

## Article

# How South African Families Protected Themselves during the COVID-19 Pandemic: A Qualitative Study

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**Abstract:** The World Health Organization (WHO) reported a cluster of cases of ‘viral pneumonia’—‘Coronavirus Disease 2019’ (COVID-19)—in Wuhan City, the People’s Republic of China on 31 December 2019. To curb the spread of the virus, various containment measures were introduced. However, no study has explored how families protected themselves during the pandemic. Therefore, this study explored how families protected themselves during the COVID-19 pandemic using a qualitative exploratory design. Thirty-one adult participants, representing families in the Western Cape province of South Africa, were virtually interviewed. The sampling approach was both convenient and snowball. The data were analysed using thematic analysis. The results show that families followed and adapted to the mainstream protection measures as implemented by the South African government but in addition believed that adherence to non-pharmaceutical interventions would protect them from contracting the virus. Therefore, the government and other stakeholders should support families in making it easier to protect themselves during the current and future pandemic(s).



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**Keywords:** South African families; COVID-19 pandemic; non-pharmaceutical interventions; protection; qualitative study; interview; COVID-19 containment measures; government lockdown regulations

## 1. Introduction

The World Health Organization (WHO) reported a cluster of cases of ‘viral pneumonia’—‘Coronavirus Disease 2019’ (COVID-19)—in Wuhan City, People’s Republic of China on 31 December 2019 [1]. On the 11 of March 2020, the WHO declared COVID-19 a global pandemic. Since then, COVID-19 has spread to at least 221 countries and territories [2]. The global statistics indicated on the Worldometer on 17 November 2021 were 255,212,999 confirmed cases, 230,722,730 recovered cases, and 5,132,615 deaths [2]. People with COVID-19 have had a wide range of symptoms reported—ranging from mild symptoms to severe illness. These symptoms may appear 2–14 days after exposure to the virus: fever, cough, shortness of breath or difficulty breathing, chills, repeated shaking with chills, muscle pain, headache, sore throat, loss of taste or smell, and diarrhoea [1]. Before the advent of vaccines, measures such as physical distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, handwashing, and coughing into a bent elbow or tissue were used to curb the spread of COVID-19 [1].

South Africa recorded its first case of COVID-19 on the 5th of March 2020 [3] and due to the increased rate of infection, the President declared a state of national disaster to curb the spread of the virus. On 23 March 2020, President Cyril Ramaphosa declared a new measure to combat the spread of COVID-19 in South Africa. The new measure included a three-week nationwide lockdown with severe restrictions on travel and movement from midnight on Thursday, 26 March 2020, to midnight on Thursday, 16 April 2021. This meant that people were only allowed to leave their homes under extreme circumstances, to buy food,

or seek medical help. The lockdown followed government regulations that limited public gatherings, travel from high-risk countries, and the sale of alcohol. In addition, borders were closed to reduce the rate of infection from those travelling into South Africa from other countries [3]. A quarantine was also enforced on inbound travellers and returning citizens. Afterward, the South African government implemented the COVID-19 Risk-Adjusted Strategy, which consists of five levels—levels 1 to 5 with level 5 having the most stringent measures [3]. On 29 September 2021, South Africa recorded the highest number of COVID-19 cases in Africa—2,898,888 positive cases, 2,765,700 recoveries, 87,417 deaths, and 1367 new cases [3].

As a result of the number of COVID-19 cases recorded in South Africa, there is no doubt that the virus has negatively impacted society, particularly the family, which is a basic unit of society. A family is a societal group that is related by blood, marriage, civil union, cohabitation, or foster care [4]. Moreover, it is central in the care and well-being of individuals for proper functioning in society [5,6]. The family is a social determinant of health [7]. For instance, when families engage in health-risk behaviour such as smoking and substance abuse, these behaviours may lead to non-communicable diseases such as diabetes, hypertension, and so on. [8]. In addition, such families do not only put themselves at risk, they put their generation at risk as well. This is because they can transfer these behavioural patterns to their children by providing the social environment in which children grow. Therefore, these behavioural patterns may lead to health challenges in the next generation.

The family helps to maintain stability in society through the socialisation function [9]. According to the General Household Survey [10], 37.6% of households included two family generations living in their households and 14.2% consisted of at least three generations living in their households. While family structures in South Africa are diverse, many individuals depend on families and households for their physical, social, and economic functioning and regard families and households as their primary social institution [10]. It is acknowledged that the family, as a system, is affected by other systems in society because families are connected to society and influenced by factors outside of the family such as decisions made by the government, policies, education, health, community activities, and so on [11]. For example, changes in the family system can hinder/or enhance changes in the broader social spheres and vice versa and within a pandemic, the family can both be driven by and/or drive the pandemic such as in social or physical distancing.

The COVID-19 pandemic and its containment measures (such as lockdown, quarantine, and physical distancing) have economic, educational, financial, health, psychological, social, and other detrimental impacts on families [12]. The COVID-19 pandemic has distinctively affected children and families by disrupting routines, changing relationships and roles, and altering usual child care, school, and recreational activities [13]. A study that examined changes in individual and family functioning before and after post-COVID-19 pandemic found large deteriorations in children, including internalising and externalising problems, and parent depression and a moderate decline in co-parenting quality [14]. Another study described the mental health impacts of the COVID-19 pandemic on families with children. The study reported worsening mental health (such as increased alcohol consumption, suicidal thoughts/feelings, and stress about being safe from physical/emotional domestic violence) for parents as well as children as a result of the COVID-19 pandemic [15].

Within the family, there were both positive and negative family experiences. For example, Kutsaar [16] found that the pandemic extended the social contexts in which children and their families are rooted and highlighted the role played by sociocultural factors in shaping children's coping capacities. Furthermore, emerging weariness and boredom were reported by some children as a result of the COVID-19 pandemic, as well as strained family relationships and online communication did not compensate for the loss of real-life contacts with friends among young people. When comparing families from different socioeconomic contexts, Chen [17] found that parents with higher incomes were more likely to feel stressed over structuring home learning environments and planning educational and physical activities at home for their children than parents in low-income

families. COVID-19 especially highlighted that the poorest children are most likely to live in poor home-learning environments with a bad internet connection, which has negatively impacted their online learning experiences. Furthermore, increased unsupervised online Internet use has magnified issues around sexual exploitation and cyber-bullying [18].

South African families are not left out when considering the impacts of the COVID-19 pandemic. The data from the first and second waves of the national survey, the National Income Dynamics–Coronavirus Rapid Mobile Survey (NIDS-CRAM), revealed the economic fallout of the COVID-19 pandemic which resulted in unprecedented job losses, impairing mental wellbeing significantly [19]. Furthermore, two UNDP reports examined the impacts of COVID-19 in South Africa [20]. According to the first report, South African households are more likely to fall into poverty, particularly female-headed households as a result of the COVID-19 pandemic. The second report shows that micro and informal businesses experienced loss of income as a result of lockdown and have no capital left to purchase items, failed to pay instalments for their cars, or were unable to replace confiscated equipment [21]. Moreover, special populations such as asylum-seekers, refugees, and undocumented migrants disproportionately experience the negative impacts of the COVID-19 pandemic because of existing vulnerabilities [22]. These existing vulnerabilities include weakened social support structures, bleak socioeconomic prospects, unequal access to health care and social services, precarious housing conditions, tenuous living and working conditions, and higher risks of exploitation and abuse.

To minimize the impacts of COVID-19 on families, families need to protect themselves by abiding by various COVID-19 regulations and protocols. A study revealed how general practitioners protected themselves and their families during the severe acute respiratory syndrome (SARS) epidemic in 2003 in Hong Kong [23]. The general practitioners protected themselves and their families by taking a shower or washing hands, cleaning their home regularly with disinfectant, staying away from home, and wearing masks. Moreover, during the current pandemic, measures such as hand washing, wearing of masks, cleaning surfaces with disinfectant, and physical and social distance have been used by individuals to protect themselves [24–26].

At the time of writing this paper, South Africa is the most affected by the COVID-19 pandemic in Africa. The South African government implemented various measures, particularly non-pharmaceutical interventions (such as hand washing, wearing masks, and physical distancing) to stop or curb the spread of the COVID-19 pandemic. However, to the best of our knowledge, no research has examined how family members experienced the measures implemented by the government to protect themselves during the pandemic. Therefore, this study examined how families protected themselves during the COVID-19 pandemic.

## 2. Materials and Methods

### 2.1. Study Setting

This study was carried out in the Western Cape province of South Africa. According to Statistics South Africa, Western Cape province is the fourth largest and third most populated of all the nine provinces in South Africa [27]. It has an estimated seven million residents [27]. According to the 2011 census, 2.7% of inhabitants of the Western Cape aged 20 and over have received no schooling, 10.7% have had only some primary schooling, and 5.6% have finished primary school but have not continued further [28]. Moreover, 38% have had some secondary education without concluding Grade 12, 28% have finished Grade 12 but continued further, and 14% have higher education beyond the secondary level. Overall, 43% of inhabitants have finished high school.

### 2.2. Study Design

The exploratory qualitative research design was chosen to explore how South African families protect themselves during the COVID-19 pandemic. The research design was selected as empirical research on the COVID-19 pandemic is limited around the world [29].

In this study, the exploratory research design allowed us to gain a deeper understanding of how South African families protected themselves during the COVID-19 pandemic.

### 2.3. Sampling Procedure

The purposive and snowball sampling methods were used to recruit participants due to the COVID-19 lockdown strategy implemented in South Africa. The whole of Western Cape province was used as the sample frame from which participants can be drawn. Participants were included if they met the following criteria: (1) if they were eighteen years and older; (2) if they were members of a South African family; (3) if they can speak and understand English, Afrikaans, or isiXhosa; and (4) if they lived in Western Cape province. The recruitment of participants was advertised on various platforms (WhatsApp groups) and websites (Universities and other organisations). Individuals who met the above-mentioned criteria and responded to our advertisement were selected to participate in the study. Moreover, they were requested to assist in the recruitment of others who met the above criteria. The recruitments were guided by data saturation. In total, 31 (13 males and 18 females) participants were interviewed. Most of the participants were between 25–35 years of age. The majority of participants lived within a nuclear family structure (parents with one or more children). Table 1 below shows the characteristics of the participants.

**Table 1.** Demographic characteristics of the participants.

Demographic Characteristic		Participants (N = 31)	Percentage (%)
Gender	Male	13	41.9
	Female	18	58.1
Age	18–24 years	4	12.9
	25–35 years	18	58.1
	36–46 years	3	9.7
	47+ years	6	19.4
Highest educational level	High school	10	32.3
	Diploma/certificate	5	16.1
	Bachelors/honours	12	38.7
	Masters/doctorate	4	12.9
Employment status	Employed	21	67.7
	Unemployed	10	32.3
Family structure	Nuclear family	22	71.0
	Single parent family	2	6.5
	Grandparent family	2	6.5
	Extended family	5	16.1
Home language	English	22	71
	Afrikaans	4	13
	Xhosa	3	10
	Zulu	1	3
	Other	1	3
Place of living	Urban	18	59
	Rural	13	41

#### 2.4. Ethical Considerations

Ethical approval for this study was obtained from the Humanities and Social Sciences Research Ethics Committee at the University of the Western Cape (HS20/5/4). Before conducting the interviews, information sheets written in English, Afrikaans, or IsiXhosa were given to the potential participants to read. The information sheet contained the study aim and objectives and the roles of the participants in the study. Participants were informed that participation is voluntary and that they could withdraw at any time should they wish to do so. Those who agreed to participate in the study were requested to sign a consent form. Participants were informed that their identity will be withheld using pseudonyms during data analysis and discussion. Moreover, all the information obtained during the study was kept strictly confidential on a computer with a password known only to the research team in this study.

#### 2.5. Data Collection

Data were collected using a semi-structured interview guide. The interviews were conducted in English, Afrikaans, or isiXhosa through telephonic conversations, visual calls (Zoom, Microsoft Teams, and Google Meet) and face-to-face—where possible with strict adherence to COVID-19 protocols. The research team members conducted the interviews which lasted between 30–60 min and the interviews were conducted between June and October 2020. Participants were asked questions about how they protected themselves and their families during the COVID-19 pandemic. With participants' consent, the interviews were recorded. During the data collection process, data saturation was reached when no 'new' information was elicited from the participants and the research team cancelled the subsequent interviews [30].

#### 2.6. Data Analysis

Data generated in this study were analysed using thematic analysis because it allows richer and in-depth ontological and epistemological viewpoints [31]. Following the completion of the data collection process, all the data generated (interviews) were transcribed. After transcription, interviews conducted in Afrikaans and isiXhosa were translated into English. Following transcription and translation, two researchers who are members of the research team read and reread the transcribed and translated data for familiarisation and to generate initial codes. The reason for coding was to reduce the raw data into a manageable size and parts that are relevant to the research questions. Subsequently, the initial codes produced were reorganised and rearranged to acquire refined codes. Afterward, codes with similar ideas were clustered together to form sub-themes and those sub-themes with similar concepts were grouped to form the final themes. Finally, the themes were checked for appropriateness, described and supported by quotes from the transcribed data. In addition, the ATLAS Ti software programme was used to identify, categorise, and organise data [32].

#### 2.7. Trustworthiness and Rigour of the Study

In this study, rigour and trustworthiness were established through conformability, credibility, dependability, transferability, and a reflexive approach to the inquiry and analysis [33]. The confirmability of the study was established by providing verbatim transcripts of the participants' responses. The credibility of the study was ensured by allowing participants to express themselves freely during the interviews. In addition to free expression, member checking was conducted at the end of each interview—a restatement of the key points from the interviews. To ensure dependability, methods of data collection and analysis were described in detail. Furthermore, a single interview schedule developed by the research team was used to guide all the interviews. A detailed methodology that includes the study setting, participants, and data collection procedures was provided to ensure transferability for this study. A reflective journal was kept by the research team during the research process. A document that contains the discussions, deliberations,

and decisions was made by members of the research team during the research process. In reporting this study, all the relevant parts of the consolidated criteria for reporting qualitative research (COREQ) outlined by Tong, Sainsbury, and Craig [34] were followed.

### 3. Results

After the data collection and analysis, various themes were generated. The themes include adherence to government regulations, avoiding public spaces, self-isolation, physical and social distancing, preventing and limiting visits, staying at home and restricting movements, practicing hygiene and wearing personal protective equipment (PPE), confining children at home, constant awareness, being vigilant, and using homemade remedies. The themes are presented below.

#### (1) Adherence to government regulations

At the onset of the COVID-19 pandemic, the government announced various regulations to curb the spreading of the virus. The regulations include social and physical distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, handwashing, coughing into a bent elbow or tissue, quarantine, and self-isolation. One of the ways some of the participants reported protected themselves is adherence to the government regulations. This is obvious in some of their quotes below:

*“We also adhere to the government regulations with regards to the national lockdown. E.g. adhering to the curfew and not attending large gatherings etc.” (26-year old female law student)*

*“We have taken the necessary guidelines as stated by the WHO in terms of going out” (28-year old male self-employed)*

*“Well, protection, we obviously go out and we follow the protocols that have been put in place” (28-year old female administrative clerk)*

#### (2) Avoiding public spaces

The risks of getting COVID-19 are higher in crowded and inadequately ventilated spaces where infected people spend long periods together. Outbreaks have been reported in places where people have gathered, often in crowded indoor settings and where they talk loudly, shout, breathe heavily or sing such as in restaurants, choir practices, fitness classes, nightclubs, offices, and places of worship. Some of the participants in the study reported that they protected themselves and their families by avoiding public places. The statements below illustrate some of the comments made by the participants:

*“So, we started trying to order stuff to be delivered rather than going into the shop” (35-year old female attorney)*

*“We highly prevent people from coming to us and going out to visit people. We prevent things such as unnecessary shopping.” (23-year old male student)*

*“We haven’t opened ourselves up to visiting or being in public spaces and all that” (31-year old male educator)*

#### (3) Self-isolation

Self-isolation is a way people keep themselves from possibly infecting others if they think they might be infected. It involves limiting contact with public places, relatives, friends, colleagues, and public transport. A few of the participants who thought they might have been infected or those who were in contact with those who are infected usually self-isolate themselves to prevent others from being infected. Below are a few of their comments:

*“So, he stayed in a separate room from me and used a different bathroom and wasn’t allowed to go into the kitchen and all of that” (28-year old female research assistant)*

*“We have isolated as much as we can, and have taken the necessary guidelines as stated by the WHO” (28-year old male self-employed)*

#### (4) Physical and social distancing

Physical distancing or social distancing means maintaining a safe space between people. People who are infected with the virus are less likely to spread it by keeping their distance from others. The practice of social distancing encourages the use of online video and phone communication instead of in-person contact. All the participants in this study employed physical distance to keep themselves safe. Some of them said:

*"We practice social distancing and just maintain good hygiene habits" (26-year old male currently unemployed—ESL teacher)*

*"We are keeping our distance and we are not hugging. So yes, we are keeping our distances and we are not eating from each other" (64-year old female pensioner)*

*"The 1.5-m distancing, so if I am speaking to my parents I always stand far away if they can sit or something like that and I would try to" (27-year old male counsellor)*

Children are not left out when it comes to keeping physical and social distance. Although children may be too young to understand where they need to do certain things, adults in the family are taking their time to explain to them. Here are some of the participants' comments:

*"They have to, obviously, keep their distance" (26-year old male student)*

*"They have to follow the same strict guidelines with sanitizing, washing hands, and social distancing" (26-year old male currently unemployed—ESL teacher)*

*"You've got to keep your distances either one and a half meters or two meters from the person in front of you in public" (54-year old female retired)*

#### (5) Preventing and limiting visits

One of the ways to socialise and create bonding among members of an extended family and community is to visit each other. However, some of the participants sacrifice visitation to protect themselves during the COVID-19 pandemic was preventing and limiting visits. The following quotes are some of what the participants said:

*"We try to tell our friends in a lovable way do not visit please if you can, do not visit" (70-year old female pensioner)*

*"We highly prevent people from coming to us and going out, through to visit people" (23-year old male student)*

*"We try not to visit each other, if we speak, we speak over the phone" (64-year old female pensioner)*

#### (6) Staying at home and restricting movements

Restricting movements means staying at home as much as possible to avoid contact with other people. When there is a chance that someone may have COVID-19, restricting movements help to reduce the spread of the virus. All the participants reported that they protected themselves by staying at home and restricting their movement. The excerpts below were made by some of the participants

*"No, we've been staying at home" (28-year old female research assistant)*

*"There is really no need to go outside. So, the first four weeks if we went out I probably went out twice" (35-year old male accountant)*

*"We cannot go out, we have to stay inside, we cannot see friends, we cannot go to school, you cannot see family" (41-year old female private banker)*

*"We haven't, we haven't been going out" (26-year old male human resource management associate)*

#### (7) Practicing hygiene and wearing personal protective equipment (PPE)

Personal protective equipment (PPE) are clothing, helmets, gloves, face shields, goggles, facemasks, respirators, and other equipment designed for people to wear to protect people from injury or the spread of infection or illness. All the participants from this study used one or more types of equipment and practiced hygiene to protect themselves during the pandemic. This is obvious in some of the participants' quotations below:

*"Uhm, obviously abiding by what is told to you with the sanitizer and the masks and the washing of the clothes" (38-year old female logistics manager)*

*"It is obviously reinforced when we are going out do you have your mask with you, make sure you are sanitising at school" (41-year old female private banker)*

*"Well, we wear masks even when we go for our walk. Like on a Saturday, we wear it in the street. (64-year old female administrator)*

*"We wash our hands regularly. When we go out we have I think in our car we have almost six sanitizers" (31-year old male educator)*

Some of the participants made it clear that in addition to practicing hygiene and wearing personal protective equipment (PPE) by themselves, they were also instructing their children to do the same. This is because without parents' and guardians' instructions, children may not practice hygiene and wearing of PPE. Some of them may not know why they need to do so due to their age. Some of the participants said:

*"I told them that when they go to school obviously have to wear masks and they got these face shields on a lot of the time" (28-year old female research assistant)*

*"I just need to keep reminding her when we do go out to the shops or wherever, have a mask on" (28-year old female nail technician and beauty therapist)*

*"So, when they do go out they wear the masks, and when they come back they wash their hands and wash the masks" (64-year old female administrator)*

#### (8) Confining children at home

Children like to play, sometimes excessively, and play may predispose them to infection. This is because during play it may be difficult for children to observe some of the non-pharmaceutical interventions (such as wearing facemasks and maintaining physical distance). Children like to be close to each other when playing. Not only that, but children may also not understand the reason to adhere to non-pharmaceutical interventions. The majority of the participants confined their children to the home.

*"My daughter and my son were indoors" (38-year old female logistics manager)*

*"So, they've, they on the premises, they seldom go out" (64-year old female administrator)*

*"We don't let them interact with people outside of our household, or try our best not to get them involved with others". (28-year old male self-employed)*

*"My children haven't been out since the lockdown" (28-year old female administrative clerk)*

Children most times play with their peers. Some of the participants reported, as part of their confinement, that children were also prevented from playing with their peers in the neighbourhood to protect them from being infected.

*"And then also what's changed is that they can't, they are not allowed to play outside at all" (35-year old female service representative)*

*"So, we told her that she must not go play outside. We have allowed her to use a space or the rooms to play and do whatever" (26-year old female graduate intern)*

*"They have avoided playing outside" (30-year old male social worker)*

#### (9) Constant awareness

Information is a source of knowledge. Awareness is the knowledge or perception of a situation. Awareness is to be well-informed about a particular situation. Whenever people



are aware of what could harm them, they will be able to protect or devise a means to protect themselves. During the pandemic, a few participants constantly reminded themselves of ways to protect themselves from being infected. This is illustrated in the quotes below:

*“I just need to keep reminding her when we do go out to the shops or wherever, I need to remind her, like don’t touch everything, don’t stand so close to the people” (28-year old female nail technician and beauty therapist)*

*“My duty is to remind them that they wear masks whenever they go out and when they come back they do sanitize to protect themselves from the coronavirus” (23-year old male student)*

#### (10) Being vigilant

Many infectious diseases usually spread through body contact and surfaces. Therefore, one of the ways people protect themselves is to be cautious. The majority of the participants said they beware of what they eat, where they go, what they touch, what they wear, and who they are in contact with. Some of them said:

*“I’d say in the beginning before anybody knew anything we were extremely precautions and nobody would leave the house.” (28-year male software engineer)*

*“We first heard about the virus and we took precaution” (35-year old male accountant)*

*“But we really need to be vigilant so we have been quite strict on who we see, who comes to our home and what spaces we go to. So, I think we are one of those families that are a bit extremely cautious” (31-year old male educator)*

*“She also was very careful and took extra precautions and stuff. Because there wasn’t much else we could do about that” (28-year old female counsellor)*

#### (11) Using homemade remedies

Although it was not a part of the non-pharmaceutical interventions advised by the health authorities, a few families protected themselves using home remedies. The home remedies include, but were not limited to, garlic, ginger, honey, lemon tea and warm water.

*“I think it would be costly and like for instance they started using the home remedy stuff like the garlic and the warm water” (28-year old male social worker)*

*“Of late my wife introduced me to Ginger Honey and Lemon Tea” (31-year old male educator)*

## 4. Discussion

This study explored how South African families protected themselves during the COVID-19 pandemic. The current study revealed that South African families protected themselves by obeying various non-pharmaceutical interventions instituted by the South African government to curb the spread of the coronavirus. These non-pharmaceutical interventions used by South African families include physical and social distancing, limiting visits from friends and family, staying at home, practicing hygiene, and wearing masks. In addition to that, children were confined at home and some families used home remedies which included, but were not limited to, garlic, ginger, honey, lemon tea, and warm water to protect themselves against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The results from the study confirm that South Africa is on track in terms of observing the rules and regulations with regards to protocols meant to curb the spread of COVID-19. Despite adhering to the measures imposed by the government, families are also going an extra mile to protect themselves through constant awareness within their structures, vigilance, and organic remedies.

The South African families in this study employed physical and social distance to protect themselves from coronavirus. This finding is similar to findings from other studies that reported physical distancing as a way to prevent person-to-person transmission of SARS-CoV-2 [35–37], severe acute respiratory syndrome (SARS-CoV), Middle East respiratory syndrome (MERS-CoV), and influenza A viruses (H1N1 and H3N2 strains) [38]. Physical and social distancing have helped to protect physical health by slowing the rate of

infection and reducing the total mortality rate [39]. However, social distancing for a long period may strain people's need for social interaction and negatively impact psychological health [40]. This is because social connection and closeness with others are vital to human development and frequent social interactions and spending more time interacting with others are associated with well-being [41–44]. Moreover, various factors make it challenging for families to keep social distance. These factors include living in crowded and multi-generational households, working as essential workers, providing unpaid care to family members, poor sanitation, informal settlements, maldistribution of COVID-19 relief aid, poverty and food insecurity, political and social unrest, religious and cultural activities, and weak health systems among others [45–47]. These challenges have made social distancing negatively impact the physical, emotional, and financial well-being of the family [45].

It is encouraging, as evidenced by the sentiments from the respondents, that despite the difficulties in maintaining physical distancing they acknowledged its contribution in reducing COVID-19 transmission. Physical distancing is specifically significant in contexts where community transmission is believed to have transpired, but where the association between cases is unclear, and where restrictions imposed only on individuals known to have been exposed is regarded insufficient to avoid further transmission [48]. This demonstrates the accurate scenario of South African communities where the rate of community transmission is considerably higher and it is challenging as well for infected individuals to be properly quarantined as most families lack enough living space in their homes and often reside in large numbers.

The use of face masks for protection against SARS-CoV-2 reported in this study is consistent with studies conducted in other parts of the world such as Germany and Canada [35,37,49] where the use of face masks has also been reported to protect against infection. Furthermore, face masks have been used as a form of protection against influenza virus (H1N1) and other SARS [38,50,51]. Although face masks protect against COVID-19, they can produce a small increase in breathing resistance and development of headaches in people with a history of headaches [52]. Furthermore, face mask wearing can cause changes in several skin characteristics such as skin temperature, redness, hydration, and sebum secretion [53]. Moreover, the wearing of face masks may have a long-term impact on neonatal development and psychological outcomes for babies, infants, children, and their parents [54]. Infants and children depend on their parents' facial expressions, alongside tone and/or voice to regulate their reactions toward others. However, it may be difficult for infants and children to determine what facial expression their parents are exhibiting behind a mask [54].

Nevertheless, despite some of the side effects of face masks as highlighted, wearing masks of all kinds correctly, will to a large extent lessen the overall risks of coronavirus infection and strengthen general protection from the virus [55]. Whereas, mask-wearing regulations and policies have differed from different countries and stages since the COVID-19 outbreak, the Western Cape province has been applauded nationally for its strides in creating public awareness and recognition of the significant roles of face masks in controlling the pandemic. For instance, the Ubuntu Cloth Mask initiative, a public-private initiative coordinated by WoW! (Western Cape on Wellness), in partnership with The Health Foundation, Coconut Jazz, and other organisations was launched in 2020 by the Western Cape Minister of Health [56]. The purpose of the initiative was to provide free quality masks to children and adults in vulnerable communities in the Western Cape in order to prevent virus transmission. Through the Ubuntu Cloth Mask initiative, an expanding community-based manufacturing network was also founded for women from low-income communities who receive income for their families from manufacturing the face masks.

In this study, homemade remedies and herbals were used by some South African families to protect themselves against SARS-CoV-2. Home remedies are substances that are affordable and easily available at home which can be spices and herbs. Home remedies include citrus fruits, garlic, ginger, turmeric, ashwagandha, mulethi, tulsi, oregano, ginseng,

etc. [57]. Although their overuse may be harmful, these homemade remedies (herbs, spices, and citrus fruits) have been reported to be potent immunomodulators and can boost our body immunity to fight against harmful viruses such as SARS-CoV-2 [57]. A study has also revealed that natural spices (turmeric, ginger, garlic, etc.) and leaves (neem, paw, guava, etc.) with notable antioxidant and anti-inflammatory properties show promising outcomes in the prevention and cure of COVID-19 infection [58]. This particular finding was supported by a previous study that reported the use of the herbal formula for the prevention of severe acute respiratory syndrome (SARS) transmission among health care workers [59]. Moreover, this finding was consistent with findings from a study that reported spices and herbs have antivirals and immune-boosting properties against COVID-19 [60].

This finding uncovers the potential contribution of Indigenous knowledge systems (IKS) to modern day medicine particularly within the African continent which is still largely overlooked. According to the National Unitary Professional Association for African Traditional Health Practitioners of SA general secretary Solly Nduku [61], “Traditional medicine has proven to be effective against ailments and overlooking it is simply an infringement of the right to access to traditional health care and the right to cultural and traditional practice”. However, historically, there’s been a major lack of evidence surrounding natural medicines [62] and medical experts have warned individuals to be cautious as they do not yet fully understand the risks and benefits associated with trying herbal remedies specifically for COVID-19.

Families, including children, also protect themselves against COVID-19 by restricting their movements, avoiding public places, and confining themselves at home. This finding is similar to a finding in another study that reported confinement as a way to protect the population against COVID-19 [63]. Although confinement can reduce the transmission of the virus, it has been reported that confinement can negatively impact social participation and life satisfaction [64]. It is also a risk factor for psychosocial strain, post-traumatic stress disorder (PTSD) symptoms, anxiety, depression, or stress [64–66], and may impact mental health [67]. Furthermore, confinement has reduced daily physical activities and increased sedentary time in adults and children [68–70]. The reduced physical activities in adults and children may increase the risk of non-communicable diseases such as diabetes, obesity, and hypertension [71]. Moreover, parents play their parenting roles by instructing children (who may not understand the need) to follow non-pharmaceutical interventions to protect themselves. This is why parents are important as teachers to instruct and guide their children [72].

Family members were vigilant and took extra precautions such as cancelling their trips to protect themselves against COVID-19. At the beginning of the COVID-19 pandemic, not knowing many things about the pandemic caused a lot of fear for families and made the latter to be vigilant. For example, a study reported that medical doctors expressed fear about the well-being of their families and contacting COVID-19, if not provided proper personal protective equipment (PPE) [73]. The fear expressed by families may have a profound effect on their health. This is because a study found a significant relationship between COVID-19-related fear and anxiety, depression, and stress [74]. Another study found an association between fear and lower personal happiness and perceived personal (increased negative emotions, feeling depressed and anxious, decreased income and decreased work efficiency) and family harm (increased conflicts and negative emotions among family members) [75].

#### *4.1. Implication of This Study*

This study provides an insight into how South African families protected themselves during the COVID-19 pandemic. The study shows how individuals including children, directly or indirectly obeyed the government regulations and non-pharmaceutical interventions instituted to curb the spread of the pandemic with the primary aim of protecting themselves from the virus. This means that individuals can adapt to stringent measures in difficult circumstances. However, the emotional, mental, physical, social, and spiritual health of individuals might have been affected as a result of changes in peoples’ ways of

life. This is because individuals were confined to their homes, prevented from socialising, and in many instances home spaces became work spaces for adults and learning spaces for learners. In addition to health impacts, another major impact is financial. This is because many people lost their jobs as a result of the instituted regulation. This study will provide information on areas the government and other stakeholders can assist families post-pandemic. Moreover, the results of the study will enable the government to know what types of regulations to introduce for future pandemics.

#### *4.2. Recommendations*

Although families obey some of the regulations, we do not know what promotes or hinders families' abilities to adhere. Therefore, there is a need to know what facilitates/hinders families' abilities to cope with the regulations to facilitate interventions. Moreover, the pandemic and its containment measures have changed how families live, work, and socialise. Therefore, there is a need to determine the impacts of the pandemic on families. The understanding of the impacts will enable the government to formulate strategies, policies, and interventions to assist families. Moreover, research should be conducted to determine which of the government regulations and non-pharmaceutical interventions are easy to follow and have minimal negative impacts on families. This will enable the government to establish which of the regulations and interventions to implement for similar future pandemics.

Furthermore, the study recommends the South African government collaborate with traditional health practitioners in order to conduct the clinical trials required to determine the safety and efficacy of COVID-19 organic remedies. This will enable the role of IKS from Africa to modern medicine to be appreciated specifically by the industrialised world and its medical experts. Indigenous knowledge systems also present cheaper and relatively affordable solutions to most of the health care problems currently being faced specifically by vulnerable communities in South Africa and Africa at large. Relating to facemasks, which will likely become a new normal even post the pandemic and considering the limited resources particularly in South African low-income communities, the study also recommends the government to promote the use of properly home-made masks as they have been proven to have comparable filtration efficiencies. Last, as COVID-19 cases are still on the rise, with the more recent Omicron variant spreading faster than ever in South Africa, another important point in preventing the spread of the disease in order to protect families by the government is to escalate the rate of tests, and hence detect more cases, isolate them, and contact trace. Thus, increasing laboratories' capacities to test as well as devising new testing strategies are of utmost significance.

#### *4.3. Strengths and Limitations*

The strength of this study is that it is the first known study in South Africa focusing on the protection behaviours of families during the COVID-19 pandemic. Another strength is the use of the qualitative exploratory research design as it allows a deeper exploration and understanding of the phenomenon under investigation. Moreover, data were collected from participants who are experiencing the phenomenon under investigation. Another strength of this study is that a large sample frame was used which allowed the inclusion of a diverse population. One of the limitations of this study is that interviews were conducted online, via Google Meets or Zoom, and telephonically due to COVID-19 movement restrictions. This method of data collection may have limited our in-depth exploration of the participants' non-verbal expressions. The use of the snowballing sampling method might have prevented the selection of a true representation of a population because about 50% of the selected participants have at least a bachelor's degree. This sampling method formed part of the limitation of this study.

## 5. Conclusions

The COVID-19 pandemic has affected many countries around the world, including South Africa. The pandemic has changed many things—the way we live, work, and socialise, as well as family dynamics. The majority of the changes observed during this pandemic have been as a result of containment measures introduced to curb its spread. These containment measures (particularly non-pharmaceutical interventions such as hand washing, wearing masks, and physical distancing) were used by some South African families to protect themselves from the viral infection. The study shows how some South African families have adapted to some difficult circumstances (such as being confined at home) to protect themselves from COVID-19. Moreover, the study shows some South African families believe that adherence to non-pharmaceutical interventions will protect them from contracting the virus. Therefore, the government and other stakeholders should support families to make it easy to protect themselves during the current and future pandemics.

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