RESEARCH ARTICLE:

COVID-19 and Its Influence on the Mental Well-being of People with Co-Morbidities: A Qualitative Study at a Public Healthcare Clinic

Sunil Neerputh[1], Raisuyah Bhagwan[2] and Firoza Haffee[3]

Received: 28 August 2024 | **Revised:** 02 March 2025 | **Published:** 16 May 2025

Reviewing Editor: Dr. Francis Akpa-Inyang, Durban University of Technology

Abstract

People with co-morbidities are at greater risk of disease severity from COVID-19 due to their compromised immunity. COVID-19 and the mitigation measures implemented in South Africa negatively influenced the mental health of people with co-morbidities. The study explored how the mental health of patients with co-morbidities was affected during the pandemic and post the initial waves of COVID-19. Drawing on patients at a public clinic in the province of KwaZulu-Natal and through a qualitative research approach, semi-structured interviews, were held to understand how the mental health well-being of patients was affected. Two groups of 26 participants were recruited using non-probability sampling methods. Sample one comprised participants with co-morbidities but not infected by the virus. Sample two comprised participants with co-morbidities who were infected by SARS-CoV-2 and after three months. The data was analysed using thematic analysis. Six themes were derived from the data and focussed on aspects related to fear and anxiety, loneliness, trauma linked to COVID-19, stress, somatisation, and spirituality. Many people experienced these debilitating emotions and suffered enormous mental health sequelae due to the pandemic, much of which was exacerbated by their co-morbidities.

Keywords: *mental health; co-morbidity; fear; somatisation; post-traumatic stress*

Introduction

The South African healthcare system is characterised by an overburdened prevalence of co-morbidities, which can be categorised as communicable or non-communicable diseases. Some of these diseases are the human immunodeficiency virus (HIV), tuberculosis (TB), cardiovascular diseases (CVD), diabetes, cancer, respiratory diseases, and dyslipidaemia. These diseases have the potential to severely compromise immunity and thus increase the risk of people who contract COVID-19 succumbing to their illness (Ye *et al.,* 2020; Schlüter *et al.,* 2021). South Africa also has a high prevalence of mental health issues that pre-dates the COVID-19 pandemic. Almost one in six South Africans experience anxiety or depression. This is further compounded by the inadequacies in the mental healthcare system, namely limited funding and improper mental healthcare services (Nguse and Wassenaar, 2021). The mental health of people during the COVID-19 pandemic has been severely, affected as many people experienced post-traumatic stress (PTS), anxiety, depression, and thoughts of suicide. This was exacerbated by challenges around food security, uncertainty, socioeconomic decline, and diminished livelihoods (Naidu, 2020; Pompili *et al.,* 2022). Social distancing and isolation created further deleterious states of mental decline among some people (Arndt *et al.,* 2020).

Hence, the COVID-19 pandemic birthed immense stress amongst humankind. The fear of becoming infected and infecting others, especially loved ones, was a collective response from people globally which left many feeling anxiety, stress and depression (Naidu, 2020). The implications of the fear response were concerning, as the effect of fear had complex and negative influences on the health of the human body. Research further found that fear

[1]Durban University of Technology, sunilneerputh@gmail.com | https://orcid.org/0000-0003-0305-2490
[2]Durban University of Technology, bhagwanr@dut.ac.za | https://orcid.org/0000-0002-1584-9432
[3]Durban University of Technology, firozah@dut.ac.za | https://orcid.org/0000-0002-3908-8949

and anxiety have harmful outcomes on pre-existing mental and physical conditions (Yohannes, 2021). Additionally, the effects of depression were found to have far-reaching consequences throughout the body, as it caused an increase in cortisol and cytokines, which could be damaging to the heart (Komiyama and Hasegawa, 2021; Lentoor and Maepa, 2021). Diabetics present with a higher rate of depression than non-diabetics. This impacts the body's ability to regulate glucose, causing adverse effects on the pathophysiology of the disease (Sisman *et al.,* 2021).

The South African government placed a lockdown order on the country to mitigate the effects of COVID-19 at the start of the pandemic. This allowed hospitals and medical personnel to become more equipped for the eventual onslaught of COVID-19 (De Man *et al.,* 2022). While necessary, the national lockdown disrupted people's livelihoods, affected travel, compelled people to work from home and resulted in the banning of social gatherings (Lee *et al.,* 2021). Lentoor and Maepa (2021) reported that financial distress during the pandemic led to anxiety and depression amongst a South African sample. Many faced unemployment as the lockdown triggered mass levels of job loss (Posel *et al.,* 2021). Unemployment can, therefore, negatively influence the mental well-being of people (Pompili *et al.,* 2022). A study by Posel *et al.* (2021) opined that unemployment caused an increase in the levels of depression, compared to those people who retained their jobs during the lockdown who reported considerably lower levels of depression.

While research on the mental health of the general population and healthcare professionals proliferated during the pandemic, little empirical attention was devoted to the mental health of patients with co-morbidities. Hence the impetus for this study was to shed light on the vulnerabilities of this group within the South African context. The psychological impact of COVID-19 is important to understand, as it can undeniably have manifold implications on the overall well-being of those with co-morbidities. Research has illustrated that people endured much emotional stress linked to the lockdown restrictions, social isolation, subsequent economic decline, and other fears precipitated by COVID-19 (Elkayal *et al.,* 2022). It is against this backdrop that this study sought to understand how the mental health well-being of patients with co-morbidities was affected. The objective of this study was to understand the various factors that influenced mental well-being during the COVID-19 pandemic and how this affected patients. The study is significant as it was qualitatively able to gather rich insights from those with co-morbidities, in terms of how it affected their well-being during the COVID-19 pandemic. Through in-depth interviews with this group, the study shed light on the mental well-being of this a vulnerable group of patients.

Methodology

A qualitative research approach with an exploratory-descriptive design guided this study. This approach was deemed most appropriate, as it allowed for an exploration of the experiences of people with co-morbidities during the COVID-19 pandemic, who were either infected or affected by the virus (Hennink and Kaiser, 2022). Non-probability purposive sampling strategies were used to recruit participants, where the clinic manager invited participants to be part of the study. Participants willing to be interviewed were then screened based on the inclusion and exclusion criteria outlined in Table 1. The snowball sampling methodology was then further used, when the clinic manager could not recruit all the participants. This method enabled the researcher to recruit additional research participants the patients, who had already been recruited by the clinic manager. In doing so, the researcher was able to achieve data saturation and gather rich in-depth, information from the patients. Two samples were recruited between July 2022 and November 2023 at a public clinic in KwaZulu-Natal. The samples included (1) eight participants with co-morbidities and (2) 18 participants with co-morbidities, who had been infected by SARS-CoV-2 post three months prior to data collection. A total sample of 26 patients were eventually recruited. Data collection stopped at this point as data saturation had been reached.

Prior to commencing the study, ethical clearance was obtained from the Institutional Research Ethics Committee (IREC 232/21), followed by gatekeeper permission from the eThekwini municipality, to access patients from a primary health care clinic in Phoenix, a suburb in the eThekwini municipality, KwaZulu-Natal (KZN), South Africa. All participants provided written informed consent.

Table 1: Inclusion and exclusion criteria

Sample 1	Sample 2
Inclusion criteria: • Patients attending a public health clinic in Phoenix, KZN • Patients who have one or more co-morbidities	**Inclusion criteria:** • Patients attending a public health clinic in Phoenix, KZN • Patients who have one or more co-morbidities

• Patients with co-morbidities but not infected with SARS-CoV-2 • Patients consenting to the study • Patients above the age of 18 **Exclusion criteria:** • Those who did not give consent • Patients below the age of 18	• Patients infected by SARS-CoV-2 at least 3 months prior to data collection • Patients consenting to the study • Participants above the age of 18 **Exclusion criteria:** • Those who did not give consent • Patients below the age of 18

A semi-structured interview guide was used to collect data from participants. Each interview lasted approximately one hour. Sixteen participants were interviewed in a quiet room in the clinic and 10 participants through the use of video calls. Privacy and confidentiality were maintained during the interviews. For the purpose of the interviews, the participants preferred to be addressed by their first names. The interviews were audio-recorded and transcribed thereafter. The following key questions were used to guide the interviews:

i. How has COVID-19 affected your mental and emotional health?
ii. Describe the challenges and anxieties that you faced during the pandemic.

Thematic analysis (TA) was used to analyse the data (Clarke, Braun and Hyafield, 2015). All audio recordings were transcribed, and notes were created during the reading of the transcription. Thereafter similar phrases and/or sentences were coded appropriately using keywords, which facilitated the formation of themes and sub-themes. Upon completion of this process, the main and sub-themes were reread to confirm, that all the data was identified and allocated correctly. The themes and sub-themes reflected the data and allowed for a consolidated description of the results.

Trustworthiness ensures that the research study has certain key characteristics, namely credibility, transferability, confirmability and dependability (Shenton, 2004). In-depth interviews were conducted to provide an accurate and holistic description of the data. There was no bias during the data collection process, which provided accurate results and findings directly from participants. Member checking allowed for ensuring the accuracy of transcripts after the interviews were held. Congruency of the original datasets and the results reflected credibility. An audit trail was established to ensure the transferability of the study to other locations or sites. Furthermore, comprehensive descriptions of the data collection process, enhanced transferability of the study. Providing a thorough description of research methodologies, namely non-probability sampling and thematic analysis, allowed for confirmability and ensured that the research findings were reliable for other researchers to follow. Stating the limitations further allowed other researchers the opportunity to avoid similar challenges and highlighted the dependability of the study.

Findings and Discussion

The data was collected from two samples, namely those infected post three months or those who were not infected with SARS-CoV-2. Data was analysed holistically; however, key differences and similarities were noted. To maintain confidentiality, each participant was assigned a participant number. The study included a total of 26 participants, with 57.9% being male and 42.1% being female. All participants were of Indian origin. This is reflective of the study site, as the area within which clinic services are offered is primarily Indian. Participants were between 23 to 70 years of age. The co-morbidities amongst participants included diabetes, hypertension, hypercholesterolaemia, tuberculosis, rheumatoid arthritis, polycythaemia vera and asthma. Some participants were presenting with more than one co-morbidity.

The thematic analysis yielded six themes: (1) fear and anxiety and (2) feelings of intense loneliness and isolation (reported by both groups of participants). The other themes, namely (3) stress caused by the COVID-19 pandemic; (4) somatisation; (5) COVID-19 as a traumatic experience; and (6) faith and spirituality, were reported by the group who had COVID-19 infections.

Theme 1: Fear and anxiety

The first theme reflected the fears and anxieties that the participants experienced during the COVID-19 pandemic. These fears centred around the fear of death, fear of becoming infected, concern for loved ones and the effects of fear and anxiety.

Fear of death: The debilitating fear of death was common amongst participants of both samples and created huge levels of anxiety amongst them. The group infected by the virus experienced heightened levels of fear. Participants shared as follows:

> *"You do feel like you're going to die; you have these feelings… The fear of dying is the worst thing I think about."* [P09, infected]

Moreover, the fear of death was exacerbated as participants heard about the deaths of others around them. This resulted in people confining themselves to their homes. They said:

> *"Very scary, to be honest, very scared. Because of hearing of all the deaths and stuff like that. It's very scary up till now, and the truth is I hardly even go out anywhere." [P02, not infected]*

One extreme fear that was reported was the fear of not waking up after going to sleep:

"The way I see it, maybe I'm going to sleep and not gonna wake up. I was scared. I should always tell my family make sure when I fall asleep, after every five minutes, tap me. Make sure that I'm awake and just stay there." [P12, infected]

The fear that they could potentially die, also left participants with concerns for their loved ones, as follows:

> *"When I go to sleep in the night, I have very less sleep. I got my grandchildren; now I look after them… You know, they gone so close to me. I feel like, in the event that I die, what are these children gonna do?" [P06, not infected]*

Participant 16, who was infected with the virus, experienced heightened fears of death, and was particularly afraid that she would die in her sleep. Her fear of death was so deep that she asked her husband to check her insurance policies in the event of her death, to ensure the financial security of her son:

> *"I was worried that I was gonna die. That was it, and the fact that my son was so small, and it took me four years of fertility to have him, and I was afraid that I was not gonna wake up. I was actually so paranoid that I actually asked my husband to check on all the policies that I have… so I was really scared about leaving him alone in this world." [P16, infected]*

Another participant who was hospitalised while infected with SARS-CoV-2 recalled her deepest fears, saying:

> *"I thought I am going to die, and I told the Doctor [that] if I die, I must go home and die. I must see my children, my grandchildren and then I must die. I don't want to die in the hospital." [P21, infected]*

These narratives reflect the intense fear of death that participants felt. This fear was tangible and emotionally debilitating, as participants perceived COVID-19 to be the worst thing that could happen. The active infection period particularly elicited much fear among participants. Their decreased functional capacity exacerbated this fear, preventing them from functioning as they normally would. A systematic review by Quadros *et al.* (2021), also evidenced that the fear of death was high, during the pandemic due to the numerous deaths that had occurred globally. However, the fear of COVID-19 encapsulated all the fears they were experiencing. Hospitalisation during the COVID-19 pandemic triggered even greater fears of death, prompting participants to seek the comfort of their family. Speichert *et al.* (2022) also found that a fear of dying was evident amongst patients who had been infected by SARS-CoV-2 and who were hospitalised. These findings, therefore suggest that participants experienced a deep fear of death which negatively impacted their mental health and well-being, which is a cause for concern, especially for people with co-morbidities.

Fear of becoming infected: The fear of becoming infected was a further concern that emerged during the COVID-19 pandemic. Participants therefore aimed to reduce contact with others, saying:

> *"COVID is very scary; you have to think about what you're touching, where you going, who you meeting with, and from the time this pandemic started, I don't allow visitors at all." [P02, not infected]*

There was also an increase in sanitising during the pandemic, as people became more cautious. These measures were put in place to avoid infection; however, their efforts were futile as they still became infected with the virus. Participants narrated as follows:

> *"So that was a bit of a scare because as much as you sanitising, as much as you wearing your mask… but there were times where a family member had to go and get bread and get milk or whatever, and you don't know whether you could've contracted it and how." [P13, infected]*

Participants with co-morbidities feared that if they became infected, they would become vulnerable and die. One said:

> *"We were like the people that doctors informed that chronic patients are high at risk, and if they get it, it's a very high chance of you not making it. So, at that time we weren't sure if it were rumours or true facts. So, we had to stress…" [P07, not infected]*

During the lockdown period, another participant became apprehensive about seeking medical care due to the risks of infection. He said:

> *"My fears were getting out of the house to access medical care because that would be very ironic as well and counterproductive to isolation." [P26, infected]*

Participants feared infection, believing it would lead to their death. Paranoia was evident within the narratives. Al-Rahimi *et al.* (2021) also reported in a study in Saudi Arabia that participants with a co-morbidity had greater fears of infection. The participants of the current study maintained a sense of hypervigilance by increasing sanitary practices, which was linked to their vulnerabilities, like becoming easily infected with the virus and dying due to having a co-morbidity. Kim and Kim (2022) concurred, saying that patients with chronic diseases improved personal sanitising practices during the pandemic, due to their perceived risks. The risks of infection heightened participants' intense fears about accessing medical care during the lockdown period. In South Africa, Pillay *et al.* (2021) reported from public healthcare facility records that during April and May 2020, there were significant declines in people attending these healthcare facilities. Two reasons provided for the decline were the implementation of the lockdown and the risks of contracting the virus and ultimately transmitting it to loved ones.

Concern for loved ones: Many participants experienced anxiety over the health of their loved ones, like family members. These anxieties were related to the fear of their loved ones becoming infected. These concerns were shared by both groups. One participant shared both personal anxieties and anxieties over his children, saying:

> *"If I do get infected, then I know my kids are gonna get infected. Especially with my health… Chronic patients are at high risk, and death is 90% or so at that time when it newly came out with no vaccines. As I'm saying, it did affect me. Like mentally because of myself, especially because of my kids." [P07, not infected]*

Another participant described how she unknowingly exposed her grandson to COVID-19. It was evident that her concern for her grandson was heightened, as she was infected by the virus, and she felt directly responsible for exposing him to the virus. This affected her as follows:

> *"I know that I already exposed myself to him [grandson], because I didn't know that I had COVID, so that was also a fear. Because I was thinking, if this child gets sick, I gave COVID to him. But it was not intentional. It wasn't something I had known, so that also affected me emotionally." [P13, infected]*

Hence, participants were worried about the vulnerabilities of their family. Despite fears for their own lives, they embodied selflessness and cared for the well-being of their loved ones. Khademian *et al.* (2021), who conducted a study in Iran with 1 498 participants, assessed the levels of anxiety amongst individuals during the pandemic. They reported that anxiety levels were higher during the pandemic and that those who had a family member at higher risk of infection, experienced a higher degree of anxiety. The data reflected the fear some patients felt, that if they contracted COVID-19, they could infect loved ones. This brought them considerable emotional agony.

Effects of fears and anxieties: The effects that the fears and anxieties had on participants appeared more intense among those who were infected. One participant narrated that she had an anxiety attack, while in quarantine. She described the tumultuous moments that caused her distress and how the separation from her child was the catalyst for her anxiety attack:

> *"The anxiety attack I had where my right hand and the right-hand side of my body, half my body, I couldn't move it; I was literally like stuck. I had a spasm that needed to be released. I don't know; at one point I*

thought I was having a stroke. But it was actually an anxiety attack. I had sweat pebbles all over my face. I was drenched in sweat, and I felt like I couldn't breathe. I felt like my mind was going insane." [P16, infected]

As narrated by the participant, her separation from her child, during a period of quarantine, created intense feelings of anxiety. The period of isolation was found to be an important protective mechanism, that would protect the participant's child. However, it further acted as a mechanism of anxiety and distress. A systematic review conducted by Rajkumar *et al*. (2022) showed that during periods of quarantine, the rates of anxiety were significantly high. Some of the factors that posed a risk for the development of anxiety were the presence of a co-morbidity and the risk of infection toward family members.

Theme 2: Feelings of intense loneliness and isolation

During the pandemic intense loneliness was a common experience amongst the participants. The isolation and quarantine contributed to these feelings. One participant experienced stress from being separated from his sons during the lockdown periods when travel was very difficult. He shared:

"My wife had passed on. My mum and dad had passed on. So, my two sons are the only people that are close to me now. I used to see him on a weekly basis. Not seeing him for a month or so was a difficulty, and it was nerve wracking for me. I was always stressing about it." [P08, not infected]

Another participant described the comfort that she received from her partner and that the sudden separation from him when she was in quarantine resulted in emotional distress. She said:

"You know you reach a stage like you just wanna be with your partner, not for any particular reason, but you want your partner there for comfort… and my husband and I are always talking about something. In the middle of the night, if I want a headache pill or I want a glass of water or something, my husband used to be there at my beck and call. and there you go suddenly just being alone in your bedroom, not being able to interact." [P13, infected]

The aforementioned excerpts highlighted that while both groups of participants experienced loneliness from the isolation caused by the quarantine and the lockdown, the feelings of anxiety were heightened amongst those infected by the virus. The lockdown caused a sudden separation between loved ones, especially if they lived apart. This forceful separation acted as a risk factor for a decline in mental well-being as it provoked feelings of stress, which could negatively affect their co-morbidities. The literature indicated that loneliness in older adults further aggravated their co-morbidities, which bore some resemblance to the current study, as some older participants experienced distress from isolation (Morley and Vellas, 2020; Rodney *et al.,* 2021). The isolation caused emotional states of distress, as there was a lack of support from loved ones during this time. The period of infection caused the participants to feel a sense of separation, which put them in a vulnerable state. The extended periods of isolation caused deterioration in their mental well-being. Padmanabhanunni and Pretorius (2021) also reported that loneliness is currently viewed as one of the most significant factors contributing to mental health consequences. They observed that loneliness can consequently damage social bonds, put strain on support networks, elicit fear and anxiety, and affect a person's sense of belonging.

Theme 3: Stress caused by the COVID-19 pandemic

The COVID-19 pandemic caused additional stressors that were experienced amongst both groups. These stressors had a negative influence on the mental health and well-being of participants. One challenge of COVID-19 was caregiving for an infected loved one, while being infected themselves. This caused strain as follows:

"I had to take care of him; he had to take care of me… It was a strain… Being a housewife and taking care of your husband, it was a very big strain." [P11, infected]

Another participant described the stress experienced from the change in working hours after the hard lockdown. She said:

"We were out of work [during hard lockdown]. You know we couldn't move around at that time... So, when we did go back [returned after hard lockdown] it became like a four-day thing. Then there was part-time. So, I used to work at home... So, it was stressful, because then you think they going to get rid of you. All

kinds of things come through your mind. We [were] working again, but the output is not what it used to be; it's very low, and that's also another stressful situation." [P09, infected]

Another participant shared that the inability to maintain a livelihood caused a strain:

"So, financially, it puts a strain with repayments of home loans. Some of it had to be defaulted." [P19, infected]

Participants described the strain of taking care of loved ones during the COVID-19 pandemic, especially for those who had to do household chores during their illness. This affected their well-being significantly. Similarly, Beach *et al.* (2021) found that caregivers also experienced anxiety and stress. The study also found that the pandemic caused several socio-economic challenges, which resulted in significant stress for the participants. Employment, bill repayments and maintaining a livelihood were the key stressors identified in the data. The literature also indicated that, at the start of the pandemic, there was a substantial decline in economic activity, which largely affected those who were financially vulnerable. Additionally, the fears around the economy, job security, and the ability to maintain household expenses added to the distress within the family setting (Andrade *et al.,* 2022).

Theme 4: Somatisation

A psychosomatic element also presented itself within the data. This suggested that participants' emotions and feelings exacerbated their chronic conditions. The somatisation seemed to occur in both groups, as participants within these groups experienced anxiety and stress. One participant indicated that the emotions felt during the pandemic caused their blood glucose levels to remain high, which led to a worsening of their diabetes:

"During the COVID time, in fact, I think because of all the emotions and all, my sugar wasn't dropping. Because of all the worries, it wasn't coming down. So only after some time, it came down… that's what happened to me." [P05, not infected]

Another participant added that stress increased their blood pressure during the COVID-19 pandemic:

"I feel like my pressure is gone up higher now. I don't know why. That's why I'm saying the anxiety level, maybe is rising it. Worry because I have a lot of things to sort out in my life at the moment." [P09, infected]

These narratives indicate that participants experienced significant psychological distress during the COVID-19 pandemic, which consequently affected their pre-existing conditions. Heightened emotions, such as anxiety and stress, which were experienced during the pandemic, affected the pathophysiology of their chronic diseases. As such, conditions like diabetes and hypertension became worse. Somatisation is an effect on the physical body by psychological processes. COVID-19 had elicited responses of fear, anxiety, stress and depression, which can impact physiological processes within the body (Zidkova *et al.,* 2021). The study participants felt that their raised glucose and blood pressure, emanated from the elevated levels of stress that they experienced during the pandemic. Research has suggested that stress posed a significant risk factor for increased blood pressure, which is caused by emotional stress and decreased physical activity (Laffin *et al.,* 2022). Ruissen *et al.* (2021), who conducted a study in the Netherlands with a sample size of 435, also found that increased levels of stress could affect the control of blood glucose in otherwise controlled diabetics.

Theme 5: COVID-19 as a traumatic experience

Participants also shared their road to recovery. One participant shared as follows:

"Road to recovery is bad. COVID is bad; it's evil. It literally hits you so badly that it affects you in ways you would never think, you never expect… I do believe it's a normal flu, but its evolved so badly where it attacks your brain." [P16, infected]

Another described COVID-19 as a traumatic experience, saying:

"I would say I wasn't fully recovered, but this COVID thing is still in your mind'. you know… I watch a particular thing on DSTV, I think about COVID, and all those things come flashing back. I feel you know I don't wanna be reminded of COVID… There's so many little things that I do now that reminds me of COVID." [P13, infected]

Many individuals experienced difficult outcomes from COVID-19, particularly those who had previously contracted the virus. Symptoms of post-traumatic stress (PTS) were also reported by participants in this study. Giannopoulou *et al.* (2021) also suggested that even previous coronavirus pandemics like SARS and MERS had subjected people to PTS. Many of the participants in the current study described their journeys as difficult, bad and scary. The added strain of a co-morbidity may have adversely affected their ability to recover fully. PTS was predominantly observed in the group, who were previously infected by the virus. This is possibly due to their experiences from their period of infection. Literature also indicates that even patients with mild to moderate COVID-19 symptoms experienced PTS (Badenoch *et al.,* 2023).

Theme 6: Faith and spirituality

Faith and spirituality provided a pathway to recovery amongst those infected by the virus. The data indicated that these participants drew from their spirituality during their battle with COVID-19. One participant described how her faith helped her through the tumultuous period, saying:

> *"I think that's the only thing that helped me. Because to me the medication didn't work. … I'm Christian, and I believe that God is the strongest in whatever aspect it is and the highest. So, I just believed in that, and I made sure that every morning I prayed; every time I took a medication, I prayed. I prayed for the food to help my body and help me during these times… I thank God that I came from a strong Christian background, and I never lost faith." [P16, infected]*

Another participant said:

> *"It's been the only things that kept me pushing, kept me motivated, that brought me out of all the dark spaces that I was in. It was my driving force… So, even when I had moments [when] I would sink into depression, I would come out of it because of my faith." [P25, infected]*

The pandemic was a known stressor due to its many manifestations and negative effects on mental and physical health. However, faith and spirituality evidently provided pathways to resilience and positivity, that promoted strength when feelings of depression set in. Despite their vulnerable circumstances, faith was established as a means of hope, which allowed them to overcome their feelings of helplessness. People with co-morbidities were undeniably negatively affected during the pandemic. Despite this, there was a positive side, as participants also mentioned their resilience that helped them counter the negative effects from the pandemic. Ribeiro *et al.* (2020) indicated that religion and faith can counter the negative effects of various stressors. Therefore, it can be deduced that while many experienced the negative effects of COVID-19, especially among those with co-morbidities, having a positive mindset helped in reducing stress and fear.

Conclusion

This paper reflects on the issues that affected the mental health and well-being of patients with co-morbidities during the COVID-19 pandemic. Within the South African context, the economic decline, decreasing livelihood, increasing unemployment and social isolation had dire consequences on people's psychological well-being. Hence, it is crucial to establish guidelines and protocols to deal with the deleterious consequences of the COVID-19 pandemic on the mental well-being of patients with co-morbidities. A holistic approach is necessary to consider the effects of PTS, anxiety and depression that people encountered daily. Public healthcare facilities should screen patients to determine who can be assisted through adequate counselling. Although one a limitation was the lack of diversity within the study population, as all participants were from a single race group, rich data still emerged from the study. We recommend that future studies include more diversity. In some instances, the COVID-19 pandemic also led to the emergence of post-traumatic stress (PTS). Future studies need to assess the long-term effects of PTS. This is particularly crucial in the South African context, given the intricate dynamics of economic disparities, mental health, family dynamics, and social dynamics.

Declarations

Interdisciplinary Scope: This work was a collaboration between Basic Medical Sciences and Community Health studies.

Author Contributions: Conceptualisation (Neerputh), literature review (Neerputh), methodology & analysis (Neerputh, Bhagwan and Haffejee), investigation (Neerputh, Bhagwan and Haffejee), drafting and preparation (Neerputh, Bhagwan and Haffejee), review and editing (Neerputh, Bhagwan and Haffejee), conclusion (Neerpurth). All authors have read and approved the final published version.

Conflict of Interest: The authors declare no conflict of interest.

Funding: The research received funding from the National Research Foundation (NRF).

Availability of Data: All relevant data are included in the article. However, more information is available upon reasonable request from the corresponding author.

References

Al-Rahimi, J. S., Nass, N. M., Hassoubah, S. A., Wazqar, D. Y. and Alamoudi, S. A. 2021. Levels and Predictors of Fear and Health Anxiety During the Current Outbreak of COVID-19 in Immunocompromised and Chronic Disease Patients in Saudi Arabia: A Cross-Sectional Correlational Study. *PLOS ONE,* 16(4): 1-13.

Andrade, C., Gillen, M., Molina, J. A. and Wilmarth, M. J. 2022. The Social and Economic Impact of COVID-19 on Family Functioning and Well-Being: Where Do We Go from Here? *Journal of Family and Economic Issues,* 43(2): 205-212.

Arndt, C., Davies, R., Gabriel, S., Harris, L., Makrelov, K., Robinson, S., Levy, S., Simbanegavi, W., Van Seventer, D. and Anderson, L. 2020. Covid-19 Lockdowns, Income Distribution, and Food Security: An Analysis for South Africa. *Global Food Security,* 26: 1-5.

Badenoch, J., Cross, B., Hafeez, D., Song, J., Watson, C., Butler, M., Nicholson, T. R. and Rooney, A. G. 2023. Post-Traumatic Symptoms after COVID-19 May (or May Not) Reflect Disease Severity. *Psychological Medicine,* 53(1): 295-296.

Beach, S. R., Schulz, R., Donovan, H. and Rosland, A. M. 2021. Family Caregiving During the COVID-19 Pandemic. *The Gerontologist,* 61(5): 1-10.

Clarke, V., Braun, V. and Hayfield, N. 2015. Thematic Analysis. In: Smith, J. A. ed. *Qualitative Psychology: A Practical Guide to Research Methods*. London: SAGE Publications, 222-248.

De Man, J., Smith, M. R., Schneider, M. and Tabana, H. 2022. An Exploration of the Impact of COVID-19 on Mental Health in South Africa. *Psychology, Health and Medicine,* 27(1): 120-130.

Elkayal, M. M., Shahin, M. A. H. and Hussien, R. M. 2022. Psychological Distress Related to the Emerging COVID-19 Pandemic and Coping Strategies among General Population in Egypt. *Journal of the Egyptian Public Health Association,* 97(1): 1-12.

Giannopoulou, I., Galinaki, S., Kollintza, E., Adamaki, M., Kympouropoulos, S., Alevyzakis, E., Tsamakis, K., Tsangaris, I., Spandidos, D. A., Siafakas, N., Zoumpourlis, V. and Rizos, E. 2021. COVID-19 and Post-Traumatic Stress Disorder: The Perfect 'Storm' for Mental Health (Review). *Experimental and Therapeutic Medicine,* 22(4): 1-7.

Hennink, M. and Kaiser, B. N. 2022. Sample Sizes for Saturation in Qualitative Research: A Systematic Review of Empirical Tests. *Social Science and Medicine,* 292: 1-10.

Khademian, F., Delavari, S., Koohjani, Z. and Khademian, Z. 2021. An Investigation of Depression, Anxiety, and Stress and Its Relating Factors During COVID-19 Pandemic in Iran. *BioMed Central Public Health,* 21(1): 1-7.

Kim, P. and Kim, H. R. 2022. Association between Mental Health and Hand Hygiene Practices in Adults with Hypertension and Diabetes During the COVID-19 Pandemic: The 2020 Korea Community Health Survey. *Healthcare (Basel),* 10(10): 1-10.

Komiyama, M. and Hasegawa, K. 2021. Coronavirus Disease 2019: Psychological Stress and Cardiovascular Diseases. *European Cardiology,* 16(33): 1-5.

Laffin, L. J., Kaufman, H. W., Chen, Z., Niles, J. K., Arellano, A. R., Bare, L. A. and Hazen, S. L. 2022. Rise in Blood Pressure Observed among US Adults During the COVID-19 Pandemic. *Circulation,* 145(3): 235-237.

Lee, Y., Lui, L. M. W., Chen-Li, D., Liao, Y., Mansur, R. B., Brietzke, E., Rosenblat, J. D., Ho, R., Rodrigues, N. B., Lipsitz, O., Nasri, F., Cao, B., Subramaniapillai, M., Gill, H., Lu, C. and Mcintyre, R. S. 2021. Government Response Moderates the Mental Health Impact of COVID-19: A Systematic Review and Meta-Analysis of Depression Outcomes across Countries. *Journal of Affective Disorders,* 290: 364-377.

Lentoor, A. G. and Maepa, M. P. 2021. Psychosocial Aspects During the First Wave of COVID-19 Infection in South Africa. *Frontiers in Psychiatry,* 12: 1-7.

Morley, J. E. and Vellas, B. 2020. Editorial: COVID-19 and Older Adults. *The Journal of Nutrition, Health and Ageing,* 24(4): 364-365.

Naidu, T. 2020. The COVID-19 Pandemic in South Africa. *Psychological Trauma: Theory, Research, Practice, and Policy,* 1(5): 559-561.

Nguse, S. and Wassenaar, D. 2021. Mental Health and COVID-19 in South Africa. *South African Journal of Psychology,* 51(2): 1-10.

Padmanabhanunni, A. and Pretorius, T. B. 2021. The Unbearable Loneliness of COVID-19: COVID-19-Related Correlates of Loneliness in South Africa in Young Adults. *Psychiatry Research,* 296: 1-3.

Pillay, Y., Pienaar, S., Barron, P. and Zondi, T. 2021. Impact of COVID-19 on Routine Primary Healthcare Services in South Africa. *The South African Medical Journal,* 111: 714-719.

Pompili, M., Innamorati, M., Sampogna, G., Albert, U., Carmassi, C., Carrà, G., Cirulli, F., Erbuto, D., Luciano, M., Nanni, M. G., Sani, G., Tortorella, A., Viganò, C., Volpe, U. and Fiorillo, A. 2022. The Impact of COVID-19 on Unemployment across Italy: Consequences for those Affected by Psychiatric Conditions. *Journal of Affective Disorders,* 296: 59-66.

Posel, D., Oyenubi, A. and Kollamparambil, U. 2021. Job Loss and Mental Health During the COVID-19 Lockdown: Evidence from South Africa. *PLOS ONE,* 16(3): 1-15.

Quadros, S., Garg, S., Ranjan, R., Vijayasarathi, G. and Mamun, M. A. 2021. Fear of COVID 19 Infection across Different Cohorts: A Scoping Review. *Frontiers In Psychiatry,* 12: 1-10.

Rajkumar, E., Rajan, A. M., Daniel, M., Lakshmi, R., John, R., George, A. J., Abraham, J. and Varghese, J. 2022. The Psychological Impact of Quarantine Due to COVID-19: A Systematic Review of Risk, Protective Factors and Interventions Using Socio-Ecological Model Framework. *Heliyon,* 8(6): 1-17.

Ribeiro, M. R. C., Damiano, R. F., Marujo, R., Nasri, F. and Lucchetti, G. 2020. The Role of Spirituality in the COVID-19 Pandemic: A Spiritual Hotline Project. *Journal of Public Health*, 42(4): 855-856.

Rodney, T., Josiah, N. and Baptiste, D. L. 2021. Loneliness in the Time of COVID-19: Impact on Older Adults. *Journal of Advanced Nursing,* 77(9): 24-26.

Ruissen, M. M., Regeer, H., Landstra, C. P., Schroijen, M., Jazet, I., Nijhoff, M. F., Pijl, H., Ballieux, B., Dekkers, O., Huisman, S. D. and De Koning, E. J. P. 2021. Increased Stress, Weight Gain and Less Exercise in Relation to Glycemic Control in People with Type 1 and Type 2 Diabetes During the COVID-19 Pandemic. *BioMed Journal Open Diabetes Research and Care,* 9(1): 1-7.

Schlüter, J. C., Sörensen, L., Bossert, A., Kersting, M., Staab, W. and Wacker, B. 2021. Anticipating the Impact Of COVID19 and Comorbidities on the South African Healthcare System by Agent-Based Simulations. *Scientific Reports,* 11(1): 1-9.

Shenton, A. K. 2004. Strategies for Ensuring Trustworthiness in Qualitative Research Projects. *Education for Information,* 22: 63-75.

Sisman, P., Polat, I., Aydemir, E., Karsi, R., Gul, O. O., Cander, S., Ersoy, C. and Erturk, E. 2021. How the COVID-19 Outbreak Affected Patients with Diabetes Mellitus? *International Journal of Diabetes In Developing Countries,* 42: 53-61.

Speichert, L. J., Schweda, A., Witzke, O., Konik, M., Rohn, H., Stettner, M., Musche, V., Herchert, K., Fink, M., Geiger, S., Bäuerle, A., Skoda, E. M., Teufel, M. and Dinse, H. 2022. Fear of Death During COVID-19 Does Not Explain Post-Infection Depression Symptoms beyond Reported Symptoms During the Infection in COVID-19 Survivors. *International Journal of Environmental Research and Public Health,* 19: 1-10.

Ye, C., Zhang, S., Zhang, X., Cai, H., Gu, J., Lian, J., Lu, Y., Jia, H., Hu, J., Jin, C., Yu, G., Zhang, Y., Sheng, J. and Yang, Y. 2020. Impact of Comorbidities on Patients with COVID-19: A Large Retrospective Study in Zhejiang, China. *Journal of Medical Virology,* 92(11): 2821-2829.

Yohannes, A. M. 2021. COPD Patients in a COVID-19 Society: Depression and Anxiety. *Expert Review of Respiratory Medicine,* 15(1): 5-7.

Zidkova, R., Malinakova, K., Van Dijk, J. P. and Tavel, P. 2021. The Coronavirus Pandemic and the Occurrence of Psychosomatic Symptoms: Are they Related? *International Journal of Environmental Research and Public Health,* 18(7): 1-12.