximity for a long time, but particles can be inhaled over long distances, particularly indoors, in poor ventilated and crowded spaces (WHO, 2021).

Several diagnostic investigative methods have been created to diagnose the disease. The standard diagnostic method is by detection of the virus' nucleic acid by real-time reverse transcription polymerase chain reaction (rRT-PCR), transcription-mediated amplification (TMA), or by reverse transcription loop-mediated isothermal amplification (RT-LAMP) from a nasopharyngeal swab.

As there is currently no cure (although a vaccine has been made available) for the COVID-19; medical treatments are limited to supportive measures aimed at relieving symptoms, fluid therapy, oxygen support and prone positioning as needed, and medications or devices to support other affected vital organs (Fisher, et al, 2020). Preventive measures may include physical or social distancing, quarantining, ventilation of indoor spaces, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face. The use of face masks or face shields has been recommended in public settings in order to minimize the risk of transmissions. Several vaccines have been developed and many countries have initiated mass vaccination campaigns. The infection has no immediate treatment and it has according to World Health Organization (WHO, 2020) become a worldwide pandemic causing significant morbidity and mortality. On February 27, 2020, an Italian citizen became the index case for COVID-19 in Nigeria, and as at April 9, 2020 there were 288 laboratory-confirmed cases of COVID-19 in Nigeria with 51 discharges and 7 deaths (Nigeria Centre for Disease Control, NCDC, 2020).

To prevent further spread of the virus, civil societies and governmental agencies embarked on enlightenment campaigns for good hygiene and social distancing. Temperature screenings were conducted at the airport and those returning from countries where numerous cases of COVID-19 was confirmed were implored to self-isolate. The NCDC in association with State governments also began tracking of possible victims and their contacts. On March 18, 2020, the Lagos State government suspended all gatherings above fifty people for four weeks and ordered all lower and middle level public officers to stay-at-home (Ewodage, 2020). Similarly, the Federal government, on March 30, 2020 introduced various and executed containment strategies such as closing of the national borders and airspace, schools, worship centers and other public places, canceling of mass gathering events and placing the Federal Capital Territory, Lagos and Ogun states on lock down for an initial period of fourteen days (Radio Nigeria, 2020). Covid-19 testing laboratories were set up in Lagos, Abuja and Irrua in Edo State while State governments opened isolation centers and imposed dawn to dust curfews in their territories.

Perception towards Coronavirus

Some Nigerians due to superstitions and ignorance of the science behind the infection prefered to pray only, (even violating the social distancing rule by attending churches or mosques during the lockdown) and involve/promote the use of anointing oil, talisman, herbs or rituals to prevent contracting and spreading the virus (Abati, 2020). Some also made it a habit in using social media platforms (e.g. Whatsapp, Twitter, Facebook and Instagram) to spread fear, project fake news concerning the source of the virus, promote prejudice against China, incite panic, proffer fake cures and undermine medical advice, deliberately or ignorantly (Hassan, 2020). Others believed that the virus was something engineered in the laboratory by the Chinese government

for political purposes. They expressed that lockdown, self-isolation and social distancing are un-African solutions to the pandemic (Abati, 2020).

Given the importance of knowledge of preventive meausures, in curbing the spread of infectious diseases such as the novel COVID-19, it is important to research on people's health knowledge at this period of the pandemic. It was reported that the knowledge among ordinary people about how to eliminate risks of contracting Ebola virus led to a rapid drop in mid-2015 in the number of cases of infection Richards (2017).

Transmission of Covid-19 Virus

The World Health Organization (WHO) declared the 2019–20 coronavirus out-break a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 (Tait 2020) and a pandemic on 11 March 2020 (WHO 2020). The virus is transmitted mainly through the respiratory route after an infected person talks, breathes, coughs, sneezes or sings.

Although it is considered possible, there is no direct evidence of the virus being transmitted by skin to skin contact. The virus is spread through feces, urine, breast milk, food, wastewater, drinking water, or via animal disease vectors although some animals can contract the virus from humans (WHO, 2020). It is very rarely transmitted from mother to baby during pregnancy. In September 2020, it was estimated that one infected person will, as a crude average, infect between two and three other people. This is more infectious than influenza, but less so than measles. It often spreads in clusters, where infections can be tracked back to an index case or geographical location. There is a major role of "super-spreading events", where many people are infected by one person. A person who is infected can transmit the virus to others up to two days before they themselves show symptoms, and even if symptoms never appears

(www.ecdc.europa.eu, 2020). People remain infectious in moderate cases for 7-12 days, and up to two weeks in severe cases.

Prevention of Covid-19 Virus

Preventive measures to reduce the chances of infection include getting vaccinated, staying at home, wearing a mask in public, avoiding crowded places, keeping distance from others, ventilating indoor spaces, managing potential exposure durations, washing hands with soap and water often and for at least twenty seconds, practicing good respiratory hygiene, and avoiding touching the eyes, nose, or mouth with unwashed hands (Centers for disease control and prevention (CDC), 2020).Those diagnosed with COVID-19 or who believe they may be infected are advised by the CDC to stay home except to get medical care, call ahead before visiting a healthcare provider, wear a face mask before entering the healthcare provider's office and when in any room or vehicle with another person, cover coughs and sneezes with a tissue, regularly wash hands with soap and water and avoid sharing personal household items (Centers for disease control and prevention (CDC), 2020).

The first COVID-19 vaccine was granted regulatory approval on 2 December by the UK medicines regulator MHRA, it was evaluated for emergency use authorization (EUA) status by the US FDA, and in several other countries (Mueller, 2020). Initially, the US National Institutes of Health guidelines do not recommend any medication for prevention of COVID-19, before or after exposure to the SARS-CoV-2 virus, outside the setting of a clinical trial (Sanders, et al, 2020).

In Phase III trials, several COVID‑19 vaccines have demonstrated efficacy as high as 95% in preventing symptomatic COVID‑19 infections. As of April 2021, 14 vaccines are authorized by at least one national regulatory authority for public use: two RNA vaccines (Pfizer–BioNTech and Moderna), five conventional inactivated vaccines (BBIBP-CorV, CoronaVac, Covaxin, WIBP-CorV and CoviVac), five viral vector vaccines (Sputnik Light, Sputnik V, Oxford–AstraZeneca, Convidecia, and Johnson & Johnson), and two protein subunit vaccines (EpiVacCorona and RBD-Dimer). In total, as of March 2021, 308 vaccine candidates are in various stages of development, with 73 in clinical research, including 24 in Phase I trials, 33 in Phase I–II trials, and 16 in Phase III development (COVID-19 vaccine development pipeline, 2021). Many countries have implemented phased distribution plans that prioritize those at highest risk of complications, such as the elderly, and those at high risk of exposure and transmission, such as healthcare workers (Beaumont, 2020).

Face Mask and Respiratory Hygiene

The WHO and the US CDC recommend individuals wear non-medical face coverings in public settings where there is an increased risk of transmission and where social distancing measures are difficult to maintain (WHO, Center for disease control, (CDC), 2020). This recommendation is meant to reduce the spread of the disease by asymptomatic and pre-symptomatic individuals and is complementary to established preventive measures such as social distancing. Face coverings reduces the volume and travel distance of droplets dispersed when talking, breathing, and coughing. Many countries and local jurisdictions encourage or mandate the use of face masks or cloth face coverings by members of the public to limit the spread of the virus (Greenhalgh, et al, 2020).

Masks are also strongly recommended for those who may have been infected and those taking care of someone who may have the disease (Center for disease control and prevention (CDC), 2020). When not wearing a face mask, the CDC recommends covering the mouth and nose with a tissue when coughing or sneezing and recommends using the inside of the elbow if no tissue is available (Center for disease control and prevention (CDC), 2020).

Avoid Crowded Indoor Spaces

Crowded indoor spaces should be avoided (Centers for disease control and prevention (CDC), 2020). The WHO recommends ventilation and air filtration in public spaces to help clear out infectious aerosols. Exhaled respiratory particles can build-up within enclosed spaces with inadequate ventilation. The risk of COVID-19 infection increases especially in spaces where people engage in physical exertion or raise their voice (e.g., exercising, shouting, singing) as this increases exhalation of respiratory droplets. Prolonged exposure to these conditions, typically more than 15 minutes, leads to higher risk of infection (Centers for disease control and prevention (CDC), 2020).

Hand Washing and Hygiene

Thorough hand hygiene should be adopeted after any cough or sneeze. The WHO also recommends that individuals wash hands often with soap and water for at least twenty seconds, especially after going to the toilet or when hands are visibly dirty, before eating and after blowing one's nose (WHO, 2020). When soap and water are not available, the CDC recommends using an alcohol-based hand sanitizer with at least 60% alcohol (Centers for disease control (CDC), 2020).

Social Distancing

Social distancing (also known as physical distancing) includes infection control actions intended to slow the spread of the disease by minimizing close contact between individuals. Methods such as quarantines, travel restrictions, and the closing of schools, workplaces, stadiums, theatres, or shopping centers. Individuals may apply social distancing methods by staying at home, limiting travel, avoiding crowded areas, using no-contact greetings, and physically distancing themselves from others (Nussbaumer, et al, 2019). Many governments are now mandating or recommending social distancing in regions affected by the outbreak (Qian & Jiang, 2020). Outbreaks have occurred in prisons due to crowding and an inability to enforce adequate social distancing (Hawks, et al, 2020).

Self-Isolation

Self-isolation at home has been recommended for those diagnosed with COVID-19 and those who suspect they have been infected. Health agencies have issued detailed instructions for proper self-isolation (Velez, et al, 2020). Many governments have advised and recommended self-quarantine for individuals. The strongest self-quarantine instructions have been issued to those in high-risk groups. Individuals who may have been exposed to a person with COVID-19 and those who have recently travelled to a country or region with the more cases, and widespread transmission have been advised to self-quarantine for 14 days from the time of last possible exposure.

2.2 EMPERICAL REVIEW

This reviews previous research done by different researchers concerning the attitude, knowledge and perception to the prevention and transmission of Corona virus.

Attitude of students towards Corona virus

From a research conducted by Olaimat, Aolymat & Elsahoryi (2020), on Attitudes, Anxiety, and Behavioral Practices Regarding Corona virus among University Students in Jordan. The population of this research were university students in Jordan, with a total population of 377,000 students from both government and private Jordanian universities. The sample size used was 2,083 students.

An online self-administered questionnaire was used as the tool for data collection in the conduct of the research. According to the study, of six attitude questions toward COVID19, more than 80% of students correctly answered four questions. Majority of the students (≥ 98%) believed that COVID-19 controlled by isolation or by awareness of the population about the disease. Also, 96.3% of the students were interested in knowing the method of preventing COVID-19. 81.5% of the students believed that COVID-19 is a dangerous disease, while only 63.6% of the students considered they were vulnerable to COVID-19 infection.

From the research, it was seen that the university students generally displayed positive attitudes and low-risk practices towards preventing COVID-19, with an average score of 81.1% and 84.3% respectively. Approximately two-thirds (69.1%) of the students showed positive attitudes towards COVID-19 seriousness, concern of contracting the virus, and appropriate prevention measures, and low risk practices (67.6%) toward preventing COVID-19 by observing the social distancing policy, and good hygiene.

In conclusion, the result of this research showed that majority of the students, showed a positive attitudes regarding COVID-19. And the researchers recommended that the result of the research could serve as a foundation for the development of counseling and health training programs to enhance the engagement of university students in controlling the spread of COVID-19.

A recent study on the Knowledge, Attitude and Practices Toward COVID-19 and Associated Factors Among University Students in Mizan Tepi University that was conducted in the year 2020, by Tadesse, Shiferaw and Mamo, explored the attitude of students toward COVID-19. With the graduating students of Mizan Teoi University, Mizan campus as the population and a sample size of 422 students.

The tool of data collection used for this study is Questionnaire, which was self-administered. The result of this study, showed that 47%, 54%, 42.8% of the students had good knowledge, positive attitude and good practice towards COVID-19 respectively. The research being from health sciences, (AOR=0.403, 95% CL), was significantly associated with student's attitude.

It was concluded that the Knowledge, Attitude and Practice of the students towards the COVID-19 was low, and so an awareness creation on preventive behaviors among the students was highly recommended.

A study conducted in the year 2020, by Hasan, Raigangar, Osaili, Neinavaei, Olaimat and Aolymat, in United Arab Emirates (UAE), on the topic; University Students' Knowledge, Attitudes and Practices Toward COVID-19 in the United Arab Emirates was aimed at assessing COVID-19 related KAP of the University of Sharjah students.

This study was conducted using both health related and non-health related major students as its population, and a sample size of 1,012 (481 health-related and 531 non-health related) students, using an online questionnaire as data collection tool.

From the study, the result obtained showed that about 85% of the students believed that COVID-19 is dangerous (health related; 82.5% versus non-health;87.6% students), and three-fourths of

the students (76%) were worried about suffering from this infection. A large number of the students (74.1%) felt they are not at risk for COVID-19, and close to 90% stated that the disease had disturbed their daily lives. Most students (91.4%) thought that adopting isolation measures could prevent COVID-19, and 95.7% believed that awareness could reduce COVID-19 infection. 72% of the students demonstrated positive attitudes toward COVID-19. A recommendation of increased awareness was suggested by the researcher. The researchers then concluded that the student portrayed a high and positive attitude towards the prevention of COVID-19

Conducted by Hager, Odetokun, Bolarinwa, Zainab, Okechukwu and Al-Mustapha (2020), was a research on Knowledge, Attitude and Perception towards the 2019 Coronavirus pandemic. This study assessed the knowledge, attitude and perceptions of Egyptians and Nigerians toward COVID-19 pandemic.

A total of 1437 respondents was used, and an online questionnaire was used to collect data. From the data gathered, the attitude of the participants towards COVID-19 was satisfactory. Most of the respondents (68.9%) had a positive attitude towards protective measures being advised by the WHO or their local health authorities. Most respondents (81%) valued the importance of proper hygiene, self-isolation, the use of face mask when going out, the ideal distance between two people in curbing the spread of the virus.

In conclusion, the researches recommended a strict adherence from the population to the standard infection prevention and control measures adequately, and governments need to gain trust of the citizens by strengthening the health systems and improving surveillance activities in detecting cases, to offer the optimum health services to their communities.

Ahmad Ayed & Kefah Zabn (2020) studied the Knowledge and Attitude Towards COVID-19 Among Nursing Students. This study was conducted in Palestine, with 218 nursing students (sample size), using an online web-based questionnaire. The analysis of the data revealed that more than half of the participants (114, 52.3%) showed negative attitude regarding COVID-19, while only 17(7.2%) respondents had a positive attitude to fear and threats of COVID-19 and 47 (21.6%) had beliefs about prevention of COVID-19.

Generally, the result revealed that most participants had a negative attitude towards COVID-19 infection. The current result was supported by Olum, Chekwech, Wekha, Nassozi & Bongomin, (2020). A recommendation of additional education, intervention and training programs for nursing students was made, as this can improve their understanding of the nature of COVID-19 infection and prevention strategies.

In conclusion, the study confirmed that nursing students had a negative attitude toward COVID-19, and as a result are unable to care for COVID-19 patients if they are formally required to do so.

Level of Knowledge of Students towards Corona virus Prevention

The level of knowledge and awareness has been suggested as an elementary step to develop positive approach towards the prevention of the virus.

Amin, Aolymat, Shahbaz and Holley (2020), recently conducted a study on the topic Knowledge and Information Sources About COVID-19 Among University Students in Jordan. This study was conducted among 2,083 undergraduate or postgraduate students from different governmental and private universities. The study used a questionnaire based method of collecting data from his samples.

The result from the study showed that overall, 56.5% of the respondent showed good level of knowledge, and almost 40.5% showed moderate level of knowledge. On the other hand, 3.0% of the participants showed poor level knowledge about COVID-19. From the study, it was seen that students who majored in medical sciences showed the highest mean score of 82.8%, with 69.0% displaying a good level of knowledge. The postgraduate students, had a significantly higher knowledge scores compared to the undergraduate students.

This study concluded that good level of knowledge of COVID-19 was showed among the students from different universities in Jordan. However, the students' knowledge was significantly affected by the college of study and the educational level, where medical and postgraduate students had the highest levels of knowledge. The least common symptoms and complications were not well recognized by students. The study recommended therefore, that the results could help in assessing the actual situation to apply educational health programs and measure.

A study conducted in the year 2020, by Hasan, Raigangar, Osaili, Neinavaei, Amin and Aolymat, in United Arab Emirates (UAE), on the topic; University Students' Knowledge, Attitudes and Practices Toward COVID-19 in the United Arab Emirates was aimed at assessing COVID-19 related KAP of the University of Sharjah students.

This study was conducted using both health related and non-health related major students as its population, and a sample size of 1,012 (481 health-related and 531 non-health related) students, using an online questionnaire as data collection tool.

After the research, the result showed that almost all the students (99.3%), knew about COVID-19.

More health related students identified the cause of COVID-19 as a virus than non-health related students (99.6% vs 91.6%).

More than 80% of students relied on the internet and social media as the main source of information, this could be attributed to the fact that the student population is young and have their mobile devices with internet availability almost all the time (Vorderer, et al, 2016).

In conclusion, all students demonstrated adequate knowledge as evident by their knowledge score. It however, was apparent that health related students fared better in all categories as than non-health related students in their level of knowledge. The findings of this study reflect the importance for institutions like universities to develop appropriate educational programs and provide protective health measure for their staff, faculty, and students.

According to a research conducted in Nigeria and Egypt (this research was conducted on these two countries because the control of the pandemic still remained unachievable then in many African countries including Nigeria and Egypt, despite the application of some strict preventive and control measures) year 2020, by Hager, Odetokun, Bolarinwa, Zainab, Okechukwu and Al-Mustapha, on Knowledge, Attitude and Perception towards the 2019 Coronavirus pandemic. The level of knowledge of its participants was good and satisfactory having a score level of (61.6%). This is because both countries have a well-educated population, and an average knowledge score of 74% indicated that most respondents were knowledgeable on COVID-19. The internet was the main source of information for most respondents (83.7%). Moreover, most of the respondent (78%) knew that COVID-19 was different from common cold. The majority of the respondents (83%) knew that it is possible to have asymptomatic positive patients.

In conclusion, both Nigerians and Egyptians have a good knowledge of the pandemic. However, increased adherence to the health regulations of both countries was recommended.

Nwagbara, Osual, Chireshe, Bolarinwa, Saeed, Khuzwayo, Hlongwana (2020), conducted a study on the Knowledge, attitude, perception and preventative practices towards COVID-19, in sub-Saharan Africa. After the research, the result gathered stated that, participants had very good knowledge on COVID-19, except in 4 countries, two conducted in Ethiopia (Kebede, et al, 2020), one in Cameroon and one in the Democratic Republic of Congo, where participants had low scores of knowledge of COVID-19. Majority of the participants in Nigeria showed very good knowledge (99.5%) of COVID-19 (Reuben, et al, 2020), this is in contrast to the participants in Cameroon, which revealed that only 21.9% had correct knowledge of COVID-19 (Nicholas, et al, 2020).

In conclusion, the study showed evidence of high prevalence of knowledge related to COVID-19 in participants of Nigeria. It was recommended that, for Cameroon that had low level of knowledge, health education, information broadcasting and awareness on COVID-19 should be adopted.

A recent study done by Hatabu, Yi Zhou, Mao & Tian (2020), to determine the Knowledge, attitudes and practices toward COVID-19, among university students in Japan showed that a high level of basic knowledge on COVID-19 was found. A total of 96.4% had a positive response to knowledge on preventive measures such as social distancing, handwashing, and wearing of mask. Students with higher educational background and biological knowledge were found to have more advanced knowledge about viruses, vaccines and drug targets.

In conclusion, Japanese university students have been prepared toward safety and good health preservation during the COVID-19 crisis.

Perception of students on the transmission of Corona virus

Kolawole, Olapegba, Lorfa, Gandi and Oguntayo (2020), carried out a survey on the Preliminary Assessment of Novel Coronavirus Knowledge and Perceptions in Nigeria. This survey used an anonymous online questionnaire to collect data from respondents. This study found that a large percentage of Nigerians hold the view that COVID-19 is a biological weapon designed by the government of China. This is evident of the diverse sources of information concerning the COVID-19 that is available in Nigeria (Hassan, 2020).

Majority of the respondents (more than 90%) agreed that COVID-19 has high fatality and this is confirmed by the reported 79,384 deaths worldwide as of April 7, 2020 (WHO, 2020). The research therefore recommend that all stakeholders should intensify their effort in sensitizing the general public to understand and comply with all precautionary measures to curb COVID-19.

A study done on the Knowledge, Attitude and Perception towards the 2019 Coronavirus pandemic by Elani Hager, et al. (2020),showed that its respondents had a positive and good perception of global efforts to control the pandemic. Although most of the participants (81%) agreed with the compulsory lockdown to prevent the further spread of the disease, but only 36% believe that the government had done enough to protect its citizens. The study revealed the perception of most respondents (62.1%) on the global efforts at controlling the virus and preventing further spread was satisfactory. Only 22% of the respondents were satisfied with the country's handling of the pandemic.

Knowledge and Perception on COVID-19 among Senior High School students in Ghana, conducted by Bador, Lettor, Apanga, Kumbeni, Akunvane and Akparibo (2020) had a sample size of 624 senior high school students. This research was conducted, using a structured questionnaire to solicit response from the students.

This study showed that the student showed an overall positive perception towards COVID-19 mode of transmission and preventive measures put in place to combat it. This positive perception could be attributed to the appreciable level of knowledge on COVID-19. However, about one fifth of the students perceived that COVID-19 was not deadly, while others perceived that the virus was not real. This is a major concern as such students are not likely to fully observe the COVID-19 safe protocols at school. This puts them and their colleagues at great risk of coming down with the virus. These findings aligned well with what Saba et al reported in their study in northern Ghana where participants perceived that the pandemic was sent by God to punish mankind for their sins (Saba & Karikari, et al 2020).

In conclusion, this study showed that the senior students demonstrated good knowledge about COVID-19 symptoms and transmission and had a positive perception about the measures put in place to tackle the pandemic in Ghana. The researchers recommended that the authorities should consider using media (television, radio, social media), as a platform to drum home the message of disease prevention.

Medical Students' Perception Towards the COVID-19 Pandemic in Mexico; a research conducted by Edgar, Patricio, and Juan (2020), with an online questionnaire as its data collection tool. A response of 384 students was collected. The result showed the percentage of acceptance

for vaccination was 95.6%. It was observed that medical students had a positive perception towards the vaccination for COVID-19.

An online survey on Nursing Students Perceptions, Knowledge, and Preventive Behaviors Toward COVID-19 by Cruz, Mohammad, Alsolami, Tork, Felemban (2020), showed that nearly all students were aware of the outbreak (99.2%), and most of them received information on COVID-19 primarily from social media (71%). Moreover, the majority of the students reported that they had not learned of the coronavirus from any of their nursing courses (72.1%).

Majority of the students performed almost all of the preventive practices identified in the survey. The rules set by government received the highest percentage (77.4%). The study concludes that Saudi student nurses had a good perception of their COVID-19 prevention, as well as positive perceptions on the government effort in responding to the COVID-19 crisis.

2.3 THEORITICAL FRAMEWORK

The theoretical framework of this review will focus on Social cognitive theory and Health belief model.

Social Cognitive Learning Theory by Bandura (1977)

The leading advocate of the Social Cognitive learning theory is Albert Bandura in 1977. The social learning theory focuses on the learning which occurs within a social environment. The theory argues that individuals according to the social learning model live and interact together in the social environment and their behavior depends on the influence of the environment. The theory further believes that man lives symbiotically in the environment. In other words,

individual interact with the environment and allows the environment to interact with him thus generating behavior.

In the social cognitive learning theory, human behavior is explained using a three-way reciprocal theory in which personal factors (one's cognitive processes) behavior and environmental influences continually interact in a process of reciprocal causality. These are very dynamic relationships where the person can use to shape the environment as well as environment shaping the person. Bandura is of the assumption that cognition plays a role in learning. Human functioning hinges on cognitive, vicarious, self-regulatory and self-reflective processes in human adoption and change. The theory maintains that people are viewed as self-organizing, proactive, self-reflecting, self-regulating rather than as reactive organisms shaped and shepherded by environmental forces or driven by concealed inner impulses. In line with the present study, this theory implies that humans may through interaction with one another and through peer education be exposed to acquire positive attitude and increases their awareness towards Coronavirus.

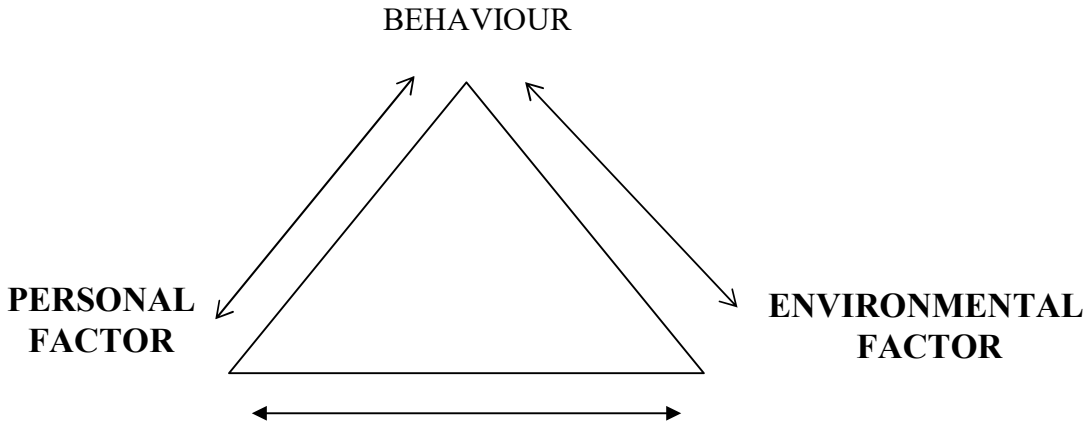

Figure 1 : Reciprocal relationships as proposed by Bandura (1977)

Health Belief Model (HBM)

The Health Belief Model (HBM) is a social psychological health behavior change model developed to explain and predict health-related behaviors, particularly in regard to the uptake of health services (Ghazal, et al, 2016). The HBM assumes that feeling vulnerable to a condition and claiming it as a serious health problem is a motivational factor that will increase people's action in taking preventive measure.

According to this model, a person's willingness to engage in health-seeking behavior is influenced by perceived risks, perceived severity, perceived susceptibility and perceived benefits, and cues to action. As this model is about assessing educational needs, low literacy and poverty are barriers to achieving preventive measures. Health literacy is essential for participation in health education. This model is applicable to this study by targeting the aspects of the model's key construct. By providing education on the transmission and prevention of COVID-19, perceived susceptibility and perceived severity is increased this can also be seen when consequences of this virus is known.

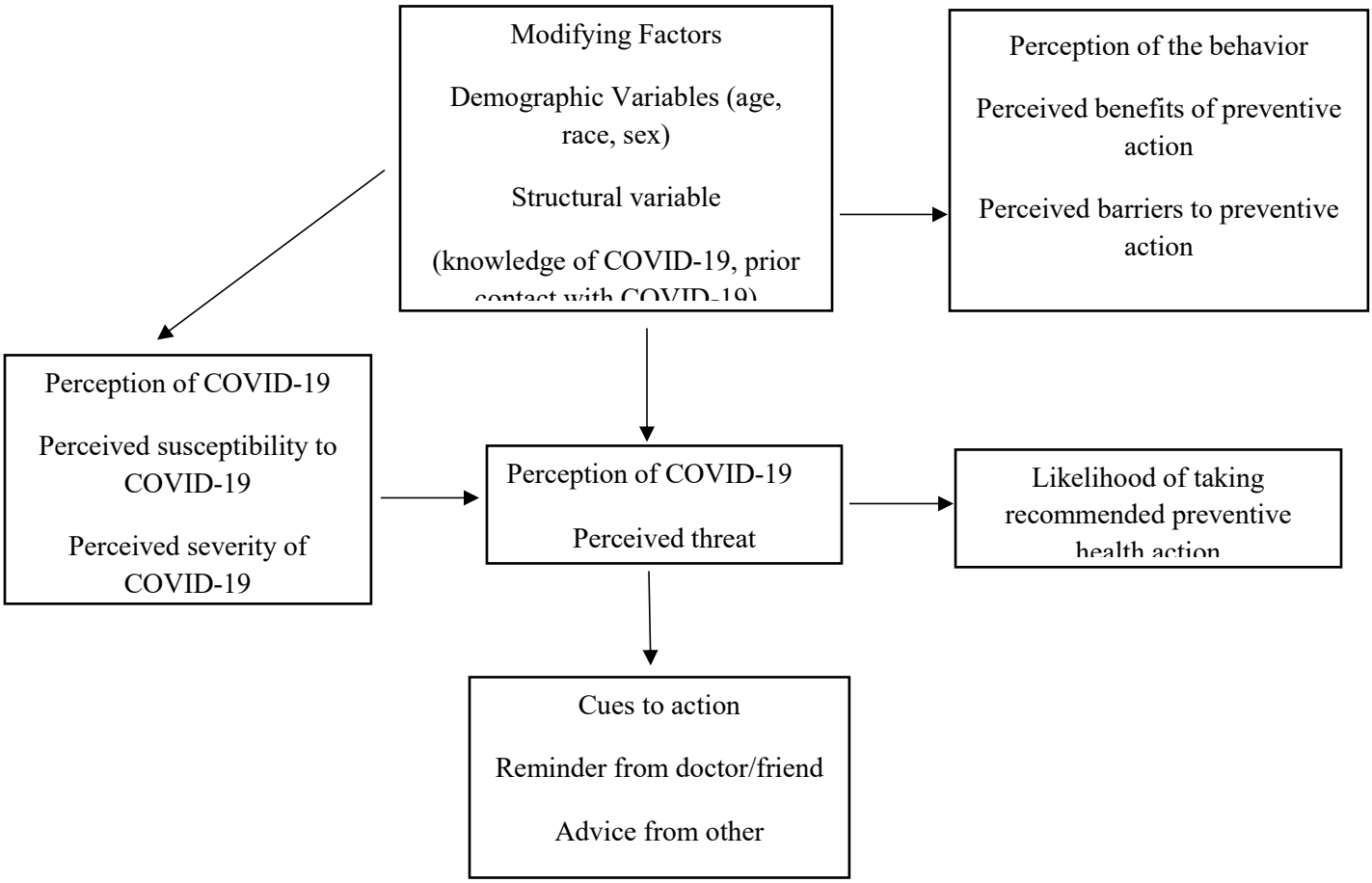

Figure 2: showing the illustration of the health belief model as from Rosenstock.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter was discussed under the following headings; research design, research setting, target population, sampling size and technique, instrument for data collection, validity of instrument, reliability of instrument, method of data collection, method of data analysis and ethical consideration.

3.1 Research Design

A cross-sectional design was applied in the course of this study. This design was appropriate for this study as it aided adequate investigation of the perception of quantity survey students towards COVID-19.

3.2 Research Setting

The study was conducted in University of Benin, Benin City, Edo State, Nigeria. The University of Benin is a federal owned higher institution that is geographically located at Ugbowo community in Ovia North East Local Government Area of Edo State. The University of Benin was founded in July 1970, her motto “Knowledge for Service”. It comprises of two campuses (ugbowo campus, and Ekenwa campus). It has an estimated population of 73,000 students, which comprises of both full-time and part-time.

3.3 Population of Study

The population of this study, comprised of all students from the department of Quantity Survey, faculty of Environmental Sciences, University of Benin, Benin City, Edo State (from 100level to 500level). The target population were students from various levels of the department (male and

female). The total population of the students from the department is 168 (This data was gotten from the office of the head of department; HOD).

3.4 Sampling Technique

The convenience sampling technique was used in the course of this study. This involved selecting subjects based on their time of availability during the research.

3.5 Sample size

In calculating the sample size, the Taro Yamane formula was used.

$$n = \frac{N}{1 + N(d)^2}$$

Where n= the sample size

d= the level of precision (a standard number of 0.05 at 95% confidence level)

N= population size (168)

$$n = \frac{168}{1 + 168(0.05)^2}$$

$$n = \frac{168}{1 + 168(0.0025)}$$

$$n = \frac{168}{1 + 0.42}$$

$$n = \frac{168}{1.42}$$

$$n = 118.3$$

Approximately, n = 118

Hence, the sample size for this study was one hundred and eighteen (118) students, in Quantity Survey department, faculty of Environmental Sciences, University of Benin, Benin City, Edo State.

3.6 Instrument for Data Collection

The tool for collecting data that was used for this study was a self-structured questionnaire. The questionnaire consisted of four (4) sections; section A, covered the demographic data, section B covered the knowledge of coronavirus, this was designed as a multiple choice question, section C, covered the attitude towards the prevention of COVID-19, and section D, covered the perception of COVID-19 transmission. Both sections C and D were designed using the Likert scale, which had strongly disagree (SD), Disagree (D), Agree (A) and Strongly Agree (SA).

3.7 Reliability of the Instrument

A pilot study was conducted, using 20 students from the department of Architecture, faculty of Environmental Science, who will not participate in the study. This was done using the reliability coefficient alpha (Cronbachs alpha) method. The coefficient of reliability obtained by sections (B, C and D) were 0.801, 0.862 and 0.720 respectively. The reliability coefficient is an absolute number that can range from .00 to 1.00. The instrument was accepted as reliable for data collection.

3.8 Validity of Study

The data collection tool (questionnaire) was validated and approved by the supervisor.

3.9 Method of Data Collection

The data for this study was collected by administering of questionnaires to the subjects, and this was done using the Google form. The questions were set and sent to the respondents on social media platforms via a link, for them to fill.

3.10 Method of Data Analysis

Data collected was analyzed by an expert analyst. This was done using the IBM Statistical Package for Social Sciences (SPSS) version 26.0 for windows. T-test and X^2-test was used to test the hypothesis; level of significance is $P>0.05$.

Decision Rule for Attitude: A decision rule of a mean cut-off of 2.50 was used to determine the attitude of the respondents. A decision rule with a mean cut-off of less than 2.50 connotes a Negative attitude, and a rule with a mean cut-off greater than 2.50 connotes a Positive attitude.

Decision Rule Perception: A decision rule of a mean cut-off of 2.50 was used to determine the of the respondents. A decision rule with a mean cut-off of less than 2.50 connotes a Negative perception, and a rule with a mean cut-off greater than 2.50 connotes a Positive perception.

3.11 Ethical Consideration

Permission to carry out this study was obtained from the ethical review board of the University of Benin, Benin City. Informed consent was obtained from the participants, and objectives of the study was clearly explained to the participants. Confidentiality and anonymity was ensured throughout the execution of the study.

CHAPTER FOUR
RESULTS

This chapter dealt on the presentation and analysis of the results from the questionnaire administered to students in the Department of Quantity Survey. The chapter will analyze the results by research questions and hypotheses.

4.1 Demographic data

Table 4.1: Demographic data

	Frequency	Percentage
Age (Years)		
16-20	37	31.4
21-25	61	48.6
26 and above	20	20.0
Gender		
Male	70	57.9
Female	48	42.1
What level are you?		
100	8	8.6
200	27	22.1
300	30	25.0
400	27	22.9
500	26	21.4
Religion		
Christianity	112	81.2
Islam	3	9.4
Traditional	3	9.4
Mode of entry		

Direct Entry	7	12.9
UTME	111	87.1

Table 4.1 shows demographic data of respondents, most respondents 61(48.6%) were within the age range of 21-25, 70(57.9%) were males, 30(25%) were in 300 level, 112(81.2%) were Christians, 122(87.1%) mode of entry was UTME.

4.2 Answers to Research Questions

Research Question One

Table 4.2: Knowledge of Corona virus

	Frequency	Percentage
Have you heard of Corona virus?		
Yes	118	100.0
If yes, where did you hear it from?		
(you may choose more than one option)		
Family & friends	61	43.6
Government	51	36.4
Health workers	74	52.9
Internet	93	66.4
Mass media	92	65.7
To the best of your knowledge, Corona virus is?		
(you may choose more than one option)		
Wrong answer	92	73.6
Correct Answer	26	26.4
Corona virus is typically transmitted		
(i.e. spread from person to person), by which means?		
(you may choose more than one option)		
Wrong answer	8	5.7
Correct Answer	110	94.3
Corona virus can be prevented by?		
(you may choose more than one option)		
Wrong answer	26	26.4
Correct Answer	92	73.6

Can avoiding crowded places prevent the spread of Corona virus?		
Wrong answer	45	40.0
Correct Answer	73	60.0
Important Symptoms of Corona virus		
Cough	91	69.5
Fever	70	53.4
Fatigue	55	42.0
Sneezing	83	63.4
Sore throat	61	46.6
Muscle Pain	21	16.0
Mean knowledge	**63.57±13.42**	

Table 4.2 shows knowledge of Covid-19, all respondents 118(100%) have heard of covid-19, 93(66.4%) heard about it from the internet, 92(73.6%) gave the wrong answer to what covid-19 is, 110(94.3%) gave the correct answer to how covid-19 can be prevented, 84(60%) gave the correct answer that avoiding crowded places prevent the spread of covid-19, most respondents reported cough as an important symptom of covid-19. The mean knowledge score is 63.57±13.42, which suggests fair level of knowledge.

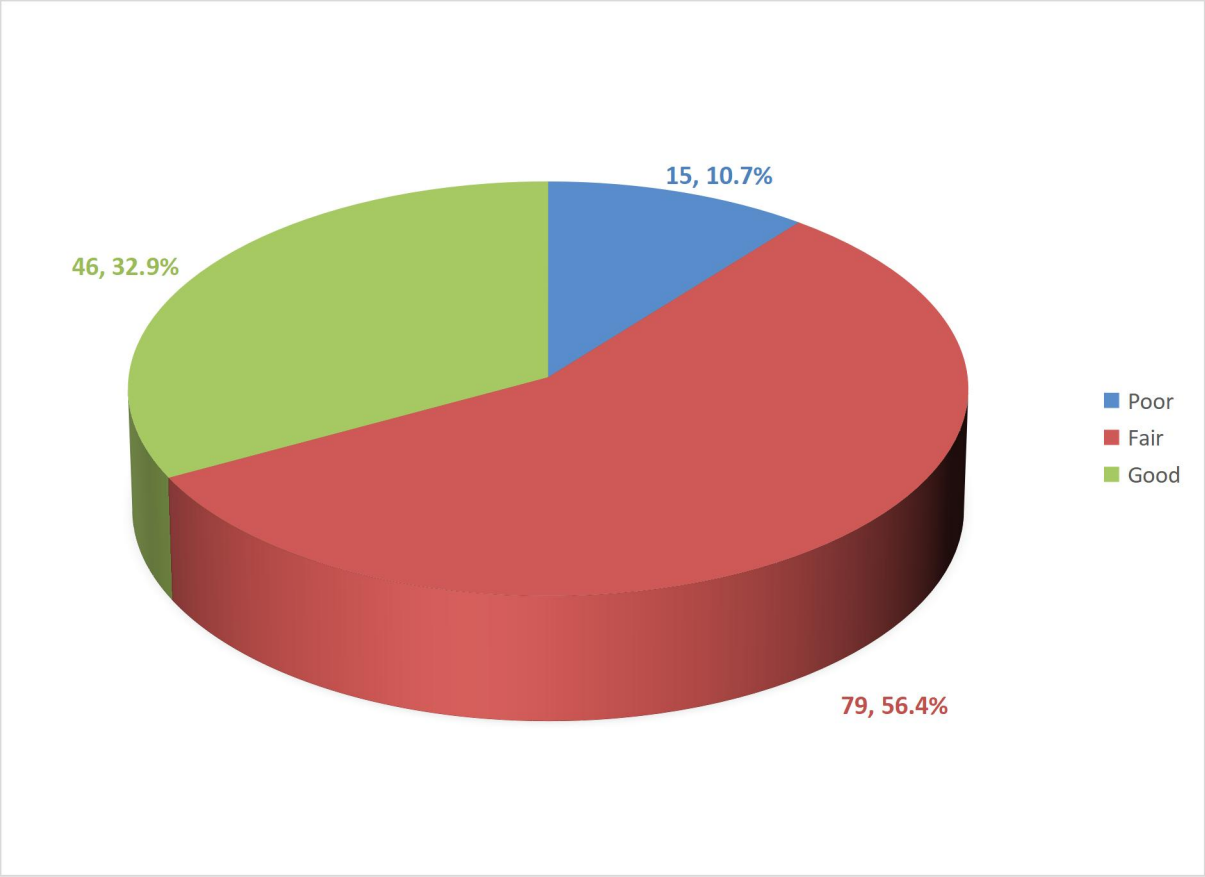

Figure 4.1: Level of Knowledge of Corona virus

Figure 4.1 gives a summary of level of knowledge of Corona virus among respondents, majority 56.4% had a fair level of knowledge, and 32.9% had a good level of knowledge while the remaining 10.7% had a poor level of knowledge.

Research Question Two

Table 4.3: Attitude towards Corona virus Prevention

	SD	D	A	SA	$\bar{x}$	St.Dev	Remarks
Africans are immune to Corona virus infection because of their genetic makeup	26 (25.7)	29 (27.9)	25 (25.0)	20 (21.4)	2.42	1.09	Negative
It is possible to die from the Coronavirus	7 (8.6)	30 (25.0)	36 (29.3)	47 (37.1)	2.95	0.98	Positive
Constant use of facemasks and shields helps to minimize the spread of Corona virus infection	12 (12.1)	32 (26.4)	42 (33.6)	34 (27.9)	2.77	0.99	Positive
Social distancing is a means employed to prevent the spread of Corona virus	12 (12.1)	26 (22.1)	44 (35.0)	18 (30.7)	2.84	1.00	Positive
Consuming herbs, gin and African food helps to prevent Corona virus infection	33 (27.1)	43 (34.3)	34 (27.9)	10 (10.7)	2.22	0.97	Negative
Frequent hand washing can help to prevent Corona virus infection	8 (9.3)	35 (28.6)	46 (36.4)	31 (25.7)	2.79	0.94	Positive
Hand-base sanitizers are used when hand washing is not possible to prevent Corona virus infection	16 (15.0)	31 (25.7)	43 (34.3)	30 (25.0)	2.69	1.01	Positive
Avoiding crowded places can prevent Corona virus prevention	7 (8.6)	36 (29.3)	44 (35.0)	33 (27.1)	2.81	0.94	Positive
Fumigation of bus stops and public places helps to prevent Corona virus infection	11 (11.4)	42 (33.6)	45 (35.7)	22 (19.3)	2.63	0.92	Positive

Table 4.3 shows attitude towards covid-19 prevention. It is possible to die from the Coronavirus had a mean and St.D of 2.95±0.98, constant use of facemasks and shields helps to minimize the spread of COVID-19 infection had a mean and St.D of 2.77±0.99, social distancing is a mean employed to prevent the spread of COVID-19 had a mean and St.D of 2.84±1.00, frequent hand washing can help to prevent Corona virus infection had a mean and St.D of 2.79±0.94, hand-base sanitizers are used when hand washing is not possible to prevent Corona virus infection had a mean and St.D of 2.69±1.01, avoiding crowded places can prevent Corona virus prevention had a mean and St.D of 2.81±0.94, fumigation of bus stops and public places helps to prevent COVID-19 infection had a mean and St.D of 2.63±0.92.

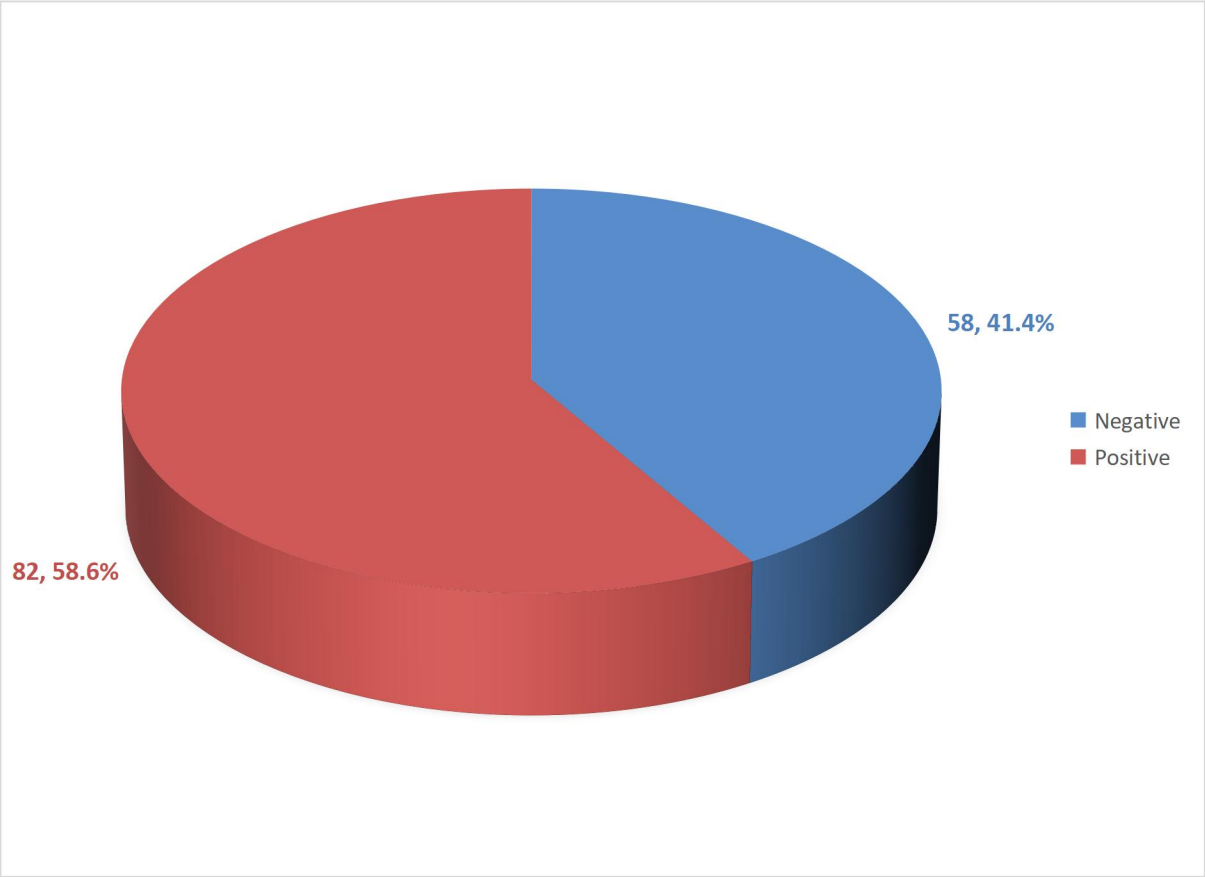

Figure 4.2: Attitude level of Corona virus

Figure 4.2 gives a summary of attitude level of covid-19. It shows that 47(41.4%) have negative attitude towards COVID-19, while 71(58.6%) have positive attitude towards it.

Decision Rule: A decision rule of a mean cut-off of 2.50 was used to determine the attitude of the respondents. A decision rule with a mean cut-off of less than 2.50 conotes a Negative attitude, and a rule with a mean cut-off greater than 2.50 conotes a Positive attitude.

Research Question Three

Table 4.4: Perception on Corona virus Transmission

	SD	D	A	SA	x	St. Dev	Remarks
COVID-19 is being transmitted from animal to human beings	30 (25.0)	54 (42.1)	26 (22.1)	10 (10.7)	2.19	0.93	Negative
COVID-19 can be transmitted by airborne droplets, via sneezing, coughing or breathing	7 (8.6)	33 (27.1)	29 (24.3)	5 (40.0)	2.96	1.01	Positive
COVID-19 can be transmitted via kissing, hugging, sex or other sexual contacts	16 (15.0)	47 (37.1)	29 (24.3)	28 (23.6)	2.56	1.01	Positive
COVID-19 can be transmitted from mother to child during pregnancy	33 (27.1)	55 (42.9)	30 (25.0)	2 (5.0)	2.08	0.85	Negative
COVID-19 can be transmitted by touching contaminated objects or surfaces	10 (10.7)	27 (22.9)	42 (33.6)	41 (32.9)	2.89	0.99	Positive
COVID-19 can be transmitted by eating contaminated food and drinking contaminated water	20 (17.9)	54 (42.1)	38 (30.7)	8 (9.3)	2.31	0.87	Negative
COVID-19 can be transmitted from one person to another in a crowded place	3 (5.7)	44 (35.0)	35 (28.6)	38 (30.7)	2.84	0.93	Positive

Table 4.4 shows respondent's perception on covid-19 transmission. COVID-19 can be transmitted by airborne droplets, via sneezing, coughing or breathing had a mean and St.D of 2.96±101, COVID-19 can be transmitted via kissing, hugging, sex or other sexual contacts had a mean and St.D of 2.56±1.01, COVID-19 can be transmitted by touching contaminated objects or surfaces had a mean and St.D of 2.89±0.99, COVID-19 can be transmitted from one person to another in a crowded place had a mean and St.D of 2.84±0.93.

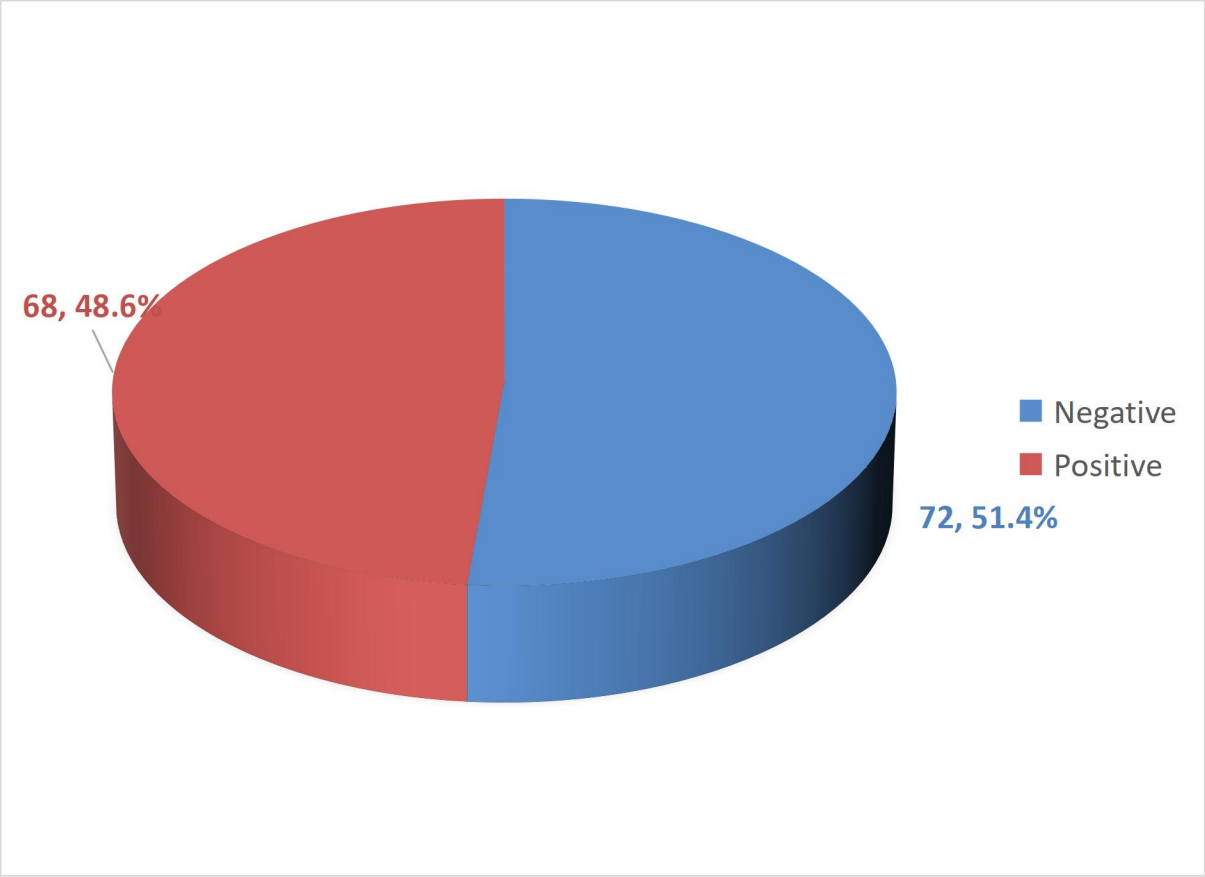

Figure 4.3: Perceived level of COVID-19

Figure 4.3 gives a summary of perceived level of covid-19. It shows that 61(51.4%) have negative perception towards COVID-19, while 57(48.6%) have positive attitude towards it.

Decision Rule: A decision rule of a mean cut-off of 2.50 was used to determine the of the respondents. A decision rule with a mean cut-off of less than 2.50 conotes a Negative perception, and a rule with a mean cut-off greater than 2.50 conotes a Positive perception.

4.3 Hypotheses Testing

Hypothesis One: There is no significant relationship between the knowledge of COVID-19 and the perception, towards the transmission and preventive measures, among quantity survey student of university of Benin

Table 4.6: Association between the knowledge of COVID-19 and the perception, towards the transmission and preventive measures, among quantity surveyor student of university of Benin

	Negative	Positive	χ^2	P
Level of knowledge				
Poor	2(46.7)	3(53.3)	4.978	0.083
Fair	42(59.5)	27(40.5)		
Good	13(39.1)	23(60.9)		

Table 4.6 shows the association between the knowledge of COVID-19 and the perception, towards the transmission and preventive measures, among quantity survey student of university of Benin. It shows that there is no significant association ($p>0.05$) between the knowledge of COVID-19 and the perception among the students. We therefore accept the null hypothesis.

Hypothesis Two: There is no significant difference in the perception of the transmission and prevention of COVID-19 among quantity survey students based on their gender.

Table 4.7: Mean comparison of perception of the transmission and prevention of COVID-19 among quantity survey students based on their gender.

	N	Mean	Std. Deviation	t	P
Male	70	2.63	0.57	1.695	0.092
Female	48	2.48	0.48		

Table 4.7 shows the mean comparison of perception of the transmission and prevention of COVID-19 among quantity survey students based on their gender. It shows that there is no significant difference ($p>0.05$) in the mean perception based on their gender. We therefore accept the null hypothesis. \

CHAPTER FIVE

DISCUSSION OF FINDINGS

This chapter provided the discussion of findings in accordance to the stated objectives and hypothesis, implications for nursing, summary, conclusion, recommendation and suggestion for further studies.

5.1 Discussion of Findings

Level of knowledge of quantity survey students of University of Benin towards the prevention of Corona virus

The finding from this study reported that there is fair level of knowledge (56.4%) among the students. It revealed that only 39(32.9%) of the students have good level of knowledge. The current results differ from those reported by Clements (2020) who indicated that the average public knowledge score of US residents two months after the disease began in the USA was 80%. Also, a study by (Olaimat et al., 2020) which revealed that 80.1% of nursing students in Jordan had good knowledge. Moreover, (Nemati et al., 2020) study conducted at the time of the COVID-19 outbreak in Iran found good awareness among nurses. This figure is higher than our study because these are nursing students who have training in disease transmission and prevention prior to the novel coronavirus and so it is easier for them to appreciate the process than quantity surveyor students.

The main source of information in this study is from the Internet and Mass media. Even though current study did not explore on the information source regarding Corona virus, it should be considered that the source of information from the Internet and mass media had great influences on student's knowledge regarding infectious disease, especially during the lockdown period (Carducci, Fiore & Azar, 2019). Obtaining information from authentic sources is pivotal for

disseminating unbiased and reliable data about the emerging Corona virus infection and is essential for students and health care workers' preparedness and response. Currently, there is a vast diversity of information available through the internet, including unverified malicious information that can spread quickly and misguide persons about the virus origin and activities. In particular, health authorities and scientists have warned that widespread misinformation about Corona virus is a serious concern causing xenophobia worldwide (Lai, et al., 2021; Mejova & Kalimeri, 2020). In this regard, students should carefully evaluate Corona virus -related information and should use scientific and authentic content as information sources. Obtaining accurate information from reliable source is important which could subsequently reflect their better knowledge about the disease. The students' low knowledge level can be linked to uncensored information in the form of myth they got from Internet/Social media. Hence the need for more censored sources of information about the virus and its prevention.

Attitude of quantity survey students of University of Benin on prevention of Corona virus

From the finding of this study, the students have positive attitude on the prevention of Corona virus. This finding is not in consonance with the finding by (Ayed and Zabn, 2021) who reported that generally, most of their participants had a negative attitude towards Corona virus infection. The current results also deviate from (Olum et al., 2020) study that reported about four-fifth of the health care workers had negative attitude toward Corona virus. However, these results were consistent with (Hussain's et al., 2020) study that most of the health care providers showed a positive attitude toward Corona virus. This could be explained by loss of control on spread of the infection due to wide sector of Palestinian workers who work in the occupied areas by Israeli.

The level of positive attitudes in this study can be explained by the government's unprecedented actions and prompt response in taking stringent control and precautionary measures against

Corona virus, to safeguard citizens and ensure their well-being. These measures include the lockdown, and the suspension of all domestic and international flights, prayer at mosques, schools and universities, and the national curfew imposed on citizens. This finding is consistent with a recent study conducted in China, where the majority of participants were convinced that the disease is curable and that their country will combat the disease (Zhong, et al., 2020). However, these results contrast with other findings that suggest people tend to express negative emotions, such as anxiety and panic, during a pandemic that could affect their attitude (Blendon, et al., 2016).

Perception of quantity survey students of University of Benin on the transmission of Corona virus

This study found that majority (51.4%) of the students have negative perception towards the transmission of COVID-19. This finding is not in consonance with the finding of (Bhagavathula, et al., 2020) who reported a 78% positive perception of Corona virus. This higher perceived level in their study can be linked to the fact that their respondents were health workers who by virtue of their training know better about infectious diseases and to a large extent influence their perception about the virus. This is also consistent with the average level of risk perception that was reported by (Taghir et al, 2020). In contrast, healthcare workers, as well as medical and allied health science students, exhibited positive perceptions about the pandemic, as reported by researchers in the United Arab Emirates and in India (Bhagavathula, et al., 2020; Gohel, et al., 2021).

5.2 Summary

This study seeks to assess the knowledge, attitude and perception of quantity survey students of university of Benin towards the transmission and prevention of Corona virus. The study was outlined into five chapters. Chapter one of this study dealt with the introduction of the topic, statement of problem, objectives of the study, research questions, hypotheses and scope of study, the significance of the study and operational definition of terms. Relevant literatures were reviewed in chapter two on the subject under discourse, theoretical framework and empirical review of related studies were also discussed in this chapter. Chapter three dealt with research methodology which adopted the cross-sectional research design and convenient sample technique was used to select One Hundred and Forty Students in the Department. A well-structured questionnaire was used as instruments of data collection. Analysis and interpretation of data were discussed in chapter four, tables with percentage and means represented information as well as pie-charts.

5.3 Implication to Nursing

- In light of these findings, the relevant institutions should raise awareness of nurses about this disease, despite the fact that the Palestinian Ministry of Health has developed a protocol based on World Health Organization recommendations to combat this pandemic. Also, nursing students require training courses in this area to raise awareness of the importance of being ready in the event of a deterioration in the nursing staff's condition in hospitals
- Additional education, intervention, and training programs for nursing students can improve their understanding of the nature of Corona virus infection and prevention strategies. As a result, nursing students' attitudes toward providing

appropriate care to their patients and protecting themselves from this infection may improve.

- Management needs to educate the nurses in the health centers on the novel coronavirus, its transmission and prevention on campus.

5.4 CONCLUSION

This study assessed knowledge, attitude and perception of quantity survey students of university of Benin towards the transmission and prevention of Corona virus. The result shows that the level of knowledge is fair, with positive attitude and negative perception to the transmission and prevention of COVID-19. Knowledge did not show significant association with perception and also there was no significant difference in perception based on gender of the students.

5.5 RECOMMENDATIONS

The following recommendations are made from the findings;

1. There is the need for an increased adherence to the health regulations by the students.
2. Similarly, mental health support should be made more readily available to the populace, with the rise of public concern, anxiety, and the stigmatized look and treatment the patients may face.
3. The university community and the government at large need to strengthen their health care systems, and improve their surveillance activities, to be able to estimate and detect cases, trace contacts, properly isolate infected patients and effectively apply standard infection prevention and control measures.

4. There is also the need for the university community to continuously provide accurate and timely information to their students.

5.6 Limitations

This study had some limitations.

- To begin with, the questionnaire was self- reported and may be subjected to reporting bias.
- In addition, the respondents were mostly inaccessible, due to the ongoing ASUU strike.
- The survey was only available on the contacts of the authors and those who use WhatsApp and the internet. These represent a significant challenge to this study.

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APPENDIX 2

QUESTIONNAIRE

DEPARTMENT OF NURSING SCIENCE
FACULTY OF BASIC MEDICAL SCIENCES,
UNIVERSITY OF BENIN,
BENIN CITY, EDO STATE, NIGERIA.

"PERCEPTION OF THE TRANSMISSION AND PREVENTION OF CORONA VIRUS AMONG QUANTITY SURVEY STUDENTS IN UNIVERSITY OF BENIN, BENIN CITY, EDO STATE"

Dear Respondent,
The researcher is a student of the above named department, carrying out a research on perception of the transmission and prevention of Corona virus. Your personal information will not be required for this study, thus a high level of anonymity and confidentiality will be maintained.

INSTRUCTION: Tick (√) where appropriate in the spaces provided.

SECTION A (DEMOGRAPHIC DATA)

1. Age(years): (a) 16-20 [ ] (b) 21-25 [ ] (c) 26 and Above [ ]
2. Sex: (a) Male [ ] (b) Female [ ]
3. Level: (a) 100 [ ] (b) 200[ ] (c) 300[ ] (d) 400 [ ] (e) 500 [ ]
4. Religion: (a) Christianity [ ] (b) Islam [ ] (c) Traditional [ ] (d) Others, specify_____
5. Tribe: (a) Edo [ ] (b) Yoruba [ ] (c) Igbo [ ] (d) Hausa [ ] (e) Others, specify_____
6. Mode of entry: Direct Entry [ ] UTME[ ]

SECTION B; KNOWLEDGE OF CORONA VIRUS

1. Have you heard of Corona virus?
   (a) YES
   (b) NO
2. If yes, where did you hear it from? (**Tick as Much Options as Applied)**
   (a) Mass media
   (b) Internet
   (c) Health workers
   (d) Government
3. To the best of your knowledge, Corona virus is? (**You may choose more than one option**)
   (a) a biological weapon designed by the Chinese government
   (b) a virus designed by pharmaceutical industry to sell their drugs
   (c) designed to control or reduce population
   (d) an exaggeration by news media to cause fear and panic
   (e) a virus that causes severe respiratory symptoms

4. Corona virus is typically transmitted (i.e. spread from person to person), by which means? (**You may choose more than one option**)
   (a) contact with airborne droplets, via sneezing, coughing or breathing
   (b) kissing, hugging, sex or other sexual contacts
   (c) eating contaminated food or drinking contaminated water
   (d) touching contaminated object or surfaces
   (e) through 5G phone networks or mast
5. Corona virus can be prevented by (**You may choose more than one option**)
   (a) the hot weather of Africa
   (b) regular hand washing and social distancing
   (c) taking chloroquine capsules and antibiotics
   (d) fumigating and spraying bus stops and other public places
   (e) disinfecting contaminated surfaces
   (f) anointing oil and prayers
6. can avoiding crowded places prevent the spread of Corona virus?
   (a) YES
   (b) NO
   (c) I DO NOT KNOW
7. The most important symptom of Corona virus is? (**You may choose more than one option**)
   (a) cough
   (b) fever
   (c) fatigue
   (d) sneezing
   (e) sore throat
   (f) muscle pain
   (g) I do not know any symptom of Corona virus

SECTION C; ATTITUDE TOWARDS CORONA VIRUS PREVENTION
Kindly Tick (√) where applicable; *Strongly Disagree (SD), Disagree (D), Agree (A)and Strongly Agree(SA)*

		SD	**D**	**A**	**SA**
8.	Africans are immune to COVID-19 infection because of their genetic makeup				
9.	It is possible to die from the Coronavirus				
10.	Constant use of facemasks and shields helps to minimize the spread of COVID-19 infection				
11.	Social distancing is a means employed to prevent the spread of COVID-19				

12.	Consuming herbs, gin and African food helps to prevent COVID-19 infection				
13.	Frequent hand washing can help to prevent COVID-19 infection				
14.	Hand-base sanitizers are used when hand washing is not possible to prevent COVID-19 infection				
15.	Avoiding crowded places can prevent COVID-19 prevention				
16.	Fumigation of bus stops and public places helps to prevent COVID-191 infection				

SECTION D; PERCEPTION ON CORONA VIRUS TRANSMISSION

Kindly tick the option, on which you believe COVID-19 can be transmitted
1=Strongly Disagree (SD); 2=Disagree (D); 3=Agree (A); 4=Strongly Agree(SA)

		SD	***D***	***A***	***SA***
17.	COVID-19 is being transmitted from animal to human beings				
18.	COVID-19 can be transmitted by airborne droplets, via sneezing, coughing or breathing				
19.	COVID-19 can be transmitted via kissing, hugging, sex or other sexual contacts				
20.	COVID-19 can be transmitted from mother to child during pregnancy				
21.	COVID-19 can be transmitted by touching contaminated objects or surfaces				
22.	COVID-19 can be transmitted by eating contaminated food and drinking contaminated water				
23.	COVID-19 can be transmitted from one person to another in a crowded place				

Reliability
Scale: Knowledge of COVID-19

Case Processing Summary

		N	%
Cases	Valid	14	100.0
	Excluded[a]	0	.0
	Total	14	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.801	7

Reliability
Scale: Attitude towards COVID-19 Prevention

Case Processing Summary

		N	%
Cases	Valid	14	100.0
	Excluded[a]	0	.0
	Total	14	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.862	7

Reliability
Scale: Perception on COVID-19 Transmission

Case Processing Summary

		N	%
Cases	Valid	14	100.0
	Excluded[a]	0	.0
	Total	14	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.720	5