KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS COVID-19 DISEASE AMONG COMMUNITY MEMBERS OF COLLINS CHABANE MUNICIPALITY IN LIMPOPO PROVINCE

By

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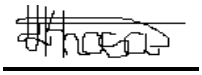
DECLARATION

I, Khosa Langutani Lucia hereby declare that the mini-dissertation titled: "***Knowledge, Attitudes and practices towards covid-19 disease among community members of Collins Chabane Municipality in Limpopo Province***" has not been previously submitted for any degree at this institution or any other university, that it is my own work in design and in execution, and that all reference material contained therein has been duly acknowledged.

Signature:  Date**: 08.03.2023**

Khosa L.L

DEDICATION

This research project is dedicated to my late son Lumeko Sibisi whom I love wholeheartedly, who gave me the reason and the strength to thrive, though it was not easy for me. To my parents Mr Khosa G.L and Mrs Khosa H.S for their support, love, and care throughout the whole study. To my sweetest siblings Lulama, Letelo and Langavi Khosa and my husband as well for their support as well and for encouraging me not to quit and to my aunt, Elsey Nkuna who was there for me during the difficult times I had encountered after the loss of my son.

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LIST OF ACRONYMS AND ABBREVIATIONS

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ARDS	: Acute Respiratory Distress Syndrome.
CDC	: Centre for Disease Control
COVID-19	: Corona Virus Disease of 2019
KAP	: Knowledge Attitude and Practice
SARS-CoV-2	: Severe Acute Respiratory Syndrome.
SPSS	: Statistical Package for Social Sciences.
WHO	: World Health Organisation.

ABSTRACT

A novel coronavirus known as Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) also known as coronavirus disease of 2019 (COVID-19) is an acute respiratory disease that has received attention in the whole world and has spread throughout. The current study investigated the knowledge, attitudes and practices towards COVID-19 among community members of a selected rural community in the Vhembe district in Limpopo province. The study applied a Quantitative, descriptive cross-sectional survey design to address the study objectives. A self-administered questionnaire was used as a data collection tool. Stratified random sampling was used to select 418 participants from a population of 7780 and 400 responses were received from Collins Chabane's Njhakanjhaka village. Reliability was tested using Cronbach alpha and the result of the Chronbach Alpha correlation coefficient was 0.95, therefore, the data collection instrument has a high reliability.

Results show that there is no significant difference between participants that agreed or disagreed with the statements regarding knowledge (p-value=0,299>0,05) and that participants were unsure in the knowledge of COVID-19 with a strong association to age group, ethnicity, educational level and religion, (p-value<0,0001). Although there was a negative attitude towards the use and buying of sanitizers, results show that in general participants agreed with the statements related to attitude compared to those who disagreed, (p-value<0,0001) with a strong association to age group, gender, and ethnicity, educational level and religion (p-value<0,000.The majority of participants always follow the practices regarding Covid-19 among community members of Collins Chabane Municipality compared to those who never , (p-value<0,00001), with a strong association to age group, gender, ethnicity, educational level and religion (p-value<0,0001).

This study recommended that due to the lack of knowledge found in this study, the government and the health care authorities need to distribute and share information with the public to counteract potential misinformation.

Keywords: Attitudes, COVID-19, Community members, Knowledge, Practices.

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CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION

The novel coronavirus known as SARS-CoV-2 is a member of large family member of coronaviruses (abbreviated COVID-19) which is an infectious disease caused by a newly discovered coronavirus, it is an acute respiratory disease that was first detected in December 2019 in Wuhan, China. The disease is highly infectious, with its main clinical symptoms including fever, dry cough, fatigue, myalgia, and dyspnea (Zhong, Luo, Li, Zhang, Liu, Li & Li, 2020). The diseases were officially declared an epidemic by the World Health Organization in 2020 January 30th, as it became a serious public health concern.

1.2 BACKGROUND OF THE STUDY

COVID-19 is an infectious aggressive global virus and spreading at a fast pace worldwide. Since discovered in Wuhan China in December 2019, various symptoms have been communicated from various countries (Harries, Martinez, & Chakaya, 2020). The SARS-CoV-2 virus, which is a respiratory illness caused by the coronavirus, has been observed in over 40 countries since December 2019. Most of the infected patients are asymptomatic and generally experience mild symptoms that include dry cough, fever, and sore throat (Shi, Wang, Yang, Wang, Hashimoto, Zhang & Liu, 2020).

The SARS-COV-2 has affected millions of people around the world, it has infected about 9.1 million and 1.9 million deaths worldwide having the American continent as the epicentre of the pandemic (Johns Hopkins Coronavirus Resource Center, 2020). Factors such as age, gender, political preference and education level annual income have influenced Knowledge, attitude and practices about the Covid-19. The marginalised groups of numerous cultures in the USA that are manual labourers, less educated and unemployed showed dissatisfying levels of knowledge of Covid-19. The most optimistic about succeeding against the Covid-19 disease are people and women with higher schooling though the knowledge was not emphasized and practices were not practised (Bates, Moncayo, Costales, Herrera-Cespedes, Grijalva, 2020).

The knowledge on the origin of Covid-19 disease was, risk factors, symptoms, recommendations, and protective measures from the national government were mainly

acquired by social media (Bates, Moncayo, Costales, Herrera-Cespedes, and Grijalva, 2020). The USA adults preferred to acquire information from the international health Organization and adopt government information. High knowledge about Covid-19 disease was regularly related to a positive attitude and correct behaviours that are practised. National guidelines stating the preventative measures such as proper hand hygiene, the use of masks and social distancing were followed and adhered to by people who regularly visit the government sites to get news. (Bates et.al., 2020).

In Australia, a study by (McCracken, Badinlou, Buhrman, Brocki, 2020) showed that community members had good knowledge as well as positive attitudes and good practices towards COVID-19 and the preventive measures. However, during the early months, the pandemic did have a negative psychological impact on several members (McCracken et al., 2021). On the other hand, People who lacked health literacy could not identify much of the preventative behaviours which were infectious compared to people with enough healthy literacy and found it very difficult to find information and understanding massages from the government as they had a poor understanding of COVID-19 symptoms. (Hamza, Badary, Elmaza, 2021). People with inadequate health literacy were less likely to rate social distancing as important (Hamza et al., 2021).The first COVID-19 case to be reported in South Africa was on February 28th, 2020 and in a bid to curb the spread of the disease, from one country to another, borders were closed and restriction on travel were put on regions that were high. As of 25 March 2020, the confirmed number of cases had risen to 702, even with the imposed international travel ban (Marivate & Combrink, 2020). This instituted the South Africa president to declare a state of disaster and national lockdown on the 26th of March 2020. The lockdown aimed to restrict human movements in a bid to reduce the spread of the disease.

Despite the lockdown, as of 26 June 2020, the country reported a new 24-hour record increase of 5,688 cases to bring the total of reported cases to 111, 796. As of the same day (26 June 2020) 103 new Covid-19 related deaths were reported taking the total to 2,205, and a mortality rate of 2%, and recoveries increased to 56,874, translating to a recovery rate of 50.9% (Marivate & Combrink, 2020). By the 17th of June 2020, South Africa (with a population of 59 million people) contributed 30% of confirmed positive cases of the virus and 23% of all Covid-19 fatalities in Africa (population of 1.34 billion). Such data reiterates the urgent need for preventive measures for Covid-19 in the continent and more so in South Africa.

Several strategies were put in place to fight COVID-19 in South Africa, this includes hand hygiene, wearing of face masks, maintaining social distance, cutting public sector work

hours, and imposing curfews to avoid public gatherings, self-isolation if exposed and quarantining upon testing positive. These measures are playing a crucial role in preventing spread. However, it is also dependent on individuals having adequate knowledge to implement these preventive measures. A positive attitude among individuals in a society will thus assist in individuals practising preventive measures. Therefore, it is important to conduct this study about knowledge, attitudes, and practices towards covid-19 disease at a selected village under Collins Chabane Municipality, in Limpopo Province.

1.3 PROBLEM STATEMENT

COVID-19 that started in Wuhan, China which was first detected in December 2919 is still a fairly new pandemic that mostly affects middle aged to older adults, With attempts made to fight against the virus including face masks, gloves, face shields, gowns etc and the World continue to further investigate and educate its characteristic and spread to better equip the community with awareness on how the spread can be stopped. Whilst doing so, many countries have resulted to lock down with strict measures put in place to prevent too much pressure on the healthcare system that would have been caused by high infection rate and so was South Africa.

COVID-19 regulation state that is mandatory for every person to wear masks in a public place, No movement of persons from 22H00-4H00 am, attendance of funerals is limited to 50 people or less, gatherings are permitted 50 persons or less for indoor venues and 100 persons or less for outdoor venues and if the venue is too small to hold the prescribed number of people, prohibition of carrying 100 per cent of passengers in not long-distance trips and may not carry more than 70 percent of the licensed capacity for long distance travel etc. although there are Covid-19 regulations, The researcher has observed people of the selected village failing to adhere to health protocols of not wearing masks, not maintaining social distance and not sanitizing in funerals, people fail to maintain social distance while queuing in ATM's and shops while they wait to pay for their essentials in paying tills. People have been given a mandate of following preventative measures ruled out by the Government but they continue to be infected with the COVID-19 disease and this has led to a second wave in December 2020. Thus, assessing the level of knowledge, attitude and practices of Nhjakanhjaka village will be of benefit.

Moreover, it has been observed from the State of the Nation Address (2021) that there are still communities' members that are not adhering to the rules of the lockdown which has seen the second wave hit the country severely and rapidly. Department of Health (2021) on

the 15 February 2021 in Limpopo Province COVID-19 statistics was reported to be 60333 cumulative, with 1074 active cases, 57626 recoveries and 1633 death while in Collins Chabane municipality 1706 cumulative, 23 active, 1638 recoveries and 45 deaths. Therefore, it is of importance to investigate the knowledge, attitudes, and practices towards COVID-19 disease among community members of Collins Chabane Municipality in Limpopo province.

1.4 RATIONALE OF THE STUDY

The researcher was motivated to conduct the study because there are several studies that were done in other countries United States of America, Europe, China, Uganda etc. about knowledge, attitudes, and practices towards COVID-19 disease. However, there were no known studies conducted in Collins Chabane municipality about the knowledge, attitudes and practices towards COVID-19 disease. Covid-19 regulations were always shared on social media platforms, TV, Radio station and everywhere around building facilities. However, more people continue to be infected with Covid-19 disease. The researcher sought to find out the level of Knowledge, attitude and practice towards Covid-19 disease among community members.

1.5 PURPOSE OF THE STUDY

The purpose of this study was to investigate knowledge, attitudes and practices towards COVID-19 disease among community members of Collins Chabane Municipality in Limpopo province Nhjakanhjaka village.

1.6 SPECIFIC OBJECTIVES

- To assess the level of knowledge regarding COVID-19 among community members of Collins Chabane Municipality in Limpopo province.
- To determine the attitudes regarding COVID-19 among community members of Collins Chabane Municipality in Limpopo province
- To describe the practices being followed regarding COVID-19 among community members of Collins Chabane Municipality in Limpopo province.

1.7 SIGNIFICANCE OF THE STUDY

This study's results may give a deeper understanding of COVID-19 knowledge, attitude, and practices among community members. The government including policymakers and Health officials might also benefit from this study through learning further knowledge, attitudes and

practices of COVID-19 disease and improve guidelines and strategies towards the COVID-19 pandemic and prepare for other future pandemics if the same happens. Policymakers may draw lessons that might better guide future management of pandemic and resources to ensure the level of readiness and adherence by the community and also to prevent the spread from creating damage within the country and health officials may benefit in conducting well-informed health awareness campaigns based on the knowledge received from the results of this study. The selected village tribunal council may benefit from this thorough understanding of the level of knowledge, attitude and practices towards COVID -19 and this study might help this community be aware of the gaps presented by this current study and from the results, may draw lessons and also benefit the general public in the fight against the disease through awareness campaigns based on the results from this study in terms of their knowledge, attitude and practises towards COVID-19 and seek to improve the status presented by these results. The findings of the current study may thus help to build a body of knowledge on KAP of Covid-19 disease in South African rural areas.

1.8 DEFINITION OF KEY CONCEPTS

Knowledge- is defined as the information, skills and understanding that one gain through learning or experience (Weller, 2014). In this study, knowledge refers to community member's information about COVI-19.

Attitude- refers to a manner, disposition, feeling, position about a person or thing; tendency or orientation, especially of the mind: a negative attitude; group attitudes. position or posture of the body appropriate to or expressive of an action, emotion (Jordanova, 2019). In this study, an attitude refers to the way COVID-19 was perceived.

Practice- refers to the customary, habitual, or expected procedure or way of doing something (Jordanova, 2019). In this study, practice refers to the way community members do on the daily basis about their lives to fight against COVID-19.

Community- is a social unit (a group of living things) with a commonality such as norms, religion, values, customs, or identity. Communities may share a sense of place situated in each geographical area (e.g., a country, village, town, or neighbourhood) or in virtual space through communication platforms (Block, 2018). In this study, community refers to a place where people stay or live together in Nhjakanhjaka village (village) and have experience COVID-19 as a group.

1.9 OUTLINE OF THE DISSERTATION CHAPTERS

This research report contains five chapters.

Chapter 1: Introduction of the study – This chapter introduced the study through providing the background of the study, problem statement, aim, objectives, research questions, rational, significance and the outline of the report.

Chapter 2: Literature review - This chapter provided the literature on what other authors has conducted in similar studies related to knowledge, attitude and practices towards the COVID-19

Chapter 3: Research methodology – This chapter provided the step by step process of how the study was conducted by providing the study research design, population, sampling methods, sample size, data collection methods, the instrument, data analysis techniques, and ethical consideration considered in this study.

Chapter 4: Results and interpretation- this Chapter presented data analysis and interpretation of results.

Chapter 5: Discussion, summary, conclusions, recommendations, limitations, and conclusion - Discussion of the results based on literature studies, conclusion to the research questions, recommendations, limitations, further study was presented in this chapter.

1.10 CONCLUSION

Chapter 1 was the presentation of the Knowledge, attitudes and practices of COVID-19 among community members of Njhakanjhaka village, Collins Chabane, Limpopo Province. The researcher introduced the topic based on the global perspective indicating how the disease has spread throughout. The chapter has outlined the problem statement, objectives of the study, significance of the study, limitation and definition of key concepts. The next chapter (chapter 2) discussed the literature review.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discussed the literature on the knowledge, attitude and practices towards the novel coronavirus known as SARS-CoV-2, a member of large family member of coronaviruses (abbreviated COVID-19) which is an infectious disease caused by a newly discovered coronavirus. It is an acute respiratory disease that was first detected in Wuhan, China in December 2019. There are different perceptions, knowledge, attitudes, and practices towards COVID-19 on attempts to prevent the spread of COVID-19. Different practices, attitude and perceptions towards the COVID-19 had been observed to have different implications towards the way various individuals react towards receiving the treatment and being vaccinated. This chapter discussed the implications that the knowledge, attitudes, and practices towards the spread of COVID-19 have on public health and what this means for South Africa.

2.2 COVID-19 AND THE PUBLIC HEALTH

The SARS-COV-2 has affected millions of people around the world and to date millions of people have succumbed to COVID-19 (VoPham, Weaver, Hart, Ton, White & Newcomb, 2020). There were different conspiracies around the origin and nature of COVID-19. The knowledge on the origin of COVID-19 was associated with the risk factors, symptoms, recommendations and protective measures from national governments. Different categories of people relied on different sources of information. For example, the USA adults preferred to acquire information from the International Health Organisations and government information through official government websites and national news channels. Countries introduced strict national guidelines on measures to prevent the spread of COVID-19. These include proper hand hygiene, the use of masks and social distancing, reducing the number of employees within organisation and the introduction of work shifts to avoid crowding, curfews and subsequently quarantine. The knowledge regarding these preventive measures remains important towards the prevention of the spread of COVID-19. The same can be said regarding the attitude that if individuals are having a positive attitude towards measures to prevent the spread of COVID-19, it could result to positive behaviour on approaches to COVID-19.

There are different factors that affect the knowledge, attitude and the practices of COVID-19. These factors include age, gender, race, political preference and education level, annual income, geography, access to information and communication, source of income, and socio-

economic status Al-Hanawi, Angawi, Alshareef, Qattan, Helmy, Abudawood, Alqurashi, Kattan, Kadasah, Chirwa & Alsharqi, 2020). For example, in the USA most marginalised groups of numerous cultures that are manual labourers, less educated and unemployed showed high levels of dissatisfaction on COVID-19 (Sevelius, Gutierrez-Mock, Zamudio-Haas, McCree, Ngo, Jackson, Clynes, Venegas, Salinas, Herrera & Stein, 2020). Thus, their practices and attitudes towards COVID-19 differs from the other groups with a well-balanced socio-economic status (Tavares & Betti, 2021). In most developing countries the problems associated with the disruptions of personal jobs and the sudden cut of their sources of income resulted in different understanding and attitudes towards COVID-19 pandemic (Wright, Sonin, Driscoll & Wilson, 2020). This resulted in countries introducing food relief programmes and business funds for socio-economic sustainability (Mbunge, 2020; Ozili, 2020).

Cruz, Santos, Cervantes & Juárez, 2021) observed that the COVID-19 pandemic had caused commotion among the medical community and the world at large. This results in the introduction of safety measures for people that were recommended by the World Health Organisation, Health Institutes and governments through the understanding of how covid-19 was being spread and the aim to curb the spread (Bikbov & Bikbov, 2020; Comas-Herrera, Ashcroft & Lorenz-Dant, 2020; Ozaslan, Safdar, Halil Kilic & Khailany, 2020). However, the literature shows that the challenge with the implementation and practice of these measures is linked to knowledge and attitudes of the people (Maude, Jongdeepaisal, Skuntaniyom, Muntajit, Blacksell, Khuenpetch, Pan-Ngum, Taleangkaphan, Malathum & Maude, 2021). Hence, some researchers recommended for the focus on the enhancement of knowledge to foster positive attitudes and practices to curb the spread of COVID-19 (Kamate, Sharma, Thakar, Srivastava, Sengupta, Hadi, Chaudhary, Joshi & Dhanker, 2020).

2.3 KNOWLEDGE AND PERCEPTIONS REGARDING COVID-19 AMONG PEOPLE

Lin, Hu, Alias Wong (2020) observed that sufficient knowledge and positive attitudes towards COVID-19 is crucial towards the prevention of COVID-19 from spreading. The study revealed that there is a need for tailored communication to change the perceptions, attitudes and attitudes of the people. This should be done in line with the promotion of mental health to assist in moderating the situations that were difficult in socio-economic and the conditions of the vulnerable people.

McCracken, Badinlou, Buhrman, Brocki (2020) showed that community members had good knowledge as well as positive attitudes and good practices towards COVID-19 and the

preventive measures. However, during the early months, the pandemic did have a negative psychological impact on several members (McCracken et al., 2021). On the other hand, People who lacked health literacy could not identify much of the preventative behaviours which were infectious compared to people with enough healthy literacy and found it very difficult to find information and understanding massages from the government as they had a poor understanding of COVID-19 symptoms. (Hamza, Badary, Elmaza, 2021). People with inadequate health literacy were less likely to rate social distancing as important (Hamza et al., 2021).

In Asia (Malaysia), Malaysian community members above the age of 50 had high knowledge due to the possibility of contracting the disease and its complication. On the other hand, those with low knowledge were those with low income and this indicates limited connective access to information about the virus (Cao, Hu, Cheng, Yu, Tu & Liu, 2020). Most participants had a positive attitude in controlling COVID-19 disease. The Malaysian government had a way to handle the crisis to can be able to fight the disease as most of the people were taking precautions such as practising proper hand hygiene and avoiding crowds). Wearing face masks was less common before the movement week order stated. The results of the study conducted by (Cao *et al.,* 2020) concluded that the community members have good practise and knowledge when it comes to the disease.

In Indonesia, knowledge, attitude, and prevention measures towards COVID-19 were affected by education, age, gender, health insurance ownership and work scope. KAP about the virus showed great weakness in some parts of the Indonesian tribes and the study concluded that women were more cooperative than men in having a good practices and knowledge towards the disease (Honarvar, Lankarani & Kharmandar, 2020). People who have good knowledge will be expected to have good practice when it comes to COVID-19 disease but the Indonesian people showed a discrepancy between knowledge that was not translated to good practice and preventative measures. People with knowledge did not have good preventative measures and a good attitude towards the disease as the Indonesian government rely on social media and television on obtaining COVID-19 updates (Honarvar *et.al,* 2020).

Sallam, Dababseh, Yaseen, Al-Haidar, Taim, Eid, Ababneh, Bakri & Mahafzah (2020) observed that there is a challenge of misinformation that has a direct impact on knowledge and attitudes towards COVID-19. The study observed that the identification of knowledge gaps and sources of misinformation are critically important to shape public health efforts on

designing and implementing focused intervention strategies towards curbing COVID-19. The findings of the study indicate that the overall knowledge about COVID-19 among the participants was satisfactory with the older age, males' lower monthly income individuals, lower education levels, smokers and those with chronic diseases were reported to perceive COVID-19 as a dangerous disease. The study cautions on the potential harmful effects of misinformation on the general public and highlight the need to carefully design the communication and deliver accurate and timely information about COVID-19 to lessens the social, health and psychological impact of the pandemic. The negative impacts of COVID-19 are associated with negative attitudes and practices that does little to prevent the spread of COVID-19 (Lincango-Naranjo, Espinoza-Suarez, Solis-Pazmino, Vinueza-Moreano, Rodriguez-Villafuerte, Lincango-Naranjo, Barberis-Barcia, Ruiz- Sosa, Rojas-Velasco, Gravholt & Golembiewski, 2021).

In Africa, most of the people who were knowledgeable about the disease were people with a high level of education including people who possessed Bachelor/master's degrees and who were mostly between 18 to 39 years of age. In African countries reports of congested cities, poor health literacy increased hunger and poverty. Hand sanitisers and face masks had been an obstacle against control measures of Covid-19 disease as supermarkets would run short of Covid-19 equipment (Lucero, Adebisi & Lin, 2020). Positive attitudes towards preventative measures were reported in one of the African country e.g. Egypt but later noted some unwillingness to follow the recommendations such as the use of wearing face masks. However, Africa has good knowledge of the pandemic and have adequate practices and attitudes towards the global response (Abdelhafiz, Mohammed & Ibrahim, 2020).

In Southern Africa, a study by Bates, Moncayo, Costales, Herrera-Cespedes & Grijalva (2020) observed that participants had moderate to high levels of knowledge about the Covid-19 disease. Participants expressed mixed attitudes about the eventual control of COVID-19 in Ecuador. Participants reported high levels of adoption of preventive practices on unemployed individuals, househusbands/housewives, or manual labourers, as well as those with elementary school education, who have lower levels of knowledge. Women and people over 50 years of age, and those with higher levels of schooling were the most optimistic about the disease.

2.4 ATTITUDES TOWARDS COVID-19 AMONG PEOPLE

Zhong, Luo, Li, Zhang, Liu, Li & Li (2020) observed that the people's adherence to control measures that are being implemented by the government in China is because of their

attitudes, knowledge and practices towards COVID-19. The study revealed that the positive attitudes and knowledge towards the prevention of COVID-19 is directly linked to the positive behaviour and practices towards measures to prevent COVID-19. It was revealed that 97.1% had confidence that China will triumph against COVID-19, 98% of the respondents indicated that they wore masks every time they go out of their residences. It is also significant to note that the study revealed that there is a relationship between the socio-economic levels among women and being knowledgeable about COVID-19. The study revealed that women of higher socio-economic status showed to be knowledgeable about COVID-19 and practising safe measures to prevent its spreading. The study cautions that there is a need for governments to introduce education programmes that are aimed at improving the practices of COVID-19 (Zhong, Luo, Li, Zhang, Liu, Li & Li, 2020).

There is a problem with people of low socio-economic status in the way they could adopt to the COVID-19 preventive measures. The literature showed some dissimilarity between the response rate and positive behaviour towards preventing the spread of COVID-19 (Wanberg, Csillag, Douglass, Zhou & Pollard, 2020). For example, the study by Zhong, Luo, Li, Zhang, Liu, Li & Li (2020) indicated that we must not generalise the findings of the study done on the high-income sample population to those of low socioeconomic status since they might not have the same access and affordability levels because of their socio-economic statuses. The poor or those from the lower economic statuses have difficulties in adopting and practicing measures such as mandatory wearing of a mask, maintaining social distance in their small-scale businesses or entrepreneurship (Little, Alsen, Barlow, Naymagon, Tremblay, Genden, Trosman, Iavicoli & van Gerwen, 2021). The study by observed the association between sociodemographic & disadvantaged neighbourhood with frequent deaths because of COVID-19 (Quan, Wong, Shallal, Madan, Hamdan, Ahdi, Daneshvar, Mahajan, Nasereldin, Van Harn & Opara, 2021).

Reuben, Danladi, Saleh & Ejembi (2021) observed the knowledge, attitudes and practices towards COVID-19 using the survey in epidermiology in North-Central Nigeria. The study revealed that knowledge, attitudes and practices of people are critical towards the initiatives to measures on curtail the spread of COVID-19. The study indicated that 99.5% of the respondents had the knowledge about COVID-19 that they gained mainly through the internet and the social media platforms. Towards the adhering to government preventative measures on COVID-19 had positive measures of almost 79.5%, 92.7% indicated that they were practicing social distance. Just above half of the respondents were of the view that the government is not doing enough on initiatives to prevent the spread of COVID-19. For example, 61.8% of the participants indicated that they had no confidence in the

government's decision to bring the Chinese doctors for intervention. The study also indicated the strong negative attitude towards the vaccines with only 29% of the participants indicating that. They are willing to take up vaccines against COVID-19. The study concluded that there is a need for community-based health campaigns to discourage negative attitudes and promote practices that are appropriate for intervention measures against COVID-19.

The study of Pogue, Jensen, Stancil, Ferguson, Hughes, Mello, Burgess, Berges, Quaye & Poole (2020) investigated the influences on attitudes regarding potential COVID-19 vaccination in the United States. The study observed that 68% of the participants in the study were supportive of being vaccinated for COVID-19. Most of the participants who were not supportive of being vaccinated showed that they were concerned about the side effects, efficacy and the length of testing (Pogue, *et al,* 2020). Even though those who indicated that they are willing to be vaccinated they also showed the significant concerns of these factors. The findings showed positive relationship between the longer testing, development and enhanced efficacy to the increased acceptance of the vaccines. Communications promoting COVID-19 vaccinations are important and should seek to alleviate the concerns of those who are vaccine-hesitant. Thus, COVID-19 vaccine resembles a hope for a permanent solution to COVID-19, however, this is reliant on the acceptability and the use by many people (Pogue, *et al,* 2020).

Some studies investigated the politicisation of a public health issue with the advent of COVID-19. For example, the study by Ward, Alleaume, Peretti-Watel, Seror, Cortaredona, Launay, Raude, Verger, Beck, Legleye & L'Haridon (2020) observed the French public's attitudes to COVID-19 vaccine and the politicisation associated with the COVID-19 vaccine. The study indicated that there is a difference in making the COVID-19 vaccine available and to convince the public to be vaccinated. The findings of the study revealed that almost a quarter of the respondents indicated that they would not use the vaccine. The attitudes towards the vaccine were significantly related to political partisanship and engagement with the political system. The study revealed that the ordinary attitudes to politics, cultural pathways, political beliefs can affect perceptions towards COVID-19 vaccines.

Verger, Scronias, Dauby, Adedzi, Gobert, Bergeat, Gagneur & Dubé (2021) observed that much attention should be the focus on the shaping the attitudes of the healthcare professionals towards accepting COVID-19 vaccine. The study observed that the healthcare professionals are among the first people to receive the COVID-19 vaccine and their concerns about the safety of the vaccines are crucial to shape the public attitudes and perceptions towards the vaccines. The study also asserts that building trust towards the

vaccines requires the involvement of independent committees and trusted institutes such as the National Immunisation Committees to provide the healthcare workers with the adequate information regarding the health safety of the vaccines (Verger, et al, 2021). The attitudes towards COVID-19 could also be improved through the regular feedback and monitoring of the side effects. Trust is also an important factor towards the acceptability of COVID-19 vaccines (Latkin, Dayton, Yi, Konstantopoulos & Boodram, 2021). Therefore, there is a need for an effective framework or strategies to ensure the acceptability of the vaccines. The public health campaigns should offer opportunities to develop and evaluate effective interventions that target the public and the healthcare workers themselves to address their issues on resisting the vaccine.

Petravić, Arh, Gabrovec, Jazbec, Rupčić, Starešinič, Zorman, Pretnar, Srakar, Zwitter & Slavec (2021) investigated the factors affecting attitudes towards COVID-19 vaccination using an online survey in Slovenia. The problem of resisting vaccines represents an obstacle in solving a crisis. The study revealed that even those who are not hesitant to vaccines are cautious when it comes to the COVID-19 and they prefer to wait until they gather enough information. The findings also observed that higher intention to get vaccinated is linked to men, people of older age, healthcare workers and medical students compared to those that were not. Those who knew someone or the significant others that have died because of COVID-19 were likely to respond positively to COVID-19 vaccines. However, what is interesting to note is that the study discovered that the nurses and technicians were less likely to get vaccinated. The reasons include the doubting of the quality of the vaccines with the rapid development and through knowing other people who might have had difficult experiences and side effects from the vaccines. This study shows that there is a need to provide adequate information regarding COVID-19 to model positive behaviour towards COVID-19 vaccines and approaches to COVID-19 by the public.

Also, Li, Luo, Watson, Zheng, Ren, Tang & Chen (2021) observed the healthcare workers' attitudes and the factors that contribute to these attitudes towards COVID-19 vaccines. The study linked the COVID-19 vaccine hesitant to information accessibility, policy development and practice among healthcare workers. The study indicated that COVID-19 vaccines acceptability varies ranging from 27.7% to 77.3%. However, in general the study observed the positive attitudes towards the future of COVID-19 vaccines, although there is still hesitancy among most of them. Similar to the study by Petravić, Arh, Gabrovec, Jazbec, Rupčić, Starešinič, Zorman, Pretnar, Srakar, Zwitter & Slavec (2021), the study by Li, Luo, Watson, Zheng, Ren, Tang & Chen (2021) also revealed that people of older age are likely to accept the COVID-19 vaccines compared the age groups of younger ages. Women and

nurses were found to be more hesitant to the COVID-19 vaccines. The study expanded on the factors from other studies such as concerns about safety and efficacy to include the distrust of the government as another factor that contribute to the hesitancy of COVID-19 vaccines. The study suggested that tailored communication strategies are important and needed to enhance the uptake rates of COVID-19 vaccines rates, especially among healthcare workers. This is like the studies by Sadoff, Gray, Vandebosch, Cárdenas, Shukarev, Grinsztejn, Goepfert, Truyers, Fennema, Spiessens & Offergeld (2021); Soiza, Scicluna and Thomson (2021) who observed that more data and relevant information on the safety and efficacy of vaccines needs to be provided and pushed to the public with transparency to motivate for the COVID-19 uptake among the general populace.

Moreover, Bennett (2020) observed that public trust to the health experts and the government influences the success of public health response to COVID-19. The study revealed that public trust remains under investigated on issues relating to the attitudes towards COVID-19. There is a need for more approaches that are human oriented not too much reliant on expects on decisions that are meant to benefit the public. To build trust and positive attitudes towards the COVID-19 vaccines there is a need for engaging the general public so that policy reforms will be relevant and conforms with the public expectations. The strategies to get people vaccinated for COVID-19 should aim at cultivating trust towards motivating for positive attitude (Bennett, 2020).

2.5 PRACTICES TO PREVENT COVID-19 AMONG PEOPLE

The study by Ribeiro & Leist (2020) in Brazil indicated that the COVID-19 pandemic has caused high mortality rates among most people, especially the older people. For countries to avoid the continuous spread of COVID-19 and the potential healthcare crisis, they adopted the preventive measures such as the practice of social distance, self-isolation and the wearing of mask, among other things. However, the study indicated that there is a problem of inequalities that exists that are making it difficult for most individuals (Ribeiro & Leist, 2020). The measures were observed to cost severe economic losses and accentuated starvation for the poor. Hence, the government should be prioritising this category of the population on interventions to prevent the spread of COVID-19 (Ribeiro & Leist, 2020). The study revealed that the failure of the government to intervein effectively on attempts to harness the spread of COVID-19 will result in the same government bearing the consequences. The government should ensure that the citizens are informed of the correct practices against COVID-19 and neutralise the spread of fake news. The improper practices towards the measures to prevent COVID-19 are because of ineffective government

intervention and the relying on fake information from unauthentic sources (Saurwein Spencer-Smith, 2020).

Ilesanmi & Afolabi (2020) observed that various perception and practices have been associated in responding to the COVID-19. The study revealed that there are responding positively to the measures recommended towards the prevention of COVID-19. The study analysed the relationship between the socio-economic demographics and the practicing of good behaviour towards the prevention of COVID-19. The study revealed that 58.3% reported to frequently calling for COVID-19 help following the development of COVID-19 symptoms, 26% knew that they could contract COVID-19 and 12% of the participants are of the view that COVID-19 is an exaggerated event. The use of masks (64.5%) and maintaining of social distance (48%) were reported to be the most practised measures against COVID-19 (Ilesanmi & Afolabi, 2020). Only 20.8% of the participants in the study were observed to be washing their hands following good practices. Poverty, hunger, low income, and the low academic levels were found to be affecting the likelihood of the people practicing good behaviour towards the prevention of COVID-19 (Ilesanmi & Afolabi, 2020). The study concluded that there is a need to improve the practices such as hand washing, the wearing of face masks and other COVID-19 prevention measures to harness the spread of COVID-19. Thus, public health communication and policies are imperative towards ensuring effective public health intervention strategies (Ilesanmi & Afolabi, 2020).

Bates, Moncayo, Costales, Herrera-Cespedes & Grijalva (2020) observed that the prevention of the transmission of COVID-19 demands that the government and public health authorities implement contact and respiratory precautions. This requires the modification of human behaviour although this is challenging and requiring the knowledge, attitudes, and practices towards the health threat of COVID-19. The study indicated that there is a mixture of attitudes towards the measures to prevent the spread of COVID-19 (Bates, et at, 2020). There is low level of understanding on how COVID-19 can be spread among unemployed individuals' manual labourers and the elementary school education students. The study revealed that men, unemployed, who are aged between 18 to 29 are taking high risk behaviours regarding COVID-19 (Bates, et at, 2020). The study asserts that knowledge that people hold is insufficient to cause behavioural change among individuals. Attitudes determine individual's public health actions; it becomes imperative for future studies to investigate the factors influencing the lack of confidence in the ability to the world and consequently overcoming COVID-19. Educational communication campaigns should be focused and accompanied by government efforts to providing the assistance to needy

people who are economically disadvantaged with resources to facilitate adherence to recommendations to prevent the spread of COVID-19 (Bates, *et al,* 2020).

The study by Taylor & Asmundson (2021) observed the negative attitudes about facemasks during the COVID-19 pandemic in Canada and the USA. Despite the scientific evidence on the importance of facemasks, these measures were resisted by the anti-mask attitudes and practices from different parts of the world. Different governments have made the wearing of masks as mandatory in public places to limit the spread of COVID-19. Some of these anti-mask protest rallies were linked to the perception that the facemasks are not effective to prevent the spread of COVID-19 (Hapuhennedige, 2020). This attitude was also related to the non-adherence to social distancing and anti-vaccination attitudes. The study revealed that 16% of the participants were not wearing masks (Taylor & Asmundson, 2021). The implications of these negative attitudes towards efforts to limit the spread of COVID-19 implies high risks and the need to implement effective strategies to alleviate the negative perceptions, attitudes and promote practices that improves public health and limit the spread of COVID-19.

2.6 SAFETY MEASURES TO PREVENT THE SPREAD OF COVID-19

The study by Simpeh & Amoah (2021) in respond to COVID-19, different countries instituted many measures to prevent the spread of COVID-19. However, the study observed that there is a challenge with the way some companies were upholding the measures to ensure the safety and efficacy of the employees against COVID-19. The findings of the study revealed that while most of the companies that formed part of the study were following the COVID-19 prevention protocols, some were failing to implement these measures effectively such as screening, site access and handling of material and equipment deliveries on-sites. The effective implementation of the measures to prevent the spread of COVID-19 among employees is important to shape the attitudes of the employees towards overcoming the problem. This is supported by the World Health Organization (2020) study that indicated that effective safety measures at work are important to ensure positive attitude among the employees when they become aware that their safety is being seriously considered and of priority.

Zheng (2020) observed that there is a need to ensure that the significant others of the frontline workers on COVID-19 are protected and safety is guaranteed. The study by Seddighi, Dollard & Salmani (2020) observed that the work-related stress of the employees, especially the healthcare workers is associated with the fear that they are going to be

infected while on duty and later infect their families. The World Health Organization (2020) observed that the psychological and mental challenges caused by COVID-19 is linked to the fear of infecting the significant others among healthcare professionals. Nyashanu, Pfende & Ekpenyong (2020) observed that the anxiety and stress related problems caused by the COVID-19 are mostly linked to the fear of cross-infection and the potential separation from the family through self-quarantine. These health-related problems are likely to negatively affect the attitudes of the people towards COVID-19 (Trumello, Bramanti, Ballarotto, Candelori, Cerniglia, Cimino, Crudele, Lombardi, Pignataro, Viceconti & Babore, 2020).

2.7 CONCLUSION

The literature presented in this chapter was discussed from a global perspective and focussing on knowledge, attitude and practise of the community members of Njhakanjhaka village regarding COVID-19 and the study showed that the community members of Njhakanjhaka village had low levels knowlegde, negative attitude and poor practices towards the prevention of COVID-19. The literature also shows that there is a relationship between demography and the factors that influence the knowledge, attitudes and practices towards COVID-19. It seems there is a need for further investigation on the knowledge, attitudes and practices based on context.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 INTRODUCTION

The research method served as a technique to select, identify, analyse and process information about a topic and collecting data to enlarge an understanding of phenomena of interest (Bairagi, & Munot, 2019). This Chapter presents the research methodology adopted for this study. This includes research design, population, sampling methods, sample size, data collection methods, the instrument, data analysis techniques, and ethical consideration considered in this study.

3.2 RESEARCH APPROACH

For this study, a quantitative research approach was used to create understanding and to investigate the knowledge, attitude and practices regarding COVID-19 disease among community members of Collins Chabane Municipality in Limpopo Province. The quantitative research approach is defined as a systematic investigation of phenomena by gathering quantifiable data and performing statistical and computational techniques (Creswell & Creswell, 2020). This approach helped the researcher to quantify knowledge, attitudes and practices and make a generalization from a larger group of the selected village.

3.3 RESEARCH DESIGN

Research design provided the framework of how data was collected and analysed (Cresswell & Cresswell, 2020). This study employed a quantitative design through a descriptive cross-sectional survey that involves data collection and analysis at a specific point in time. The cross-sectional survey is defined as is a type of research design in which you collect data from many different individuals at a single point in time (Cresswell & Cresswell, 2020). The logic behind the use of this method for the proposed study was to investigate the existing knowledge, attitudes and practices of the Nhjakanhjaka community towards COVID-19 to give a better understanding thereof.

3.4 STUDY SETTING

The study was conducted in the Vhembe district which happen to be the the 5th district of Limpopo province of South Africa. It is the northernmost district of the country and shares its

northern border with Beitbridge district in Matabeleland South, Zimbabwe and on the east with Gaza Province in Mozambique. It is composed of four local municipalities of which is Makhado, Musina, Thulamela and Collins Chabane. Collins Chabane municipality of the Vhembe district is between Giyani on the east, starting from Letaba River and Thohoyandou on the North-west starting from Rivhubye River and to the west of Malamulele Area. Collins Chabane municipality has a population of about 328 636 people, (99.6%) of which are Black Africans. Most of the people in the study area were Tsonga speaking (80.2%), followed by Venda speaking (15.1%) and other tribes (4.7%) (StatsSA, community survey, 2016). The study was carried out at Nhjakanhjaka village which is in Collins Chabane municipality. Njhakanjhaka village is on the West of the Malamulele Area. It has a population of about 7780 of which (99.7%) are Black African, (84, 6%) are Tsonga speaking, followed by Venda speaking (12, 3%) and other tribes (3, 1%) (StatsSA, community survey, 2016). It is 133.2 KM away from Polokwane, 33,0 KM away to Vuwani and 66.2 KM to Collins Chabane. Njhakanjhaka is a rural settlement on top of the foothills of the Soutpansberg Mountains in Limpopo province, South Africa. The area is under the tribal leadership of a traditional leader, has four schools and is divided into four portions which include Nwa-Mhandzi, Ntsemi, Xavunyami and Marholeni Royal Gardens (Tana na pulani). Njhakanjhaka village is a selected study area because it is a place that is still developing and is comprised of a shopping complex, workplaces, Petrol station, Gym, two alcohol outlets and transport. There are no health facilities, people around the villagers use nearby health clinics either in Bungeni which is 6KM, Ribungwani which is 5KM and Magoro village which is 8KM. The nearest hospital which is Elim hospital is 12KM away from Njhakanjhaka village (StatsSA, community survey, 2016). Njhakanjhaka Households use piped water on a community stand and piped water inside houses for those with boreholes. For sanitation Njhakanjhaka households use pit toilets with ventilation pipes and most without, except for those who live in Tana na pulani use flush toilets. There are no recreational facilities in Njhakanjhaka village (StatsSA, community survey, 2016). The study area of Njhakanjhaka village was chosen among other villages because it had a mini complex and people from the neighbouring villages meet to buy essentials and some work there.

3.5 STUDY POPULATION

According to (Kumar, 2020) the population of a study is defined as a subset of the total collection of elements from which the sample is selected. All adult residents of the community of Collins Chabane municipality Nhjakanhjaka village comprise the population for the study. The target population for the study comprised all adult residents who were at least

18 years to 60 and above from Njhakanjhaka village. The population of Njhakanjhaka village was comprised of 1556 households consisting of 7780 people as shown in table 3.1

Table 3. 1: Population frame

Names of Njhakanjhaka blocks	Number of households per block	Number of people per block
Ntsemi	463	2315
Xavunyami	351	1755
Nwa-mhandzi	515	2575
Marholeni Royal Gardens	227	1135
Total	1556	7780

3.6 SAMPLING AND SAMPLE

Sampling is defined as selecting a given number of subjects from a defined population as representative of that population (Creswell & Creswell, 2020). Sampling included the sampling of the village and the participants.

3.6.1 Sampling of Study participants

Stratified Random Sampling was used to select the 418 participants in this study. Stratified Random Sampling is defined as the total population divided into smaller strata or smaller groups to complete the sampling process (Berndt, 2020). In this study, households were grouped according into four sections as shown in table 3.1 Each section represent a stratum and participants who meet the criteria were randomly selected from each stratum until a sample size per portion was reached.

3.6.2 Inclusion and exclusion criteria

The following are the criteria for inclusion and exclusion in this study:

3.6.2.1 Inclusion criteria

All community members from the ages 18 to 60 years and above were included in the study. They were permanent residents of Nhjakanjaka village. Participants who formed part of the

study were only those who signed the informed consent form, thus indicating their willingness to participate in the study.

3.6.2.2 Exclusion criteria

Participants who were sick and in a state where they could not participate in the study were excluded from participating in the study.

Those with symptoms of COVID-19 and those who verbalized being afraid of contracting COVID-19 were excluded from the study.

3.6.3 The sample size

The sample size is where inferences about a population are made according to (Adam, 2020). Thus, a sample must be representative of the population.

The sample size was calculated as follows by (Adam, 2020):

$n = \frac{N}{1+N(e)^2}$ where,

n is sample size
N is the population size of 7780
e is the level of error set at p < 0,05

$$n = \frac{7780}{1+7780(0,05)^2}$$

$$= \frac{7780}{1+(7780x\ 0,0025)}$$

$$= \frac{7780}{20.45}$$

= 380

Thus, with a margin of error of 0,05 within 95% confidence interval, 380 was the sample size for this study.

To cater for non-response a 10% additional in the sample size was added. Thus the total sample size for the study was given by: 380 +38 = 418. The final response received was 400 with 95,6% response rate. Proportional sampling formula was used to get the sample size of each section in the village as shown on the sampling frame in table 3.2

Table 3. 2: Sampling Frame

Names of Njhakanjhaka sections	Number of community households per portion	Number of people	Sample size per portion
Ntsemi	463	2315	2315/7780 x 418 = 124
Xavunyami	351	1755	1775/7780 × 418 = 95
Nwa-mhandzi	515	2575	2575/7780 × 418 = 138
Marholeni Royal Gardens	227	1135	1135/7780 × 418 = 61
Total	1556	7780	418

3.6.4 Sampling procedure

The study followed using the stratified random sampling where in Njhakanjhaka, the community was stratified into four sections. Within each four sections simple random sampling was used to sample participants within each strata until a sample size per portion was reached as indicated in table 3.2.

3.7 DATA COLLECTION INSTRUMENT

For this study, the questionnaire was used as an instrument to collect data. The questionnaire was developed by the researcher after consultation of previous studies and Covid-19 regulations. This questionnaire consisting of closed-ended questions and was translated by a qualified language practitioner into Xitsonga and Tshivenda to accommodate all respondents who do not understand English. The questionnaire consists of five sections: Section A: demographics information, Section B: Knowledge about COVID-19; Section C: Attitudes towards COVID-19; and Section D: Practices towards COVID-19. The Likert scale was used to assess the Knowledge, Attitude and Practices of the participants. A Likert scale of Strongly disagree represented by (1), Disagree represented by (2), Uncertain represented by (3), Agree represented by (4) and Strongly agree represented by (5) was applied in the study.

3.8 VALIDITY

Validity denotes whether an instrument has measured what it was supposed to measure given the situation in which it was applied (Kumar, 2020). The following methods were used to ensure validity in this study:

3.8.1 Content validity

According to (Berndt, 2020). Measures if the test is fully representative of what it aims to measure. The questionnaire was developed after a thorough literature review and the methods used in the research with similar concerns to the analysis being performed to ensure material validity. A panel of experts were consulted and lectures from Public Health Department and fellow students were among the panels. The researcher used the feedback from the content analysis to modify the instrument.

3.8.2 Face validity

Face validity according to (Berndt, 2020) measures if the content of the text appears to be suitable to its aims. To ensure face validity, the researcher has presented the questionnaire to the supervisors. The researcher modified the instrument based on received feedback.

3.9 RELIABILITY

Reliability refers “to the consistency of a measuring tool or the ability of an instrument to produce the same results when used repetitively” (Kumar, 2020). In this study, a test-retest reliability was used by the researcher to see if they all yield the same results. Chronbach alpha was used to measure the internal consistency in the study. If the Chronbach Alpha is 0.70 and above it represented reliability of the questionnaire (Kumar, 2020). The result of the Chronbach Alpha correlation coefficient was 0.95, therefore, the data collection instrument was reliable.

3.10 PRE-TEST

The researcher conducted a pre-test with 41 participants who were selected from neighbouring village with similar characteristics to Njhakanjhaka and the results of the pre-test were not included in the main study. The researcher conducted pre-testing of the instrument by distributing the questionnaire to participants. Those who could not read and write were assisted by the researcher who read the questions and allow the participants to provide answers. Thereafter the researcher made improvements of the questionnaire based on the pretest results.

3.11 DATA COLLECTION PROCEDURE

Upon obtaining ethical clearance to collect data from the University of Venda Human and Clinical Trial Research Ethics Committee (Appendix 3) and permission to conduct a study in the village from the tribal authorities (Appendix 2), the researcher has set appointments with the participants before distributing the questionnaires. Data was collected in three months. The questionnaires had been hand distributed to the selected participants by the researcher at their respective homes, during the time that was convenient to them. The researcher was present to collect completed questionnaire and clarified the participants in case misconception exist. The instructions were outlined in the questionnaires, and this was meant to lead the community members on how to complete the questionnaires. Covid-19 regulation was followed that included the use of elbow greeting, wearing of masks, sanitizing and keeping 1.5-2M distance and Covid-19 regulations were adhered to during data collection. The researcher assisted those who could not read by reading the questions and entering the responses as they were.

3.12 DATA MANAGEMENT AND ANALYSIS

Microsoft Excel and the SPSS version was used to enter data for statistical analysis. The response rate was 95,6%. Descriptive analysis i.e., the numerical data was assessed in the form of mean and standard deviation while the categorical variables was assessed frequency and percentage. Data was presented in charts, frequency tables. The frequencies of correct knowledge responses and various attitudes and practices were described. To determine the variance between participants responses, an analysis of variance was used. A Chi-square test was applied to test the association between demographical information of participants and statements regarding knowledge, attitude and practice of COVID-19 procedures. Data analysis was performed using SPSS version 23.0. The p-value of 0.05 was used to test the level of significance for the t-test that was used to assess whether the majority of participants agreed or disagreed with the statements regarding KAP for COVID-19 disease at the Collins Chabane municipality in the Limpopo province.

3.13 ETHICAL CONSIDERATION

Ethics is defined by (Chan, 2020) as conformance to the standards of conduct of a given profession or group. The following are ethical principles were considered in this study.

3.13.1 Ethical clearance

In this study, the proposal was evaluated by the Department of Public Health under the Faculty of Health Sciences, then followed by the Faculty of Health Sciences Higher Degree Committee proposal evaluations and the Executive FHDC, then had been also evaluated by

the HCTREC for Ethical Clearance (Appendix 5) and submitted to University Higher Degree Committee for approval.

3.13.2 Permission to conduct the study

The researcher had a meeting with the traditional royal council of Njhakanjhaka to seek permission to conduct this study in the area. See Appendix 2 for permission letter approved by the traditional royal council of Njhakanjhaka. This was done before engaging community members and the commencement of the data collection process in general.

3.13.3 Informed consent

According to (Chan, 2020) it is paramount to attain consent from the participant after clearly, honestly, and comprehensively informing the participant about the aim of the research. An informed consent form gave the information expected from the participants. The researcher informed the participants about their rights to withdraw at any given time from the study whenever they felt uncomfortable during the study. Participants then stated by signing the consent form that understood and was part of the study (see Appendix 1).

3.13.4 Anonymity

Anonymity refers to the act of keeping a person's identity a secret or not disclosing it to the public (Hamza et.al., 2021). The researcher made sure that the participants do not write their personal details in the questionnaire such as name and contact details and were presented as anonymous with a code to identify the participant number so that participants were not reachable or traceable from the information that has been presented about them.

3.13.5 Confidentiality

According to (Chan, 2020) states that confidentiality refers to a state of not disclosing a person's view or opinion and experiences to the public except as per the expectation of the study. The researcher ensured that all information provided by the participants, personal and sensitive information was kept confidential and not disclosed to any person. No one obtained or had access to the information acquired from the participants but was locked in a safe place.

3.13.6 Protection from any harm

The researcher made sure that none of the participants got hurt psychologically e.g., being upset, being angry without apparent reason, making your participants feel threatened or humiliated and avoiding sensitive questions which might inflict psychological on participants during the process of the data collection. To ensure this protection all the participants were

visited in their homes following all relevant precautionary measures e.g. maintaining a social distance of 1.5 to 2M to complete the questionnaire.

To avoid the spread of the Covid-19 infection and ensure the safety of both the researcher and the participants the following protocols was observed:

- Close contact was avoided (a social distance of at least 1.5m-2M was always observed between the researcher and the participants).
- The researcher provided a hand sanitizer and sanitized both herself and the participant at the beginning and the end of each interview.
- Those with symptoms of COVID-19 and those who verbalized being afraid of contracting COVID-19 were excluded from the study.

3.14 CONCLUSION

This chapter presented the research methods which the researcher used in conducting the research. The chapter discussed the techniques which were used to address the objectives of the study. Some of the methods used include research approach design, study setting and population, sampling procedure, data collection procedure, data management and ethical consideration, data was collected after these methods were used. The next chapter (chapter) outlined the presentation of the results.

CHAPTER FOUR: PRESENTATION OF THE STUDY RESULTS

4.1 INTRODUCTION

The results presented in this chapter was because of the data that was collected from the participants in Nhjakanhjaka village. The targeted sample size was 418 participants; however, 400 questionnaires returned from the participants were fully completed. The study received 95% response rate. This chapter presented and discussed the data that were collected using the questionnaire.

The data that is presented in this study was from the questionnaire that was tailored to examine the knowledge levels regarding Covid-19 among community members in Collins Chabane Municipality in Limpopo province, the attitudes and practices of the community members. Specifically, The questionnaire covered the following study objectives:

- To assess the level of knowledge regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.
- To determine attitudes regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.
- To describe the practices being followed to prevent Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

The data presentation begins with presenting the demographic responses of the participants. The demographic data collection for this study were important to show how the responses regarding the knowledge, attitudes and practices vary depending on age, gender and educational levels among participants.

The presentation and discussion of data in this chapter adopted the descriptive data presentation and analysis using mostly frequency distribution. The cross-tabulation feature was used on some selected variables to determine the relationship between the selected variables. The data is largely presented and analysed in percent frequency and visually through tables, bar graphs and pie charts to provide the detailed patterns on the knowledge, attitudes and practices of Covid-19 among the participants. Table 4.1 below shows the demographic distribution of the participants in this study.

4.2 Demographical information of the participants

Table 4.1 presents the demographical representation of participants in frequencies and percentages. The results are based on 400 responses received from participants.

The results shows that male participants were more 53.75% whilst 46,25 % were females in this study. Shown in chapter 4.1**Table 4. 1: Demographic description of the participants**

Variable	Description	Frequency	Percent (%)
Age	18 -25	224	56
	26-35	130	32,5
	36-45	22	5,5
	46-55	4	1
	56-65	15	3,75
	66 and above	5	1,25
Gender	Male	215	53,75
	Female	185	46,25
Ethnicity	Tsonga	204	51
	Venda	160	40
	Zimbabwean	27	6,75
	Mozambiquean	9	2,25
Education	No education	60	15
	Primary	210	52,5
	Secondary	93	23,25
	Tertiary	37	9,25
Religion	Christianity	124	31
	Tradition	177	44,25
	Others	99	24,75
	Total	***400***	***100***

4.3 Level of knowledge regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

The Level of knowledge regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province was measured by a five-point Lickert scale I,e., Strongly disagree, disagree, uncertain, agree and strongly agree. The analysis includes descriptive statics, analysis of variance and the level of association between demographical information and knowledge.

4.3.1 Knowledge of participants regarding COVID-19

These results in Table 4.2 summarises participants responses regarding knowledge regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

Table 4. 2: Knowledge of participants regarding COVID-19

	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	
Knowledge statements	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
The main clinical symptoms of COVID-19 are fatigue, fever, body ache and dry cough.	40	10,00%	178	44,50%	96	24,00%	58	14,50%	28	7,00%	400	100%
Unlike the sneezing, runny nose, stuffy nose, and common colds are less common in persons infected with the COVID-19 virus.	36	9,00%	115	28,75%	181	45,25%	37	9,25%	31	7,75%	400	100%
An individual can get affected by the respiratory droplets of COVID-19.	27	6,75%	143	35,75%	121	30,25%	81	20,25%	28	7,00%	400	100%
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.	18	4,50%	98	24,50%	118	29,50%	117	29,25%	49	12,25%	400	100%
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.	23	5,75%	134	33,50%	72	18,00%	107	26,75%	64	16,00%	400	100%
To prevent the infection by COVID-19, individuals should avoid going to crowded places?	32	8,00%	62	15,50%	100	25,00%	121	30,25%	85	21,25%	400	100%
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	22	5,50%	98	24,50%	95	23,75%	72	18,00%	113	28,25%	400	100%
Average	**28,3**	**7,07%**	**118,3**	**29,57%**	**111,9**	**27,96%**	**84,7**	**21,18%**	**56,9**	**14,21%**	**400**	**100%**

4.3.1.1 Analysis of variance between participants responses on knowledge regarding COVID-19

Results show that there is no significant difference between participants that agreed (35%) or disagreed (37%) with the statements regarding knowledge (p-value=0,299>0,05). Thus, this study results conclude that participants were not certain knowledge regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province as shown in table 4.4

Table 4. 3: Analysis of variance results for Knowledge responses

Groups	*Count*	*Sum*	*Average*	*Variance*		
Disagree	7	2,565	37%	0,010608		
Uncertain	7	1,9575	28%	0,007465		
Agree	7	2,4775	35%	0,017773		
ANOVA						
Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0,030815	2	0,015407	1,289465	**0,299673**	3,554557
Within Groups	0,215077	18	0,011949			
Total	0,245892	20				

4.3.1.2 Association between Knowledge and demographical information

The following tables present the association between knowledge and demographical information. The demographical information tested were age group, gender, ethnicity, education level and religion. These were done as follows:

Table 4. 4: Association between Age group and Knowledge statement

	Age group		
	Chi-square value	df	p-value
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and body aches	144,142	20	<,001
Unlike the sneezing, runny nose, stuffy nose, and common colds are less common in persons infected with the COVID-19 virus.	130,287	20	<,001
An individual can get affected by the respiratory droplets of COVID-19.	165,501	20	<,001
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.	149,543	20	<,001
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.	197,294	20	<,001
To prevent the infection by COVID-19, individuals should avoid going to crowded places?	129,391	20	<,001
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	195,673	20	<,001
Average	158,833	20	<0,00001

Results show that there is a significant association between age group of participants and Knowledge statements. Thus, majority of participants agreeing or disagreeing with the statements were older compared to the younger age groups (p-value <0,0001) less than the significant value of 0,05.

Table 4. 5: Association between gender and Knowledge statement

	Gender		
	Chi-square value	Df	p-value
The main clinical symptoms of COVID-19 are fatigue, fever, body ache and dry cough.	11,719	4	0,0196
Unlike the sneezing, runny nose, stuffy nose, and common colds are less common in persons infected with the COVID-19 virus.	3,677	4	0,4515
An individual can get affected by the respiratory droplets of COVID-19.	82,172	4	0,0000
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.	33,179	4	0,0000
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.	37,852	4	0,0000
To prevent the infection by COVID-19, individuals should avoid going to crowded places?	20,973	5	0,0008
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	17,715	4	0,0014
Average	29,61243	4,142857	0,0676

Results show that there is a significant association between gender of participants and the following statements: The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and body aches; The COVID-19 virus spreads via respiratory droplets of infected individuals; Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.; It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.; To prevent the infection by COVID-19, individuals should avoid going to crowded places? And Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus. However, Unlike the common cold, stuffy nose, runny nose, and sneezing are less common in persons infected with the COVID-19 virus had no association with Gender (p-value>0,05)

Thus, majority of participants agreeing or disagreeing with the statements were males compared to females' participants (p-value <0,0001) less than the significant value of 0,05.

On average Knowledge statements had no significant association with Gender although all the other five statements had a significant association.

Table 4. 6: Association between Ethnicity and Knowledge statement

	Ethnicity		
	Chi-square value	Df	p-value
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and body aches	165,561	12	<,001
Unlike the sneezing, runny nose, stuffy nose, and common colds are less common in persons infected with the COVID-19 virus.	202,112	12	<,001
An individual can get affected by the respiratory droplets of COVID-19.	204,191	12	<,001
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.	129,702	12	<,001
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.	113,98	12	<,001
To prevent the infection by COVID-19, individuals should avoid going to crowded places?	121,163	15	<,001
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	59,505	12	<,001
Average	142,3163	12,42857	<0,00001

Results show that there is a significant association between ethnicity of participants and Knowledge statements. Thus, majority of participants agreeing or disagreeing with the statements were Venda followed by Tsonga (p-value <0,0001) less than the significant value of 0,05.

Table 4. 7: Association between education and Knowledge statement

	Education		
	Chi-square value	Df	p-value
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and body aches	285,147	12	<,001
Unlike the sneezing, runny nose, stuffy nose, and common colds are less common in persons infected with the COVID-19 virus.	273	12	<,001
An individual can get affected by the respiratory droplets of COVID-19.	259,983	12	<,001
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.	262,2	12	<,001
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.	133,705	12	<,001
To prevent the infection by COVID-19, individuals should avoid going to crowded places?	288,904	15	<,001
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	111,682	12	<,001
Average	230,6601	12,42857	<0,00001

There is a significant association between education and knowledge statements (p-value<0,0001). Most participants that disagreed with the statements had no education.

Table 4. 8: Association between Religion and Knowledge statement

	Religion		
	Chi-square value	df	p-value
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and body aches	137,319	8	<,001
Unlike the sneezing, runny nose, stuffy nose, and common colds are less common in persons infected with the COVID-19 virus.	97,698	8	<,001
An individual can get affected by the respiratory droplets of COVID-19.	132,563	8	<,001
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.	94,904	8	<,001
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.	67,333	8	<,001
To prevent the infection by COVID-19,	92,229	10	<,001

individuals should avoid going to crowded places?			
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	95,017	8	<,001
Average	102,4376	8,285714	<0,00001

Religion also played a significant role in the way in which participants responded to the knowledge statements. Thus, there is a significant association between knowledge statements responses and religion. Most of the participants that agreed or disagreed with the statements were tradition compared to Christianity or other.

Thus, there is a significant association between how participants responded to questions related to knowledge of COVID-19. The association was with age group, some statements in Gender although on average gender had no association, ethnicity, educational level and religion.

4.4 Attitudes regarding Covid-19

Attitude regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province was measured by a five-point Lickert scale I,e., Strongly disagree, disagree, uncertain, agree and strongly agree. The analysis includes descriptive statics, analysis of variance and the level of association between demographical information and attitude.

4.4.1 Summary responses of participants regarding knowledge

These results summarise participants responses regarding attitudes regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

Table 4. 9: Attitude results

	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	
Attitude statements	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
COVID-19 does not kill	54	13,50%	58	14,50%	78	19,50%	108	27,00%	102	25,50%	400	100%
Wearing musk make my life difficult	13	3,25%	72	18,00%	111	27,75%	104	26,00%	100	25,00%	400	100%
COVID- 19 is made to reduce the number of people in the country	9	2,25%	59	14,75%	105	26,25%	119	29,75%	108	27,00%	400	100%
Sanitizers smell bad whenever you use it	14	3,50%	72	18,00%	87	21,75%	145	36,25%	82	20,50%	400	100%
Musk makes me suffocates	18	4,50%	67	16,75%	61	15,25%	161	40,25%	93	23,25%	400	100%
COVID-19 is just a flue	9	2,25%	50	12,50%	106	26,50%	152	38,00%	83	20,75%	400	100%
I feel lazy to wash my hands regularly	9	2,25%	49	12,25%	85	21,25%	162	40,50%	95	23,75%	400	100%
Buying sanitizer is a waste of money	0	0,00%	50	12,50%	88	22,00%	144	36,00%	118	29,50%	400	100%
Masks are expensive	9	2,25%	27	6,75%	94	23,50%	125	31,25%	145	36,25%	400	100%
Masks are for people with chronic diseases	18	4,50%	27	6,75%	128	32,00%	123	30,75%	104	26,00%	400	100%
Only elders are at risk of contracting COVID-19	18	4,50%	36	9,00%	77	19,25%	147	36,75%	122	30,50%	400	100%
Sanitizers are everywhere at shopping centers and schools	9	2,25%	41	10,25%	64	16,00%	201	50,25%	85	21,25%	400	100%
Average	**15,0**	**3,75%**	**50,7**	**12,67%**	**90,3**	**22,58%**	**140,9**	**35,23%**	**103,1**	**25,77%**	**400**	**100%**

Results in Table 4.9 are explained in Figure 4.7 below. Responses' results for strongly agree and agree were combined and same applies to responses for strongly disagree and disagree were combined in Figure 4.2

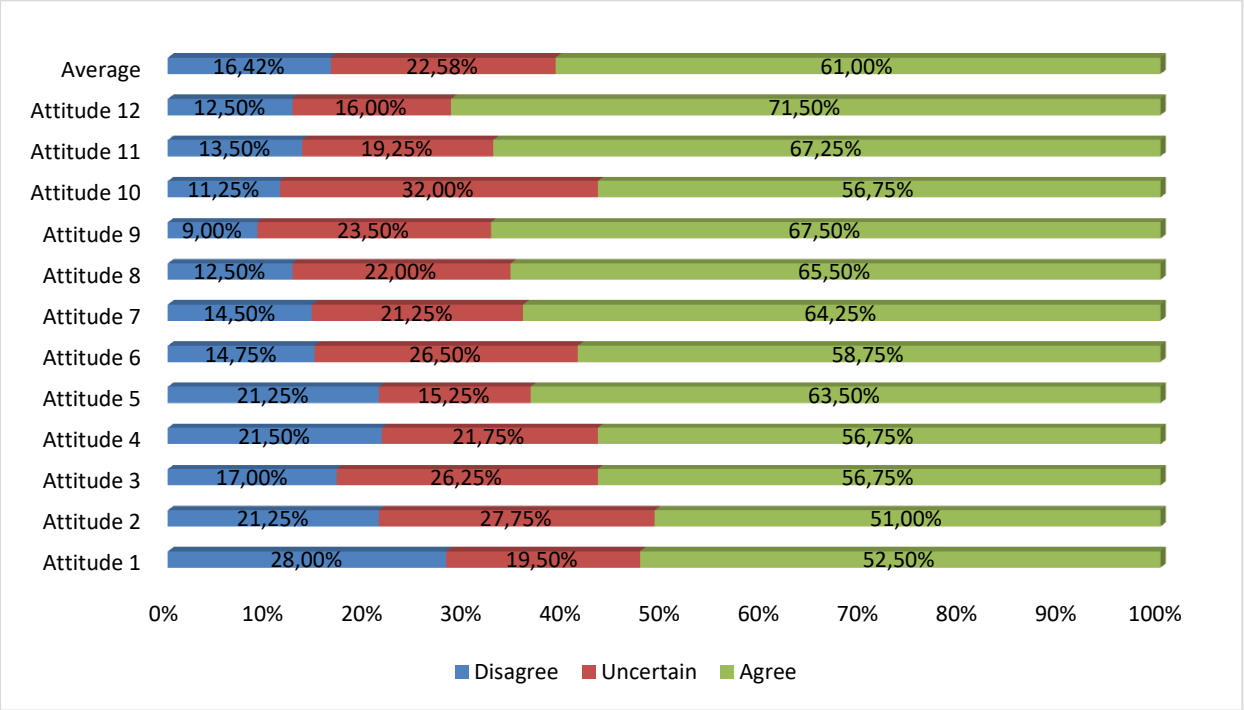

Figure 4. 1: Attitude results

Results show that participants of (>50% +1) agreed that COVID-19 does not kill; Wearing musk make my life difficult; COVID- 19 is made to reduce the number of people in the country; Sanitizers smell bad whenever you use it; Musk makes me suffocates ; COVID-19 is just a flue; I feel lazy to wash my hands regularly ; Buying sanitizer is a waste of money ; Masks are expensive ; Masks are for people with chronic diseases ; Only elders are at risk of contracting COVID-19 and that Sanitizers are everywhere at shopping centers and schools.

4.4.2 Analysis of variance between participants responses on attitude regarding COVID-19

Table 4.10 presents the analysis of variance between participants that agreed or disagreed with the statements regarding attitude. Results show that there is a significant difference between participants that agreed (61%) compared to those who disagreed (16%) with the statements regarding attitude, (p-value<0,0001). Thus, this study's results conclude that participants agreed with statements regarding attitude regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

Table 4. 10: Analysis of variance attitude.

SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Disagree	12	1,97	16%	0,00304		
Uncertain	12	2,71	23%	0,002414		
Agree	12	7,32	61%	0,004183		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1,400617	2	0,700308	218,0034	**<0,0001**	3,284918
Within Groups	0,106008	33	0,003212			
Total	1,506625	35				

4.4.3 Association between attitude and demographical information

The following tables present the association between attitude and demographical information. The demographical information tested were age group, gender, ethnicity, education level and religion. These were done as follows:

Table 4. 11: Association between attitude and age group

	Age		
	Chi-square value	df	p-value
COVID-19 does not kill	186,16	25	<,001
Wearing musk make my life difficult	246,508	20	<,001
COVID- 19 is made to reduce the number of people in the country	154,351	25	<,001
Sanitizers smell bad whenever you use it	199,479	20	<,001
Musk makes me suffocates	118,319	25	<,001
COVID-19 is just a flue	107,194	20	<,001
I feel lazy to wash my hands regularly	123,704	20	<,001
Buying sanitizer is a waste of money	78,553	15	<,001
Masks are expensive	54,822	20	<,001
Masks are for people with chronic diseases	94,185	20	<,001
Only elders are at risk of contracting COVID-19	118,771	20	<,001
Sanitizers are everywhere at shopping centers and schools	171,231	20	<,001
Average	137,7731	21	<0,00001

There is a significant association between participants responses regarding attitude and gender (p-value<0,0001).

Table 4. 12: Association between attitude and Gender

	Gender		
	Chi-square value	Df	p-value
COVID-19 does not kill	29,368	5	<,001
Wearing musk make my life difficult	38,515	4	<,001
COVID- 19 is made to reduce the number of people in the country	21,446	5	<,001
Sanitizers smell bad whenever you use it	8,177	4	0,085
Musk makes me suffocates	27,225	5	<,001
COVID-19 is just a flue	11,83	4	0,019
I feel lazy to wash my hands regularly	44,787	4	<,001
Buying sanitizer is a waste of money	0,034	3	0,998
Masks are expensive	55,399	4	<,001
Masks are for people with chronic diseases	23,336	4	<,001
Only elders are at risk of contracting COVID-19	51,681	4	<,001
Sanitizers are everywhere at shopping centers and schools	13,322	4	<,001
Average	27,09333	4	<0,00001

There is a significant association between participants responses regarding attitude and Gender (p-value<0,0001).

Table 4. 13: Association between attitude and Ethnicity

	Ethnicity		
	Chi-square value	Df	p-value
COVID-19 does not kill	65,778	15	<,001
Wearing musk make my life difficult	61,965	12	<,001
COVID- 19 is made to reduce the number of people in the country	120,278	15	<,001
Sanitizers smell bad whenever you use it	65,373	12	<,001
Musk makes me suffocates	108,598	15	<,001
COVID-19 is just a flue	90,665	12	<,001
I feel lazy to wash my hands regularly	84,457	12	<,001
Buying sanitizer is a waste of money	65,993	9	<,001
Masks are expensive	69,983	12	<,001
Masks are for people with chronic diseases	65,678	12	<,001
Only elders are at risk of contracting COVID-19	90,576	12	<,001
Sanitizers are everywhere at shopping centers and schools	84,441	12	<,001
Average	81,14875	12,5	<0,00001

There is a significant association between participants responses regarding attitude and Ethnicity (p-value<0,0001).

Table 4. 14: Association between attitude and Education

	Education		
	Chi-square value	df	p-value
COVID-19 does not kill	232,569	15	<,001
Wearing musk make my life difficult	247,273	12	<,001
COVID- 19 is made to reduce the number of people in the country	147,745	15	<,001
Sanitizers smell bad whenever you use it	178,639	12	<,001
Musk makes me suffocates	192,968	15	<,001
COVID-19 is just a flue	172,03	12	<,001
I feel lazy to wash my hands regularly	245,228	12	<,001
Buying sanitizer is a waste of money	101,939	9	<,001
Masks are expensive	103,166	12	<,001
Masks are for people with chronic diseases	173,84	12	<,001
Only elders are at risk of contracting COVID-19	180,179	12	<,001
Sanitizers are everywhere at shopping centers and schools	173,335	12	<,001
Average	179,0759	12,5	<0,00001

There is a significant association between participants responses regarding attitude and education (p-value<0,0001).

Table 4. 15: Association between attitude and Religion

	Religion		
	Chi-square value	df	p-value
COVID-19 does not kill	42,529	10	<,001
Wearing musk make my life difficult	95,837	8	<,001
COVID- 19 is made to reduce the number of people in the country	90,198	10	<,001
Sanitizers smell bad whenever you use it	132,347	8	<,001
Musk makes me suffocates	67,106	10	<,001
COVID-19 is just a flue	104,496	8	<,001
I feel lazy to wash my hands regularly	73,381	8	<,001
Buying sanitizer is a waste of money	94,866	6	<,001
Masks are expensive	115,283	8	<,001
Masks are for people with chronic diseases	140,196	8	<,001
Only elders are at risk of contracting COVID-19	103,129	8	<,001
Sanitizers are everywhere at shopping centers and schools	90,982	8	<,001
Average	95,8625	8,3	<0,00001

There is a significant association between participants responses regarding attitude and Religion (p-value<0,0001).

Thus, there is a significant association between how participants responded to questions related to Attitude towards COVID-19. The association was with age group, Gender ethnicity, educational level and religion. Although no significant association between participants responses to Sanitizers smell bad whenever you use it and Buying sanitizer is a waste of money since p-values were greater than 0,05.

4.5. Practices followed to prevent Covid-19

The Level of practice regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province was measured by a five-point Lickert scale I,e. Never, Seldom, Sometimes, Often, and Always. The analysis includes descriptive statistics, analysis of variance and the level of association between demographical information and attitude.

4.5.1 Summary responses of participants regarding practice of being followed regarding Covid-19 followed regarding Covid-19

These results summarise participants responses regarding practices being followed regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

Table 4. 16: Results regarding practice of being followed regarding Covid-19 followed regarding Covid-19

	Never		Seldom		Sometimes		Often		Always		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I always keep social distancing	36	9,00%	45	11,25%	71	17,75%	145	36,25%	103	25,75%	400	100%
I keep my musk on whenever am in public space	27	6,75%	45	11,25%	58	14,50%	181	45,25%	89	22,25%	400	100%
I use sanitizer everywhere I go	36	9,00%	36	9,00%	32	8,00%	185	46,25%	111	27,75%	400	100%

I keep washing my hand with soap	18	4,50%	59	14,75%	63	15,75%	149	37,25%	111	27,75%	400	100%
I avoid touching my face all the time (noise, eyes, mouth)	22	5,50%	54	13,50%	44	11,00%	165	41,25%	115	28,75%	400	100%
I don't handshake but I use my elbow for greeting	18	4,50%	27	6,75%	77	19,25%	167	41,75%	111	27,75%	400	100%
I don't share straw, spoon or for with my family and friends.	0	0,00%	41	10,25%	72	18,00%	154	38,50%	133	33,25%	400	100%
I attend gatherings for 50 people or less	9	2,25%	27	6,75%	95	23,75%	149	37,25%	120	30,00%	400	100%
Average	**20,8**	**5,19%**	**41,8**	**10,44%**	**64,0**	**16,00%**	**161,9**	**40,47%**	**111,6**	**27,91%**	**400**	**100%**

Results in Table 4.22 are explained in Figure 4.8 below. Responses results for Never and seldom were combined together and similarly for Often and Always were combined in Figure 4.2

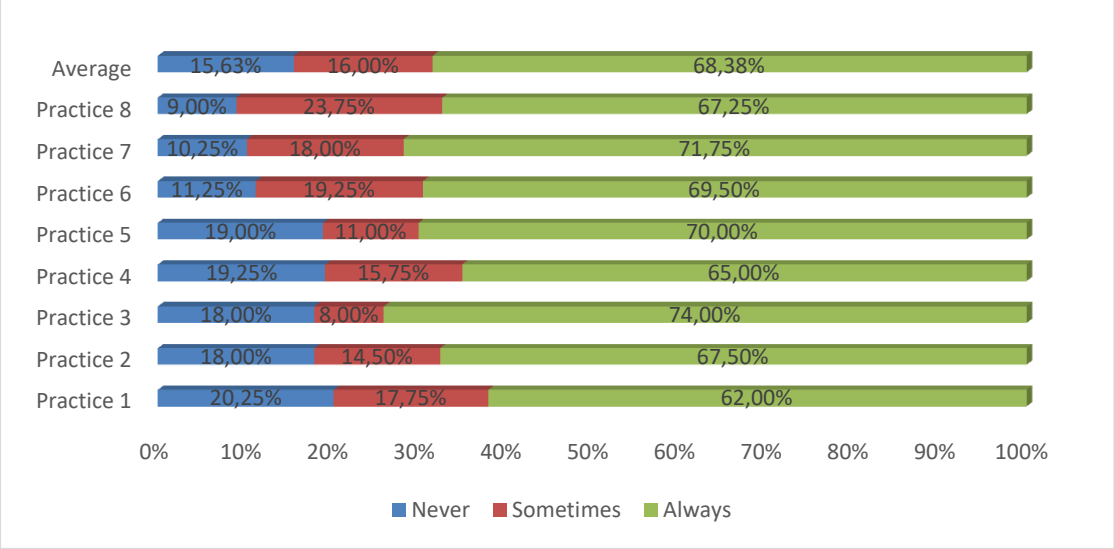

Figure 4. 3: Practices results

Results show majority of participants (68,38%) on average, agreed that they always keep social distancing ; always keep my musk on whenever am in public space; they always use sanitizer everywhere they go; they always keep washing my hand with soap; they always avoid touching my face all the time (noise, eyes, mouth); they do not handshake but they use my elbow for greeting; they always share straw, spoon or for with my family and friends and that they always attend gatherings for 50 people or less.

4.5.2 Analysis of variance between participants responses on attitude regarding COVID-19

Table 4.10 presents the analysis of variance between participants that agreed or disagreed with the statements regarding practice. Results show that there is a significant difference between participants that always (68%) follow the practices regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province compared to those who never (16%) follow the practices.

Table 4. 17: Analysis of vaornece Practices

SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Never	8	1,25	16%	0,00213		
Sometimes	8	1,28	16%	0,002414		
Always	8	5,47	68%	0,001443		
ANOVA						
Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1,473558	2	0,736779	369,1587	**<0,00001**	3,4668
Within Groups	0,041913	21	0,001996			
Total	1,515471	23				

4.5.3 Association between practice and demographical information

The following tables present the association between practice and demographical information. The demographical information tested were age group, gender, ethnicity, education level and religion. These were done as follows:

Table 4. 18: Association between practice and Age group

	Age		
	Chi-square value	df	p-value
I always keep social distancing	182,662	20	<,001
I keep my musk on whenever am in public space	103,419	20	<,001
I use sanitizer everywhere I go	153,078	20	<,001
I keep washing my hand with soap	123,03	20	<,001
I avoid touching my face all the time (noise, eyes, mouth)	161,999	20	<,001
I don't handshake but I use my elbow for greeting	130,091	20	<,001
I don't share straw, spoon or for with my family and friends.	152,911	15	<,001
I attend gatherings for 50 people or less	103,443	20	<,001
Average	138,8291	19,375	<0,00001

There is a significant association between participants' all the statements responses regarding practice and age group (p-value<0,0001).

Table 4. 19: Association between practice and Gender

	Gender		
	Chi-square value	df	p-value
I always keep social distancing	8,146	4	0,0864
I keep my musk on whenever am in public space	11,101	4	0,0255
I use sanitizer everywhere I go	56,789	4	<,001
I keep washing my hand with soap	3,873	4	0,4234
I avoid touching my face all the time (noise, eyes, mouth)	39,466	4	<,001
I don't handshake but I use my elbow for greeting	21,634	4	0,0002
I don't share straw, spoon or for with my family and friends.	30,831	3	<,001
I attend gatherings for 50 people or less	14,941	4	0,0048
Average	23,34763	3,875	0,1081

There is a significant association between participants responses regarding practice statements such as participants keeping my musk on whenever am in public space; they use sanitizer everywhere they go; they avoid touching my face all the time (noise, eyes, mouth); they do not handshake but they use my elbow for greeting; they do not t share straw, spoon or for with my family and friends; they attend gatherings for 50 people or less and Gender (p-value<0,0001). However, there is no significant association between practice statements

such as they always keep social distancing and, they keep washing my hand with soap and Gender (p-value>0,05).

Table 4. 20: Association between practice and Ethnicity

	Ethnicity		
	Chi-square value	Df	p-value
I always keep social distancing	79,152	12	<,001
I keep my musk on whenever am in public space	88,689	12	<,001
I use sanitizer everywhere I go	116,667	12	<,001
I keep washing my hand with soap	67,128	12	<,001
I avoid touching my face all the time (noise, eyes, mouth)	120,394	12	<,001
I don't handshake but I use my elbow for greeting	130,919	12	<,001
I don't share straw, spoon or for with my family and friends.	96,915	9	<,001
I attend gatherings for 50 people or less	110,304	12	<,001
Average	101,271	11,625	<0,00001

There is a significant association between participants' all the statements responses regarding practice and Ethnicity (p-value<0,0001).

Table 4. 21: Association between practice and Education

	Education		
	Chi-square value	Df	p-value
I always keep social distancing	104,311	12	<,001
I keep my musk on whenever am in public space	95,458	12	<,001
I use sanitizer everywhere I go	85,789	12	<,001
I keep washing my hand with soap	151,025	12	<,001
I avoid touching my face all the time (noise, eyes, mouth)	48,757	12	<,001
I don't handshake but I use my elbow for greeting	87,769	12	<,001
I don't share straw, spoon or for with my family and friends.	64,295	9	<,001
I attend gatherings for 50 people or less	90,017	12	<,001
Average	90,92763	11,625	<0,00001

There is a significant association between participants' all the statements responses regarding practice and Education (p-value<0,0001).

Table 4. 22: Association between practice and Religion

	Religion		
	Chi-square value	df	p-value
I always keep social distancing	74,461	8	<,001
I keep my musk on whenever am in public space	80,107	8	<,001
I use sanitizer everywhere I go	66,515	8	<,001
I keep washing my hand with soap	64,145	8	<,001
I avoid touching my face all the time (noise, eyes, mouth)	89,188	8	<,001
I don't handshake but I use my elbow for greeting	74,428	8	<,001
I don't share straw, spoon or for with my family and friends.	54,669	6	<,001
I attend gatherings for 50 people or less	90,43	8	<,001
Average	74,24288	7,75	<0,00001

There is a significant association between participants' all the statements responses regarding practice and Religion (p-value<0,0001).

Thus, there is a significant association between how participants responded to questions related to practices followed for COVID-19. The association was with age group, Gender ethnicity, educational level and religion. (p-value<0,0001).

4.6 CONCLUSION

This chapter presented the results and interpretation from the data that was collected through the survey questionnaire from the community members of Collins Chabane Municipality in Limpopo Province. The general trends in the results of this study indicate a substantive positive attitudes and practices in measures to prevent the spread of Covid-19. Although these findings were not convincing to suffice concrete arguments for a perfect healthy behaviours and practices for Covid-19, they constitute an important step towards informing and shaping strategies that could be utilised to enhance health practices for future health crisis. However, although the findings indicated relatively positive attitudes and practices towards preventing the spread of Covid-19, the patterns in the responses for knowledge were not convincing. The next chapter concluded with the discussions, summary, and recommendations for this study.

CHAPTER FIVE: DISCUSSIONS, SUMMARY, CONCLUSIONS RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

5.1 INTRODUCTION

This chapter provided the discussion of study results with implications, summary, conclusions recommendations, limitations and chapter conclusion based on the findings that were presented. These findings showed how the knowledge, attitudes and practices of COVID-19 by the community members of Collins Chabane signify towards the health of the people and efforts to curb the challenge of the spread of the virus. This chapter showed the relevance of the findings to the existing literature. Limitations experienced are identified and recommendations for future studies provided.

5.2 DISCUSSION OF RESULTS BASED ON RESEARCH OBJECTIVES

This study has achieved the goals set at the onset of the study. This study was set to describe the knowledge, attitudes, and practices of the community members of Collins Chabane regarding measures to prevent the spread of Covid-19. The study focused on:

- Assessing the level of knowledge regarding Covid-19 among community members;
- Determining the attitudes regarding Covid-19 among community members, and
- Describing the practices followed to prevent Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

5.2.1 Demographic characteristics of respondents

In this study majority of participants were between 18-25 years of age followed by those between 26 to 35 years. There were more males than female participants. Majority of participants were Tsonga speaking with a mix of Venda, Zimbabwean and Mozambique. Majority of participants had primary school level, secondary school level and those with tertiary qualifications. The 15% of the participants had no education. The study was represented by most participants with tradition religion than Christian. The study applied these demographic information in assessing the level of association to knowledge, attitude and practice of COVID-19 by the participant. A study by (Cao, Hu, Cheng, Yu, Tu & Liu, 2020) found that demographical information such as age and level of education was associated to knowledge, attitude and practice.

5.2.2 Knowledge regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

The results of this study indicated that although there was a general knowledge of what Covid-19 is, there is no consistence regarding the symptoms of Covid-19. This was evident with almost half of the participants (44%) indicated that they were not aware of fever, fatigue, dry cough and body aches as the main clinical signs of Covid-19. These symptoms were rather linked to the common symptoms of flu. The fact that only 7% of the respondents strongly disagree to that they were aware of these clinical symptoms portends larger implications for South African communities, particularly, the participants of these study. The implications of having a lack of knowledge regarding the early symptoms of Covid-19 includes that the participants might not seek clinical assistance when experiencing these symptoms. This challenge could also result in the failure to distinguish between Covid-19 symptoms and that of common cold flue. The rural study by Adunlin, Murphy and Manis (2021) also indicated that the outbreak of Covid-19 posed a challenge people attempting to distinguish the symptoms of Covid-19 and common cold. The challenge was also that people will become reluctant to test for Covid-19 because they simply assume it is common flue (Adunlin, Murphy and Manis, 2021). The study by Debata, Patnaik and Mishra (2020) also indicated that that most of the people were not aware of the difference between Covid-19 symptoms and common cold (flu).

The results of this study revealed that there is misconception among most of the participants regarding how Covid-19 can become severe to people suffering from it. Most of the respondents in this study indicated that most of the participants are either uncertain (30%) or agree (29%) to the idea that Covid-19 is dangerous and severe and only those that are considered elderly or those with chronic illness are more likely to suffer more. Few of the participants (5%) indicated that they strongly disagree that that it is only the elderly and those with chronic illnesses who are likely to be severe cases of Covid-19. The study by Wolf, Serper, Opsasnick, O'Conor, Curtis, Benavente, Wismer, Batio, Eifler, Zheng and Russell (2020) indicated with the initial outbreak of Covid-19, there was a tendence by the elderly people that that old-age people are at high risk of contracting Covid-19 and that chronic illness also accelerates the likelihood to contract Covid-19. The implications of these findings are detrimental towards efforts to counteract Covid-19 because of misconceptions that are not accurate.

The results of this study revealed that there is general agreement among the participants that isolation and the treatment of people who are infected by Covid-19 virus are effective

ways to reduce the spread of the virus. However, although it was the highest number of the participants recorded (28%) indicating that they are aware of isolation, the maintenance of distance and treatment are effective ways to reduce the Covid-19 spread, this figure is still relatively low to suffice that most of the participants in this study are aware of how to curb the spread of Covid-19. This indicated that in the future much needs to be done by the healthcare practitioners to ensure that people are equipped with relevant information regarding health crisis such as Covid-19.

However, from this study, results showed that there is no significant difference between participants that agreed (37%) compared to those who disagreed (35%) with the statements regarding knowledge. Thus, this study's results conclude that participants were not certain knowledge regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province. The findings of this study indicated that knowledge is key in modelling the attitudes and practices towards Covid-19. Similarly, the study by Huynh, Nguyen, Tran, Nguyen, Do, Nguyen, Phan, Vu and Nguyen (2020) revealed that the outbreak of Covid-19 was also accompanied by the failure of people to comprehend the regulatory measures and prevention tactics to avoid the spread of Covid-19. Some of the failure by most people to adhere to the safety and regulatory measures against Covid-19 is that they did not understand how Covid-19 spreads. Thus, there is a need for more knowledge regarding COVID-19 Pandemic amongst community members of Collins Chabane Municipality in Limpopo province.

Knowledge of COVID-19 was still lacking amongst the participants of this study. There is a significant association between the way participants responded and age group (18-25 years), ethnicity (Venda and Tsonga), level of education (Primary and no education) and religion (tradition), (p-value<0,0001). However, there is no association between Gender and the way participants responded to "Unlike the common cold, stuffy nose, runny nose, and sneezing are less common in persons infected with the COVID-19 virus". Unlike in Asia (Malaysia), Malaysian community members above the age of 50 had high knowledge due to the possibility of contracting the disease and its complication. On the other hand, those with low knowledge were those with low income and this indicates limited connective access to information about the virus (Cao, Hu, Cheng, Yu, Tu & Liu, 2020). However, in line with other studies conducted in Africa, most of the people who were knowledgeable about the disease were people with a high level of education including people who possessed Bachelor/master's degrees and who were mostly between 18 to 39 years of age. In African countries reports of congested cities, poor health literacy increased hunger and poverty. (Lucero, Adebisi & Lin, 2020). There was a number of misconceptions of Covid-19 that made most people to be sceptical about the virus, how its spreads and the measures to protect

individuals from contracting Covid-19 (Carlson, Gomez, Bansal and Ryan, 2020). Most people theorised their perceptions about Covid-19 based on the current world trends and challenges (Zhao, Li, Kung, Fisher, Shen and Liu, 2020).

5.2.3 Attitudes regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

The results of this study showed that that there is a general agreement among the respondents that Covid-19 is severe, and it kills. Only 9% of the participants indicated that they strongly agree that Covid-19 does not kill. Various studies linked this perception that Covid-19 is not severe to the notion that Covid-19 was being framed as man-made and that it was targeting nations to reduce the population rates. There were a lot of misconceptions of Covid-19 that made most people to be sceptical about the virus, how its spreads and the measures to protect individuals from contracting Covid-19. The study by Chaturvedi, Ramalingam and Singh (2020) indicated that the advent of Covid-19 was accompanied by perceptions that Covid-19 was man-made and instead of people adhering to the Covid-19 restriction measures because they perceive Covid-19 as less severe.

The results of this study revealed that there is a general negative attitude towards the wearing of masks. The results revealed that the participants were either uncertain to whether they should wear a mask or are uncomfortable with wearing masks. Many of the participants indicated that they do not prioritise wearing masks always. The wearing of masks is occasional. The results regarding the wearing of masks have larger implications for a larger populations and efforts by government and health professionals to harness the spread of Covid-19. The literature showed that the attitude towards Covid-19 was linked to the knowledge that people hold towards Covid-19. The lack of information and knowledge regarding Covid-19 had negative implications on how people perceived Covid-19, its causes, and measures to treat it. This was opposite with those who had adequate knowledge on Covid-19 and how severe it was. Those with appropriate Covid-19 knowledge had positive attitudes towards ways to prevent the spread of the virus. This is similar to previous study by (Akwa, Muthini & Ning, 2020) that also revealed that having appropriate knowledge regarding Covid-19 is important to influence positive practices and attitudes towards Covid-19. This differs with other previous studies that indicated that the lack of knowledge and having negative attitudes towards Covid-19 have negative consequences towards the practices of Covid-19 (Okunlola, Lamptey, Senkyire, Dorcas and Dooshima, 2020; Puspitasari, Yusuf, Sinuraya, Abdulah & Koyama, 2020).

The results of this study revealed that there are strong negative attitudes regarding Covid-19, leading to a substantive amount of the participants indicating that the virus was made by

people intentionally to reduce human population across the globe. However, this is not a new phenomenon. The literature also revealed that most of the people were so confident that Covid-19 was a man-made illness that was meant to destroy lives as a tool to control the population across the globe, especially among poor nations (Chan, 2021; Chaturvedi, Ramalingam & Singh, Heitzman, 2020). The study by Hussain, Bouachir, Al-Turjman and Aloqaily (2020) additionally indicated that Covid-19 was also associated with the man-made brain power and Artificial Intelligence (AI). The implications of this study are negative towards efforts to curb the spread of Covid-19. This also portends large health implications for South Africa regarding health crisis.

Results shows that there is a significant difference between participants that agreed (61%) compared to those who disagreed (16%) with the statements regarding attitude. Thus, this study results conclude that participants agreed with statements regarding attitude towards Covid-19 among community members of Collins Chabane Municipality in Limpopo province. The patterns in the responses indicated that the cost of sanitizers was the main barrier towards its utilisation and uses. The results of this study also revealed that most of the respondents are of the view that sanitizers are not conducive and they have a bad smell when used. Hand sanitisers and face masks had been an obstacle against control measures of Covid-19 disease as supermarkets would run short of Covid-19 equipment (Lucero, Adebisi & Lin, 2020).These resentments of negativity towards the ways to prevent the spreads of Covid-19 are not a new phenomenon. Previous research showed that the general populace of the world has negative attitudes towards Covid-19 in general. The study by Madden, Rutter, Stones and Ai (2022) also revealed that attitude is key towards the practice of Covid-19 and that positive attitude is linked to positive practices and vice-versa. The implication of this study is that the general majority of the participants are not showing serious caution towards the severity of Covid-19 illness.

The study found a significant association between how participants responded to questions related to Attitude towards COVID-19. The association was with age group, Gender ethnicity, educational level, and religion. Although no significant association between participants responses to Sanitizers smelling bad whenever you use it, participants indicated a bad attitude towards this view and similarly to the buying sanitizer being a waste of money since p-values were greater than 0,05. Similar to Indonesia, knowledge, attitude, and prevention measures towards COVID-19 were affected by education, age, gender, health insurance ownership and work scope. KAP about the virus showed great weakness in some parts of the Indonesian tribes and the study concluded that women were more cooperative than men in having a good practice and knowledge towards the disease (Honarvar, Lankarani & Kharmandar, 2020).

5.2.4 Practices followed to prevent Covid-19 among community members of Collins Chabane Municipality in Limpopo province.

The participants of this study also revealed different results from most of the previous studies. For instance, differently from the findings that associates knowledge and attitudes towards Covid-19 to be inseparable (Madden, Rutter, Stones and Ai, 2022), the results of this study revealed that attitude and that actual practice are two separate things. For example, the attitudes towards the wearing of masks were found to have no significant effect towards the actual practice of wearing a mask. Despite many of the participants indicating that they are uncomfortable wearing masks and that masks are expensive, the actual practice of wearing masks was positive with 45% indicating that they often wear masks in public spaces compared to only 7% who indicated that they have never wore a mask in public. This is important in showing that sometimes people say different things from their actual practices. What is different from these results compared to the previous studies is that the practices of Covid-19 are not directly linked to the attitudes that people hold. This is further supported by the findings that showed 26% of the participants indicating that they always maintain the social distancing when they are in public compared to only 9% that showed that they have never practiced social distancing.

The results revealed more positive practices such as the washing of hands thoroughly according to Covid-19 safety and protective measures. The results also indicated that 46% of the participants indicated that they often use sanitizer to protect the spread of Covid-19 compared to 9% of the participants. This is surprising with the fact that most of the participants indicated that the use of sanitizers is uncomfortable because it smells and that the cost above the affordability reach of many. Along these results the study also revealed a positive practice in terms of avoiding touching the face, nose, eyes, or mouth with their hands to prevent being infected with Covid-19, compared to only 6% of the participants indicating that they never avoided touching their faces, nose or mouth. These findings showed that despite the participants having negative attitudes towards Covid-19, they still show efforts to prevent the spread of Covid-19. This differs with other previous studies that indicated that the lack of knowledge and having negative attitudes towards Covid-19 have negative consequences towards the practices of Covid-19.

The results of this study also revealed that most of the participants adhere to measures in preventing Covid-19 with 42% of the respondents reported that they often avoid shaking

hands when greeting with people. The sharing of used utilities such as the straw was strongly rejected by the majority (38%) of the participants, compared to only 2% of those who indicated that they have never avoided sharing a straw. This is also supported by the fact that most of the participants (30%) reported that they always adhere to the regulatory number of people in gatherings to avoid the spread of Covid-19, compared to only 2% of the participants who indicated that they never adhere to the recommended gathering numbers in efforts to curb Covid-19. Results show that there is a significant difference between participants that always (68%) follow the practices regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province compared to those who never (16%) follow the practices. These results are interesting and positive towards efforts to curb the spread of Covid-19. This is not a new phenomenon, the study by Puspitasari, Yusuf, Sinuraya, Abdulah and Koyama (2020) indicated that positive attitude and adequate knowledge about Covid-19 have a positive effect on the practices regarding the measures to prevent the spread of Covid-19.

Results found that there is a strong association between how participants responded to questions related to practices followed for COVID-19. The association was with age group, Gender ethnicity, educational level and religion. (p-value<0,0001). Thus, results have shown that there is an association between practices followed regarding Covid-19 among community members of Collins Chabane Municipality in Limpopo province and age group towards the older age group. Male participants also agreed with following regarding Covid-19 while majority of Venda and Tsonga contributed more to agreeing with the practices. The tradition religion also agreed more to the practices being followed while the more participants had secondary and tertiary level agreed more to following the practices of COVID-19. Similar to Indonesia, knowledge, attitude, and prevention measures towards COVID-19 were affected by education, age, gender, health insurance ownership and work scope. KAP about the virus showed great weakness in some parts of the Indonesian tribes and the study concluded that women were more cooperative than men in having a good knowledge and practice towards the disease (Honarvar, Lankarani & Kharmandar, 2020) similar to the results of this study.

Thus, in summary results show that there is no significant difference between participants that agreed (35%) or disagreed (37%) with the statements regarding knowledge (p-value=0,299>0,05) and that participants were unsure in the knowledge of COVID-19 with a, strong association to age group, ethnicity, educational level and religion, (p-value<0,0001). Although there was a negative attitude towards the use and buying of sanitizers, results show that in general participants agreed (61%) with the statements related to attitude

compared to those who disagreed (16%), (p-value<0,0001) with a strong association to age group, gender, ethnicity, educational level and religion (p-value<0,0001). Majority of participants always (68%) follow the practices regarding Covid-19 among community members of Collins Chabane Municipality compared to those who never (16%), (p-value<0,00001), with a strong association to age group, gender, ethnicity, educational level and religion (p-value<0,0001). A study in Sub Saharan Africa by Bates et al. (2020) showed that participants had moderate to high levels of knowledge about the Covid-19 disease. Participants expressed mixed attitudes about the eventual control of COVID-19 in Ecuador. Participants reported high levels of adoption of preventive practices on unemployed individuals, househusbands/housewives, or manual labourers, as well as those with elementary school education, who have lower levels of knowledge. Women and people over 50 years of age, and those with higher levels of schooling were the most optimistic about the disease.

5.3 SUMMARY OF THE STUDY RESULTS

The results of this study indicated that although there is a general knowledge of what Covid-19 is, there is no consistence regarding the symptoms of Covid-19. This was evident with almost half of the respondents (44%) indicated that they were not aware of fever, fatigue, dry cough and body aches as the main clinical signs of Covid-19. These symptoms were rather linked to the common symptoms of flue. The fact that only 7% of the respondents strongly disagree to that they were aware of these clinical symptoms portends larger implications for South African communities, particularly, the respondents of these study. The implications of having a lack of knowledge regarding the early symptoms of Covid-19 includes that the respondents might not seek clinical assistance when experiencing these symptoms. This challenge could also result in the failure to distinguish between Covid-19 symptoms and that of common cold flue.

The results of this study also revealed that there is misconception among most of the participants regarding how Covid-19 can become severe to people suffering from it. Some people regarded Covid-19 as know a severe illness and this had negative implications on the attitude that they had towards Covid-19. Various studies linked this perception that Covid-19 is not severe to the notion that Covid-19 was being framed as man-made and that it was targeting nations to reduce the population rates. The challenge with Covid-19 misconceptions was also because of lack of sufficient information from the initial outbreak of Covid-19. Future approaches to health crisis need to be accompanied by sufficient

information and utilise digital technologies as a critical source of information not as an alternative to traditional media.

The results of this study elucidated that there is a general negative attitude towards the wearing of masks. The findings revealed that the respondents were either uncertain to whether they should wear a mask or are uncomfortable with wearing masks. Most of the participants indicated that they do not prioritise wearing masks always. The wearing of masks is occasional. The results regarding the wearing of masks have larger implications for a larger populations and efforts by government and health professionals to harness the spread of Covid-19. The literature showed that the attitude towards Covid-19 was linked to the knowledge that people hold towards Covid-19. The lack of information and knowledge regarding Covid-19 had negative implications on how people perceived Covid-19, its causes, and measures to treat it. This was opposite with those who had adequate knowledge on Covid-19 and how severe it was. Those with appropriate Covid-19 knowledge had positive attitudes towards ways to prevent the spread of the virus. The implication of this study portends large health implications for South Africa regarding health pandemics.

The results of this study pinpointed the pervasive negative attitudes towards measures to prevent the spread of Covid-19. There was no appreciation of the measures to prevent the spread of Covid-19 such as the use of sanitizers. The patterns in the responses indicated that the cost of sanitizers was the main barrier towards its utilisation and uses. The findings of this study also revealed that most of the participants are of the view that sanitizers are not contusive, and they have a bad smell when used. These resentments of negativity towards the ways to prevent the spreads of Covid-19 are not a new phenomenon. Previous research showed that the general populace of the world has negative attitudes towards Covid-19 in general. The negative attitudes about health crisis are shaped by the knowledge that people hold towards severity of the pandemic, hence this study strengthens that future pandemic management needs to be proactive on how appropriate messages should be disseminated and extending the reach to all the population especially those residing in rural areas.

Apart from that, the findings highlighted the positive uses of masks and other measures to protect from the spread of Covid-19 and its spread is important to indicate that despite negative attitudes and the lack of knowledge that people may have, still there is a room for adhering to positive practices to prevent the spread of Covid-19. This is important in showing that sometimes people say different things from their actual practices. What is different from these findings compared to the previous studies is that the practices of Covid-19 are not directly linked to the attitudes that people hold. This is further supported by the findings that showed 26% of the participants indicating that they always maintain the social distancing

when they are in public compared to only 9% that showed that they have never practiced social distancing. More positive practices such as the washing of hands thoroughly according to Covid-19 safety and protective measures were being followed. Despite a substantive amount of the participants indicating that the use of sanitizers is uncomfortable because it is smelling and that the cost above the affordability reach of many, positivity of using all the preventive measures to protect contracting Covid-19 and its spread was still revealed.

Thus, the study found that participants were not certain in as far as knowledge regarding COVID-19 was concerned but had a generally positive attitude and follow the practices for COVID-19 accordingly.

5.4 CONCLUSIONS

The knowledge, attitudes and practices towards Covid-19 is somehow related. However, for strategic intervention from government and health institutions should understand these concepts separately before attempting to understand them linearly, showing that one will lead to the other and vice versa. Contrary to what most of literature assume strongly that knowledge and attitudes towards Covid-19 is linked to practices, this study revealed that there is little, if any, relationship between these concepts and how their relationships is explained. This was explained through the fact that there were more respondents that indicated that there were not knowledgeable about the symptoms of Covid-19 and uncertain about how Covid-19 came to exist, yet still they showed positive practices to prevent the spread of Covid-19 following the measures and regulations put in place by the government such as maintaining the social distancing and avoiding touching their faces, nose, and eyes.

To the larger extent, the findings of this study highlighted that there is a worrying lack of knowledge about Covid-19 among the respondents. The findings indicated that there is a problem regarding how Covid-19 is being framed and its source being defined. Some respondents linked Covid-19 to the human catastrophic efforts to save mankind through a ruthless population control. Most of the participants indicated that they are uncertain of what could be the cause of Covid-19. This lack of information is problematic on efforts by the government and health authorities to curb the spread of the pandemic. The findings implicates that although there are myriad platforms of communication and sharing of information, the government and the health authorities may need to rethink the way the information is distributed and shared to the public to counteract potential misinformation and disinformation.

The results revealed that there are no clear trajectories on the levels of attitudes towards Covid-19. However, most of the people showed that they hold negative perceptions towards Covid-19, with most indicating that they are uncomfortable with the wearing of masks and the use of sanitizers to thoroughly wash their hands. Nevertheless, this is not a new phenomenon. Previous studies show that most of the people showed a lot of resistance to Covid-19. There is a need for further information regarding the use of Masks and sanitisers to encourage the community to apply these as preventative measure. The introduction of vaccine in treating COVID-19 may improve the level of infection and put the communities back to normal provided the community gets vaccinated.

5.5 RECOMMENDATIONS

Recommendations to government and health institutions is that strategic intervention is required in sharing information to the community to understand the concepts of knowledge, attitude and practice of COVID-19 pandemic.

5.5.1 Recommendation from community stakeholders:

The study recommends communities members, Traditional and religious council to support the community by delivering the control interventions and prevention and massaging education and communication to the community members by monitoring movement of the population, tracing contract and surveillance. The community is recommended to make use of community response mechanism if any case occurs including quarantine and social isolation producers, lockdown, enacting contract tracing and following correct ways of community safe burials.

5.5.2 Recommendation from the Department of Health:

The study recommend the department of health to conduct awareness campaign and health talks to the community of Njhakanjhaka towards COVID-19 disease by sending out CHW's to reinforce the preventative measures to curb the spread of COVID-19 which include avoiding large crowds, staying set home when sick, socializing, covering cough or sneezing

on a tissue and throw it on thrash after use, avoiding close contact with people, maintain a distance of at least 1.5 M, regular use of sanitizer, wearing of masks and getting vaccinated and boosted .

5.5.3 Recommendation from NGO's:

The study recommends the NGO's to quickly provide information to the community of Njhakanjhaka village as there are community members who are unable to access information about COVID-19 disease e.g. people with disability or to those that are hard to reach by making use of social media such text massages, phone calls, pamphlets, posters and local community radio stations. Several organisations should train health care workers to conduct Covid-19 screening, conduct door to door home visits and educate people during those home visits.

5.5.4 Recommendation for further research:

This study further recommends that government and health institutions rethink the way the information is distributed and shared to the public to counteract potential misinformation and disinformation.

The study also found a need for further information regarding the use of Masks and sanitisers to encourage the community to apply these as preventative measure. The introduction of vaccine in treating COVID-19 may improve the level of infection and put the communities back to normal provided the community gets vaccinated.

There are many various modifiers and influencers of information and communication and alternatively the way in which Covid-19 was interpreted. Therefore, variables such as salary, urban and rural areas could have been used to broaden the understanding of the knowledge, attitudes and practices towards Covid-19 which can constitute further study over and above what this study has provided.

The results of this study were discussed from the descriptive level, that was focused on the discourse of the experiences of Covid-19 in the rural communities of South Africa using Collins Chabane as a case study. Further research could consider employing the qualitative research approach to identify variations of the results.

There was also a challenge with the fact that the community used in this study is historically Black community and this automatically excluded other racial groups. Hence, perhaps future research could look forward to investigating other racial groups such as White or Indians in South Africa to check if there are similarities and differences in their responses compared to this study.

5.6 LIMITATIONS

Limitations of this study refer to the weaknesses that were noted in the entire study. In this instance, the following limitations were noted:

Firstly, although the sample population used for data collection is relevant to inform of the objectives set to be achieved in this study, the population remains small to foster concrete arguments that are sufficient to reflect the true picture on the knowledge, attitudes and practices of Covid-19. However, even if this data is limited in this scope, it truly provided a representative picture of how Covid-19 was experienced, how it was theorised and conceptualised within rural communities in South Africa.

There are many various modifiers and influencers of information and communication and alternatively the way in which Covid-19 was interpreted. Therefore, many variables could have been used to broaden the understanding of the knowledge, attitudes, and practices towards Covid-19. However, the study carefully constructed the research questions around knowledge, attitude and practices of Covid-19 towards a rich discussion.

The results of this study were discussed from the descriptive level, that was focused on the discourse of the experiences of Covid-19 in the rural communities of South Africa using Collins Chabane as a case study. Perhaps further research could consider employing the qualitative research approach to identify variations of the findings.

There was also a challenge with the fact that the community used in this study is historically Black community and this automatically excluded other racial groups.

Moreover, even though the data that was collected through questionnaires were loaded and analysed using SPSS software for accurate descriptions, there was no race, or demographic

parity during data collection to ensure an even and balanced population representation in this research.

5.7 CONCLUSION

This chapter discussed and elaborated on the research results showing how this is relevant to the existing literature. The chapter showed how the objectives set for this research were attained. The findings of this study were presented in line with the questions asked to theparticipants. This chapter provided the integrated conclusive arguments, based on theresults. Recommendations based on the findings and that for further research was established to provide the path for further research in this field of inquiry.

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APPENDIX 1: INFORMED CONSENT

Title of the Research Study: Knowledge, Attitudes and Practices towards COVID-19 disease among community members in Collins Chabane Municipality, Limpopo province

Principal Investigator/s/ researcher: Khosa LL

Co-Investigator/s/supervisor/s : (Prof Mashau N, PhD, Prof Makhado L, PHD)

Brief Introduction and Purpose of the Study: I am Khosa Langutani Lucia, a Masters student of Public Health (MPH) in the Faculty of health science at the University of Venda. As part of my curriculum, I have conducted a research project and I was researching on Knowledge, Attitudes and Practices towards covid-19 disease among community members in Collins Chabane municipality, South Africa. The main aim of the study was to assess the Knowledge, Attitudes and Practices towards COVID-19 disease at the selected village of Njhakanjhaka in Collins Chabane municipality, South Africa.

Outline of the Procedures: The study has used quantitative methods such as Stratified random sampling, closed-ended questionnaires, etc. to achieve the study goal. The proposed study employed a quantitative approach in nature using descriptive design. The study was conducted in Vhembe district, Collins Chabane municipality at Njhakanjhaka village in Limpopo province. The participants comprised of young and old men and women between the age of 18 to 60 years from Njhakanjhaka village. The questionnaires completion took approximately 30-45 minutes per participant.

Risks or Discomforts to the Participant: There were no risks for participating in this study.

Benefits: There were no anticipated direct benefits for participating in this study. The findings of the study informed the community and raised awareness about the Knowledge, Attitudes and Practices towards COVID-19. The community became open-minded about the importance of following preventative measures. The community was able to make informed decisions about the disease and follow the preventative measures e.g. social distancing, washing of hands with soaps for at least 20 seconds, sanitizing and wearing masks. Furthermore, the researcher was able to publish the study findings and add to the knowledge, Attitudes and Practices of the Njhakanjhaka community.

Reason/s why the Participant May Be Withdrawn from the Study: Participation in this study was voluntary. Participants were informed of voluntary participation and the right to withdraw without any penalty.

Remuneration: There was no remuneration for participating in this study.

Costs of the Study: The participants were not expected to pay any amount.

Confidentiality: The information from this study was used for study purposes only and was not made available to a third party that was not involved in the study. Findings from this study was not linked to any participants.

Research-related Injury: There was no harm/injury that occurred to participants during the study. The investigator did not anticipate any research-related injury and there was no funding for an injury.

Persons to Contact in the Event of Any Problems or Queries:

(Supervisor and details) Please contact the researcher Langutani Lucia Khosa (tel no 081 849 8813), my supervisor Prof Mashau NS at tel no. (015 962 8892) or at ntsieni.mashau@univen.,ac.,za or Co-supervisor Prof Makhado L at tel no. (015 962 8828) or at lufuno.makhado@univen.ac.za or the University Research Ethics Committee Secretariat on 015 962 9058. Complaints can be reported to the Director: Research and Innovation, Prof GE Ekosse on 015 962 8313 or Georges Ivo.Ekosse@univen.ac.za

General:

Potential participants were assured that participation was voluntary and the approximate number of participants to be included should not be disclosed. A copy of the information letter should was issued to participants. The information letter and consent form was translated and provided in the primary spoken language of the research population.

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, (MsLangutani Lucia Khosa), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant Date Time Signature

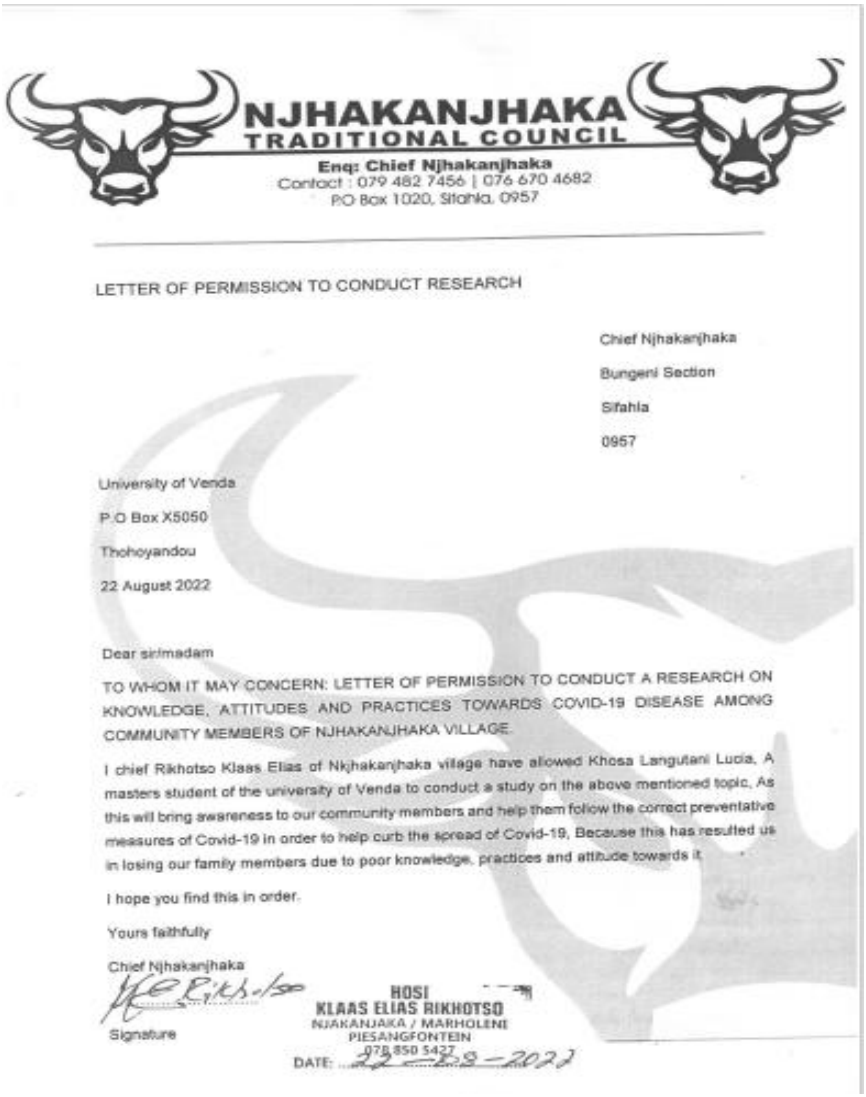
I, …… …… …… ……..

(Ms Langutani Lucia Khosa) herewith confirm that the above participant has been fully

Informed about the nature, conduct and risks of the above study.

Full Name of Researcher	Date	Signature
……	……..	……
Full Name of Witness (If applicable)	Date	Signature
……...	……	……...
Full Name of Legal Guardian (If applicable)	Date	Signature
…….	……..	……

APPENDIX 2: ROYAL COUNCIL OFNJHA KANJHAKA PERMISSION LETTER



NJHAKANJHAKA
TRADITIONAL COUNCIL
Enq: Chief Njhakanjhaka
Contact : 079 482 7456 | 076 670 4682
P.O Box 1020, Sifahla, 0957

LETTER OF PERMISSION TO CONDUCT RESEARCH

Chief Njhakanjhaka
Bungeni Section
Sifahla
0957

University of Venda
P.O Box X5050
Thohoyandou
22 August 2022

Dear sir/madam

TO WHOM IT MAY CONCERN: LETTER OF PERMISSION TO CONDUCT A RESEARCH ON KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS COVID-19 DISEASE AMONG COMMUNITY MEMBERS OF NJHAKANJHAKA VILLAGE.

I chief Rikhotso Klaas Elias of Njhakanjhaka village have allowed Khosa Langutani Lucia, A masters student of the university of Venda to conduct a study on the above mentioned topic, As this will bring awareness to our community members and help them follow the correct preventative measures of Covid-19 in order to help curb the spread of Covid-19, Because this has resulted us in losing our family members due to poor knowledge, practices and attitude towards it.

I hope you find this in order.

Yours faithfully

Chief Njhakanjhaka

Signature

HOSI
KLAAS ELIAS RIKHOTSO
NJAKANJAKA / MARHOLENI
PIESANGFONTEIN
078 850 5427

DATE: 22-08-2022

APPENDIX 3: ETHICAL CLEARENCE CERTIFICATE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Ms LL Khosa

STUDENT NO:
11617963

PROJECT TITLE: **Knowledge, attitudes and practices towards covid-19 disease among community members of Collins Chabane municipality in Limpopo province.**

ETHICAL CLEARENCE NO: **FHS/22/PH/07/1008**

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr NS Mashau	UNIVEN, Public Health	Supervisor
Prof L Makhado	UNIVEN, Public Health	Co – Supervisor
Ms LL Khosa	UNIVEN, Public Health	Investigator – Student

Type: Masters Research
Risk: Minimal risk to humans, animals, or environment (Category 2)
Approval Period: August 2022 – August 2024

The Research Ethics Social Sciences Committee (RESSC) hereby approves your project as indicated above.

General Conditions

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE
Date Considered: July 2022

Name of the RESSC Chairperson of the Committee: Prof TS Mashau

Signature

UNIVERSITY OF VENDA
OFFICE OF THE DIRECTOR
RESEARCH AND INNOVATION
2022 -08- 10
Private Bag X5050
Thohoyandou 0950

APPENDIX 4: DATA COLLECTION INSTRUMENT

The questionnaire is comprised of four sections, ensure that you answer all questions honestly using a cross (X) in the box

SECTION A: SOCIODEMOGRAPHIC INFORMATION

1. Age ☐

2. Gender: a) male ☐ b) female ☐

3. Ethnicity: a) Tsonga ☐ b) Venda ☐ c) Zimbabwe ☐ d) Mozambique ☐

e) Other ☐

4. Level of Education: a) No education ☐

b) Primary education ☐

c) Secondary education ☐

d) Tertiary education ☐

5. Religion: a) Christianity ☐ b) Tradition ☐ c) other ☐

If other, please specify……..

SECTION C: KNOWLEDGE OF COVID-19

Tick only one (1) response one per statement

Participant knowledge about COVID-19

Questions	Strongly Disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)
The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and body aches					
Unlike the common cold, stuffy nose, runny nose, and sneezing are less common in persons infected with the COVID-19 virus.					
The COVID-19 virus spreads via respiratory droplets of infected individuals					
Not all persons with COVID-19 will develop to severe cases. Only those who are elderly and have chronic illnesses are more likely to be severe cases.					
It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus.					
To prevent the infection by COVID-19, individuals should avoid going to crowded places?					
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.					

SECTION D: ATTITUDE TOWARDS COVID-19

Tick only one (1) response per statement

Statements	Strongly Disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)
COVID-19 does not kill					
Wearing musk make my life difficult					
COVID- 19 is made to reduce the number of people in the country					
Sanitizers smell bad whenever you use it					
Musk makes me suffocates					
COVID-19 is just a flue					
I feel lazy to wash my hands regularly					
Buying sanitizer is a waste of money					
Masks are expensive					
Masks are for people with chronic diseases					
Only elders are at risk of contracting COVID-19					
Sanitizers are everywhere at shopping centers and schools					

SECTION E: PRACTICES TO FIGHT AGAINST COVID-19

Tick only one response

Statement	**Never (1)**	**Seldom (2)**	**Sometimes (3)**	**Often (4)**	**Always (5)**
I always keep social distancing					
I keep my musk on whenever am in public space					
I use sanitizer everywhere I go					
I keep washing my hand with soap					
I avoid touching my face all the time (noise, eyes, mouth)					
I don't handshake but I use my elbow for greeting					
I don't share straw, spoon or for with my family and friends.					
I attend gatherings for 50 people or less					

Thank you, this is the end of the questionnaire.