

Perceptions of Youth regarding COVID-19 Vaccination in the Mafikeng Subdistrict in North West Province of South Africa



Kwatisi Nontsikelelo^{1,*} , Maserapelo Gladys Serapelwane¹ and Racoco Kagiso¹

¹School of Nursing, Faculty of Health Science, North West University, North West, Potchefstroom, South Africa

Abstract:

Introduction: In 2021, emergency vaccination programmes were implemented globally, including in South Africa, to reduce the spread of COVID-19. Despite these efforts, vaccine hesitancy remained prevalent, particularly among young people who expressed concerns about vaccine safety and effectiveness. This study aimed to explore and describe young people's perceptions of COVID-19 vaccination and to identify strategies to improve vaccination uptake among youth in the Mafikeng subdistrict of the North West province.

Methods: A qualitative, exploratory, descriptive, and contextual research design was employed. Data were collected through focus group interviews with youth aged 18–34 years. Interviews were audio-recorded and transcribed verbatim to ensure credibility and dependability. Data were analysed using thematic analysis. Ethical principles, including beneficence, justice, and respect for participants, were upheld throughout the study.

Results: Four major themes emerged, such as (1) perceptions related to reasons for COVID-19 vaccination; (2) perceptions regarding vaccine information; (3) perceptions of COVID-19 and vaccine-related risks; and (4) suggested strategies to encourage youth vaccination. Key findings indicated that fear of infection, concerns about side effects, exposure to misinformation (particularly via social media), and perceived lack of autonomy significantly influenced vaccine uptake.

Discussion: The findings suggest that vaccine hesitancy among youth is strongly influenced by misinformation, perceived risks, and limited engagement in decision-making processes. Addressing these concerns requires targeted health education, improved communication strategies, and youth-inclusive approaches that promote informed decision-making.

Conclusion: Youth perceptions of COVID-19 vaccination are shaped by concerns about safety, misinformation, and limited access to reliable information. Tailored health education initiatives, community outreach programmes, and the dissemination of accurate and accessible information are essential to enhance vaccination uptake among young people.

Keywords: COVID-19, Vaccine, Youth, North West province, Hesitation, Emergency vaccination programmes, Vaccine related risks.

© 2026 The Author(s). Published by Bentham Open.

This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International Public License (CC-BY 4.0), a copy of which is available at: <https://creativecommons.org/licenses/by/4.0/legalcode>. This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

*Address correspondence to this author at the School of Nursing, Faculty of Health Science, North West University, North West, Potchefstroom, South Africa 065 840 5582; E-mail: Kwatisinm335@gmail.com

Cite as: Nontsikelelo K, Serapelwane M, Kagiso R. Perceptions of Youth regarding COVID-19 Vaccination in the Mafikeng Subdistrict in North West Province of South Africa. Open Public Health J, 2026; 19: e18749445444091. <http://dx.doi.org/10.2174/0118749445444091260521055556>



CrossMark

Received: October 02, 2025

Revised: December 26, 2025

Accepted: March 03, 2026

Published: July 16, 2026



Send Orders for Reprints to
reprints@benthamscience.net

1. INTRODUCTION

In 2019, the deadly COVID-19 virus was identified, and by 2021, South Africa, like the rest of the world, implemented emergency vaccination programs to help control its spread [1]. Despite these efforts, many individuals, especially young people, had doubts about the vaccine's safety and effectiveness [2]. This study was conducted to explore the perceptions of young people regarding the COVID-19 vaccine in the Mafikeng subdistrict of North West province, South Africa, and to suggest strategies for improving future vaccination efforts. The findings of this study could help reduce doubts about the vaccine's safety and effectiveness in the Mafikeng subdistrict of North West province, South Africa.

1.1. Background

In 2019, the coronavirus disease (COVID-19) was first detected in Wuhan, China [1]. The causative agent was identified as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [2]. To mitigate the impact of the pandemic, global efforts were directed toward developing vaccines to prevent the spread of the virus [3]. By 2020, vaccination emerged as an effective strategy for containing COVID-19 [2]. Conversely, the continued high rates of morbidity and mortality have been partly linked to the lack of widespread vaccination [4]. The study was deemed important because its outcomes may support efforts to curb COVID-19 transmission and boost vaccination uptake among youth.

Between January 2020 and March 2023, South Africa recorded 102,598 deaths and over 4 million confirmed COVID-19 cases [5]. A study conducted in Gauteng province revealed that young people's reluctance to vaccinate was largely influenced by mistrust in medicine and the spread of misinformation, particularly through unregulated social media platforms, which served as their main sources of information [3]. The findings of youth vaccine reluctance, along with rising mortality and confirmed COVID-19 cases, indicate the need for more rigorous studies in South Africa. Thus, the focus of this study was on understanding youth perceptions of COVID-19 vaccination. Statistics from the North West province facility, where this study was conducted, revealed low COVID-19 vaccination uptake among youth. The facility had set a target of vaccinating 150 youths per month, amounting to 450 per quarter; however, only 76 youths were vaccinated in the first quarter, and 68 in the second quarter [6]. Thus, the total number of youths vaccinated fell significantly short of the Primary Healthcare (PHC) facility's set target for North West province.

Despite the reported low uptake of vaccinations by youth, there is a dearth of literature regarding research focused on youth perceptions of COVID-19 vaccination in the North West province of South Africa. This prompted the researcher to investigate and describe young people's perceptions of the COVID-19 vaccine. The research questions applied allowed the youth to reveal their perceptions regarding COVID-19 vaccination at the facility

where they received the service and, further, to express their views on what can be done to improve COVID-19 vaccination uptake among youth. In this context, the research questions are informed by the Health Belief Model, which highlights that individuals may perceive barriers to taking action [7]. Therefore, it is important to clearly articulate youths' perceptions of COVID-19 vaccination and identify the obstacles they face. Using the Health Belief Model as a framework, participants were able to articulate the perceived benefits of behavior change that could enhance COVID-19 vaccination uptake among youth.

2. MATERIALS AND METHODS

2.1. Study Design

The study investigated young people's perceptions of the COVID-19 vaccine using a qualitative research approach [6, 7]. To gain insight into their attitudes toward vaccination, the researcher adopted an exploratory, descriptive, and contextual design [8, 9].

2.2. Study Setting

The study was carried out in Mafikeng, located in the North West province, one of South Africa's nine provinces. Mafikeng is mostly a rural community with diverse values and cultural beliefs. Setswana is the most widely spoken language in this province, with other languages including Afrikaans, Sotho, Xhosa, Tsonga, English, and Zulu. Data were gathered from the youth using field notes and unstructured, in-depth Focus Group Discussions (FGDs). This approach to data collection encouraged participants to share their views openly, engage with one another, and articulate their perspectives on COVID-19 vaccination.

2.3. Characteristics of the Participants

The participants in this study were young people visiting the selected PHC institution in the Mafikeng subdistrict. Young people who visit PHC facilities were more likely to provide detailed information for the study, since they had everyday access to knowledge about health-related topics compared to those who do not use such facilities. Purposive sampling was used to select youth who reported knowledge of the vaccine.

2.4. Study Population and Sampling

2.4.1. Inclusion Criteria

The inclusion criteria of this study were as follows:

- Youth aged 18–34 years with knowledge of COVID-19 vaccination were the population of interest in this study.
- Both vaccinated and unvaccinated youth having knowledge of the COVID-19 vaccination were able to share their insights concerning the COVID-19 vaccination.
- Youth who were residents of Mafikeng and accessing the selected PHC facility were included, as this was the population of interest.

2.4.2. Exclusion Criteria

The following were excluded from the study to enhance its accuracy and reliability:

- Youth who do not access the selected PHC facility, and/or
- Youth who are unaware of the COVID-19 vaccination.

The research assistant asked prospective participants the following questions: (1) What safety protocols were used during COVID-19? (Mention one), and (2) What are the symptoms of COVID-19? The youth who could respond correctly to at least one of the questions were regarded as knowing the phenomenon. The research assistant further assisted the researcher during data collection by helping participants fill out the consent forms. To minimise potential power dynamics, the researcher conducted interviews with youth at PHC facilities where she was not employed.

2.5. Data Collection Tool and Process

Five unstructured, in-person FGDs were conducted by the researcher, a female first author with an Honours degree in Nursing. At the time of the study, the researcher was employed as a professional nurse; she was trained on the research methodology prior to data collection. Two days before data collection, the researcher built rapport by meeting participants to introduce herself and outline the purpose of the study. One FGD was conducted prior to the actual data collection of the major study.

The purpose of conducting the pilot FGD was to enhance the facilitation and communication skills required to conduct FGDs effectively. The two broad research questions were condensed by the researcher as follows: Can you tell me about your perceptions of COVID-19 vaccination at the facility where you receive health services? What more can be done to improve the low rate of youth COVID-19 vaccination uptake at the facility where you receive health services? Each simplified question had further addition questions, depending on the interviewees' responses.

Each FGD consisted of five participants, to ensure that all individuals had the opportunity to express themselves. The discussions lasted between 30 and 45 minutes each. To minimise disturbances, the sessions were held in one of the consulting rooms in the maternity ward, which was identified as the quietest location. Data collection continued until data saturation was reached for each group, guided by open-ended questions posed consistently across all five groups. Additional probing questions were asked when clarification was needed. To ensure accuracy, credibility, and dependability, field notes were taken, and the interviews were audio-recorded and transcribed verbatim. No follow-up interviews were conducted after verbatim transcription, as the conversations were expressed with sufficient clarity.

2.6. Data Analysis

The researcher and co-coder independently analysed the data using a thematic analysis approach [9, 10]. In the

first step, the researcher familiarised herself with the collected data by repeatedly reading the field notes while listening to the recorded audio. The second step focused on organising the data set; the researcher examined words, phrases, and expressions with significant or related meanings. The third and fourth steps focused on developing codes and grouping them to identify patterns and connections, which led to the emergence of themes. The fifth step outlined the key features of the data that were extracted for inclusion in the final report. Lastly, a consensus meeting was conducted to achieve the final refinement of the themes. The process concluded with the writing of the research report and comparison of the findings with those from other published studies.

2.7. Rigour

The model of trustworthiness comprising credibility, dependability, confirmability, and transferability was applied to ensure the rigour of the study [7, 9]. Credibility was strengthened by the use of a tape recorder, which safeguarded the authenticity of participants' responses, as well as through prolonged engagement with the participants. To establish dependability, the researcher carefully documented every step of the research process, ensuring that the procedure was logical, traceable, and replicable, so that similar results could be obtained if the study were repeated. Field notes were incorporated into the data collection records, and the audio recordings were securely stored to enhance confirmability. Transferability was addressed by providing readers with rich, detailed descriptions of the research context, participants, and procedures, enabling them to determine whether the findings apply to their own contexts or experiences.

3. RESULTS

The results show the themes and subthemes that emerged from the FGDs, highlighting the perceptions of the young people who participated in the study.

3.1. Demographic Information of Participants

A total of 25 volunteers aged 18–34 years, who were all Black South African citizens, participated in this study. Among them, eight were employed, five were university students, and 12 were unemployed. Of the eight employed participants, three held a tertiary qualification, while the remaining five had completed matric. Among the 12 unemployed participants, two had only completed primary school education, four had not finished matric, and six had completed matric. The sample included five men and 20 women; 12 of the participants were unvaccinated, and 13 had been vaccinated. Among the unvaccinated participants, four were men, and eight were women; among those vaccinated, one was a man, and 12 were women. During the FGDs, participants shared their perceptions and experiences regarding the COVID-19 vaccine. Once data saturation was reached, the researcher, together with an independent co-coder, analysed the data and identified four overarching themes and 13 subthemes.

3.2. Themes and Subthemes

The themes and subthemes that emerged from the unstructured FGDs are shown in Table 1.

Table 1. Themes and subthemes related to youth perceptions of COVID-19 vaccination.

Themes	Subthemes
1. Perceptions related to reasons for vaccinating for COVID-19	1.1 Fear of being infected and possible death 1.2 Compelled to vaccinate due to personal circumstances 1.3 Witnessing loved ones getting sick
2. Perceptions about information on COVID-19 vaccination	2.1 Lack of adequate information regarding the COVID-19 vaccine 2.2 Spread of misleading information through social media 2.3 Information about side effects from people who were vaccinated
3. Perceived dangers of COVID-19 and its vaccine	3.1 COVID-19 is a deadly disease 3.2 The vaccine is neither safe nor efficient 3.3 Side effects of the vaccine were unbearable for participants who were vaccinated
4. Suggested strategies to encourage youth to vaccinate	4.1 Provision of accurate and comprehensive information 4.2 Educate youth through community outreach programmes 4.3 Vaccination should be an obligation for the youth 4.4 Other forms instead of injection

3.2.1. Theme 1: Perceptions related to Reasons for Vaccinating for COVID-19

During the interviews, perceptions of the reasons for vaccinating emerged. These are summarised in the subthemes as: (1) fear of being infected and possible death; (2) being compelled to vaccinate due to personal circumstances; and (3) witnessing loved ones getting sick.

3.2.1.1. Subtheme 1.1: Fear of being Infected and Possible Death

In the quotes below, individuals conveyed their fear of contracting the disease and potentially dying. One participant said the following:

"I am vaccinated. I saw people dying that time, hence I vaccinated. The virus was very deadly, hence I decided that I had to vaccinate." (FGD4)

Another participant reported their fear of being infected as follows:

"They said it is better to vaccinate. I wanted to be safe and not to die, hence I vaccinated." (FGD4)

3.2.1.2. Subtheme 1.2: Compelled to Vaccinate due to Personal Circumstances

During data collection, the participants reported that they were compelled to vaccinate due to personal circumstances. This is supported by the following excerpts from the participants:

"I am vaccinated; the reason why I vaccinated was because I had a child and had to come to the clinic regularly." (FGD1)

"I was pregnant in 2019, so I had to vaccinate because I was always at the clinic." (FGD2)

"I only vaccinated because I was forced – I needed a job, and they needed a vaccine card ... I didn't have time about the vaccine, I was told that if I do not vaccinate I will not go for practicals, so basically I was forced to vaccinate." (FGD5)

Although vaccination was technically a choice, this group felt compelled to vaccinate for the reasons stated. They had little opportunity to deliberate, as the situation required them to either vaccinate to maintain access or face exclusion from work and practical activities.

3.2.1.3. Subtheme 1.3: Witnessing Loved Ones getting Sick

The participants made statements that support the subtheme of witnessing loved ones getting sick, as outlined below:

"I had already told myself that I was going to vaccinate... Because I was afraid of COVID-19. One of our family members once had COVID-19." (FGD1)

"I am vaccinated. I vaccinated after my uncle was sick. We did not know what was wrong with him, whether he has COVID-19 or not. Following him, my grandmother also became ill, then I decided to vaccinate ... I thought they had COVID-19; I vaccinated because I wanted to prevent the severe effects of COVID-19." (FGD1)

"I believed that one of the reasons I vaccinated was because I thought of healing because [of what] I saw in my family. Many passed away in my family and they had not vaccinated, so that's what encouraged me to vaccinate. I trusted the vaccine so much ... They were not diagnosed, but because it was COVID-19 era I thought so. I was so scared of COVID-19 and always thought 'Who is next?', so I had to vaccinate to feel safe." (FGD2)

3.2.2. Theme 2: Perceptions about Information on COVID-19 Vaccination

In this theme, the perceptions about information on COVID-19 vaccination are discussed. The theme is further summarised under subthemes as follows: (1) lack of sufficient information regarding the COVID-19 vaccine; (2) spread of misleading information from social media; and (3) information about side effects from people who were vaccinated.

3.2.2.1. Subtheme 2.1: Lack of Adequate Information regarding the COVID-19 Vaccine

Only one participant in the FGDs commented on the lack of sufficient information regarding the COVID-19 vaccine. She said:

"The vaccine was rushed; vaccines take time to be developed, like child immunisations. But as for this one, it was rushed, and little information was known about it." (FGD3)

3.2.2.2. Subtheme 2.2: Spread of Misleading Information through Social Media

The participants reported the spread of misleading information as follows:

"It's us, the youth, who decided that we will not vaccinate because of the influence and the wrong information about the vaccine not being okay and killing people." (FGD1)

In the words of another participant:

"Eish, yes, I remember. I think Facebook influenced me in a bad way that the vaccine is not good. Maybe they should give a warning to refrain from Facebook rumours." (FGD1)

3.2.2.3. Subtheme 2.3: Information about the Side Effects from People who were Vaccinated

Participants in this study disclosed information regarding adverse reactions from those who had been vaccinated:

"I was scared of it [vaccine] because people were talking bad about it, that it is doing this and that... that after vaccination, you get sick and you get dizzy, you have shortness of breath, do you understand me? That your bones would be painful, things like that." (FGD3)

"My parents went to vaccinate and experienced bad side effects; they even got sick. I decided not to vaccinate." (FGD3)

"Symptoms reported by people were scary; some reported to have flu-like symptoms, and I am prone to flu, so I decided not to vaccinate." (FGD2)

3.2.3. Theme 3: Perceived Dangers of COVID-19 and its Vaccine

The participants had perceptions about the dangers of COVID-19 and the vaccine, which are reported under the following subthemes: (1) COVID-19 is a deadly disease; (2) the vaccine is neither safe nor efficient; and (3) side effects of the vaccine were not bearable for those who were vaccinated.

3.2.3.1. Subtheme 3.1: COVID-19 is a Deadly Disease

We came across a participant who reported mental health issues due to COVID-19:

"The whole COVID-19 disease made me develop anxiety, because I could not go out because of fear of contracting the disease. I also was afraid of contracting the disease when visiting the clinic. I was anxious because I did not know where I will get it from. I would go as far as using online shopping and took precautionary measures like usage of sanitisers and social distancing." (FGD1)

"To be honest, I don't believe in the vaccine because I feel like whether you're vaccinated or not, people still died. That's one of the reasons why I didn't vaccinate." (FGD2)

3.2.3.2. Subtheme 3.2: The Vaccine is neither Safe nor Efficient

The study revealed the perspective of some participants who felt that the vaccine is neither safe nor efficient:

"COVID 19 was very tricky. We have different immune systems: some people survived COVID-19, and some didn't. Some vaccinated and still died, while others vaccinated and didn't die. Thousands of graves were kept for people during the COVID-19 era, so vaccination was not a sure thing." (FGD2)

"There is someone I know who was healthy; after taking the vaccine, that particular person died, hence I did not trust the vaccine." (FGD4)

"When I saw because who went to vaccinate were getting sick, I got even more reluctant to vaccinate." (FGD4)

3.2.3.3. Subtheme 3.3 Side Effects of the Vaccine were Unbearable for Participants who were Vaccinated

Some participants stated that when they were vaccinated, they experienced severe side effects:

"I am vaccinated; after vaccinating I had severe side effects. I was cold and had a headache, after a while, my arm started to swell." (FGD4)

"I am vaccinated, my arm swelled so badly after I got my shot." (FGD4)

3.2.4. Theme 4: Suggested Strategies to Encourage Youth to Vaccinate

Strategies to encourage the youth to vaccinate emerged from the recommendations provided by the participants, as follows: (1) the provision of accurate and comprehensive information; (2) educating the youth through community outreach programmes; (3) vaccination should be an obligation for the youth; and (4) other forms, instead of injection.

3.2.4.1. Subtheme 4.1 The Provision of Accurate and Comprehensive Information

Participants recommended that accurate and comprehensive information should be made available to them:

"Firstly, I think correct information should be provided. I am talking about the Department of Health; we should not hear wrong information." (FGD)

"For me, it's access to information on everything regarding COVID-19 ..." (FGD)

3.2.4.2. Subtheme 4.2 Educating the Youth through Community Outreach Programmes

Youth still believed that outreach programmes would be effective, which they stated as follows:

"I think outreach programmes would help" (FGD)

"My thought is, they should go door to door to vaccinate people" (FGD)

3.2.4.3. Subtheme 4.3 Vaccination should be an Obligation for the Youth

Another recommendation noted was that it should be an obligation for the youth to be vaccinated:

"I think they should put a law that states that if you're not vaccinated, you should not get hired." (FGD)

"The only way to get the youth to vaccinate is to trap them by putting [in place] measures that will force them to vaccinate." (FGD)

3.2.4.4. Subtheme 4.4 Other Forms instead of Injection

The following participants noted a preference for other forms of treatment, instead of the vaccine:

"They should provide tablets, not injections." (FGD)

"I think participant B stated that she is afraid of injection, maybe they could make other forms of a vaccine." (FGD)

"In my opinion, I am speaking for people who are afraid of injections... I think there should be other forms of vaccinating, such as syrup." (FGD)

4. DISCUSSION

The discussion provides an interpretation of the findings in relation to the four main themes that emerged from the study and similar findings in the literature.

4.1. Theme 1: Perceptions related to Reasons for Vaccinating for COVID-19

The youth in this study had perceptions regarding the reasons for vaccinating against COVID-19. In this regard, the participants revealed internal and external factors that motivated and demotivated them from vaccinating. A study conducted in the United States of America examined internal and external motivations, as well as risk perceptions influencing youth vaccination decisions [11]. Similar to the present research, it included both vaccinated youth to identify what motivated them and unvaccinated youth to explore the factors underlying their hesitancy [11]. The youth who were vaccinated reported that they knew someone who got COVID-19 and died, and this became a motivation for them to vaccinate [12]. This effect became a threat to them, making them fear contracting COVID-19 and dying from it; hence, it became a positive driver for vaccination. Those participants who were working were forced to choose between their feelings and supporting themselves financially [12, 13]. Participants in this study felt compelled or pressured to vaccinate, as proof of vaccination was required for them to continue working. Similarly, another study reported that participants were vaccinated only so they could go to work [14, 15].

The current study reflected a similar pattern to those mentioned above. Participants explained that they chose to vaccinate because their family members had fallen ill,

although the exact cause was unknown. The fact that it occurred during the COVID-19 period created fear, which ultimately motivated them to vaccinate. For participants in the current study, witnessing loved ones get sick motivated them to vaccinate. A similar phenomenon appeared in another study, as participants recounted experiences of morbidity and mortality caused by COVID-19. They spoke about losing relatives and witnessing family members contract the virus [16].

4.2. Theme 2: Perceptions about Information on COVID-19 Vaccination

The findings of this study suggest that who provides the information, how it is communicated, and where it comes from significantly contribute to youth vaccination hesitancy. The study reveals that social media is reported to have a powerful influence on decision-making, especially when rumours run contrary to expectations. The participants reported that Facebook influenced them not to vaccinate at the time, and that they now feel regret about it. Another study found that youth mostly use Facebook and TikTok for their social lives [14]. If there was negative news circulating about the vaccine on Facebook or TikTok, the youth would easily have doubts, as they spend most of their time on those platforms, which give them a sense of community as they are able to speak their minds there [14]. This was also stated in a study in South Africa, where participants said: "We didn't know enough, there was a lack of accurate information about the vaccine and COVID-19 itself" [15, 16].

The findings of the current study suggest that incorrect and misleading information can cause youth to have mistrust and change their perceptions about vaccinating. The participants in this study received information from social media, which changed the way they viewed the vaccine. In another study, the researcher stated that being faced with different information about the vaccine can cause confusion, distress, mistrust, and a less positive perspective towards the vaccine [12, 15].

Information regarding the side effects of the vaccine seemed to be a burning issue for most youth in this study. Similarly, a study conducted in the United Kingdom found that 36.2% of youth had concerns about the information they received regarding vaccine side effects [12, 16]. Participants also indicated that they were concerned because their parents experienced severe side effects after vaccination, which led them to decide against vaccinating. In a study conducted in Nigeria to record COVID-19 hesitancy among the youth [14], it was recorded that 21.3% were afraid of the side effects. Among a few youth who received vaccinations, the side effects they reported scared those considering vaccination, leading them to change their minds [14].

4.3. Theme 3: Perceived Dangers of COVID-19 and its Vaccine

In this study, some participants reported being scared of COVID-19, which they perceived as a threat, prompting them to vaccinate. Others genuinely questioned how

efficient the vaccine was. The participants reported deaths among their family members, and even though it was not confirmed that COVID-19 was the cause, the mere fact that they were vaccinated and still died led to questioning the efficacy of the vaccine. Some of the participants who were vaccinated reported unbearable side effects, which changed how others viewed the vaccine, leading to a dilemma in choosing whether to vaccinate or not.

Participants in this study also held the view that, despite vaccination, COVID-19 remains a deadly virus, so it does not matter whether you are vaccinated or not. The disease outcome depends on the uniqueness of the individual: if it was meant to be fatal, regardless of the vaccine status, the person will still die. Therefore, the participants were not necessarily considering the vaccine, but rather COVID-19 itself as a disease. Consistent with the findings of the present study, another study reported that the hesitant group cited continued deaths among vaccinated individuals as a major reason for their reluctance [12, 16]. The study further reported that 20,1% of youth queried efficacy [12, 16].

4.4. Theme 4: Suggested Strategies to Encourage Youth to Vaccinate

The youth in this study recommended that providing accurate and comprehensive information would allow them to make a more informed decision about whether to vaccinate. One study had a different recommendation, that the government should have a positive compensation system [17, 18]. This compensation system would encourage the youth to vaccinate, knowing that should anything happen relating to the vaccine, the government will be accountable [19, 20]. Even though this generation of youth is technically informed, community outreach campaigns were seen as essential [20, 21]. This is also recommended in another study, which reported that nurses should educate youth through community outreach programmes [22]. Other forms of treatment, instead of injection, were suggested by many participants. Non-injection methods should be considered to ensure that all groups of people are covered, especially those with phobias [18, 21]. Mandatory vaccination is considered ethically justifiable, particularly when the condition being prevented poses a threat to public health [23, 24]. The youth in this study reported that they are a stubborn generation, and therefore, only forceful laws can work on them [25].

5. LIMITATIONS

This study had a small sample size and focused on only one PHC facility in the Mafikeng subdistrict. If the researcher had broadened the sample to include more healthcare centres and increased the sample size, perhaps the results would have been different.

The study included people who attended PHC institutions, and the results may differ among those who did not. Due to the complexity of COVID-19, the study did not examine youths' opinions regarding vaccine types, which may have influenced the findings. Additionally, as

the study was qualitative in nature, it did not compare the responses of vaccinated and unvaccinated participants. Also, in terms of budget, this study was self-funded, making it difficult to access participants who lived far from the facility; distance was limited to less than one hour, as no refreshments other than snacks could be provided by the researcher.

CONCLUSION

This study revealed that youth perceptions of COVID-19 vaccination in the Mafikeng subdistrict were influenced by fear of infection and death, personal circumstances, and experiences of illness or death among family members. However, vaccine hesitancy was largely driven by concerns about side effects, mistrust arising from misinformation on social media, and perceptions regarding the vaccine's safety and effectiveness. The findings further suggest that male youth were less likely to vaccinate, as reflected by their lower participation rates and higher levels of vaccine hesitancy. Despite having access to PHC services, many young people remained unvaccinated, highlighting that access alone does not guarantee vaccine uptake.

The study underscores the need for accurate, transparent, and youth-centred communication strategies led by trusted health professionals. Community outreach programmes, door-to-door campaigns, and alternative vaccine delivery methods should be considered to address fear of injections and misinformation. Strengthening informed decision-making among youth is critical to improving vaccination uptake and preparedness for future public health emergencies.

AUTHORS' CONTRIBUTIONS

The authors confirm contribution to the paper as follows: N.K.: was a Master's student and was responsible for drafting and revising the manuscript from beginning to end; M.G.S. and K.R.: were supervisors responsible for the guidance and supervision of the above work of the above-mentioned author from start to finish.

LIST OF ABBREVIATIONS

COVID-19	= Coronavirus Disease 2019
FGD	= Focus group discussion
NWP	= Northwest Province
NWU	= Northwest University
PHC	= Primary health care
SARS	= Severe Acute Respiratory Syndrome

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval was obtained from the North-West University Health Research Ethics Committee (NWU-HREC), South Africa with clearance number: NWU-00033-23-A1.

HUMAN AND ANIMAL RIGHTS

All procedures involving human participants adhered to the ethical standards of the institutional research committee and followed the 1975 Declaration of Helsinki, as amended in 2013.

CONSENT FOR PUBLICATIONS

Written informed consent was obtained from all participants prior to data collection. Participants were informed about the purpose of the study, confidentiality, and their right to withdraw at any time.

STANDARDS OF REPORTING

COREQ guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data supporting the findings of this study are available upon reasonable request from the corresponding author [K.N].

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

The study participants are acknowledged for their valuable contribution in making this study possible.

REFERENCES

- [1] Dzinamarira T, Nachipo B, Phiri B, Musuka G. COVID-19 vaccine roll-out in South Africa and Zimbabwe: Urgent need to address community preparedness, fears and hesitancy. *Vaccines* 2021; 9(3): 250. <http://dx.doi.org/10.3390/vaccines9030250> PMID: 33809002
- [2] Ackah BBB, Woo M, Stallwood L, *et al.* COVID-19 vaccine hesitancy in Africa: a scoping review. *Glob Health Res Policy* 2022; 7(1): 21. <http://dx.doi.org/10.1186/s41256-022-00255-1> PMID: 35850783
- [3] Afolabi AA, Ilesanmi OS. Dealing with vaccine hesitancy in Africa: the prospective COVID-19 vaccine context. *Pan Afr Med J* 2021; 38(1): 3. <http://dx.doi.org/10.11604/pamj.2021.38.3.27401> PMID: 33520072
- [4] Borek AJ, Edwards G, Santillo M, *et al.* Re-examining advice to complete antibiotic courses: A qualitative study with clinicians and patients. *BJGP Open* 2023; 7(2): BJGPO.2022.0170. <http://dx.doi.org/10.3399/BJGPO.2022.0170> PMID: 36720563
- [5] Botma Y, Greeff M, Mulaudzi FM, Wright SC. *Research in health sciences*. Cape Town: Heinemann 2010.
- [6] Brandt EJ, Rosenberg J, Waselewski ME, Amaro X, Wasag J, Chang T. National study of youth opinions on vaccination for COVID-19 in the US. *J Adolesc Health* 2021; 68(5): 869-72. <http://dx.doi.org/10.1016/j.jadohealth.2021.02.013> PMID: 33824070
- [7] Brink H, Van der Walt C. *Fundamentals of research methodology for health care professionals*. Juta and Company Ltd 2018.
- [8] Euser S, Kroese FM, Derks M, de Bruin M. Understanding COVID-19 vaccination willingness among youth: A survey study in the Netherlands. *Vaccine* 2022; 40(6): 833-6. <http://dx.doi.org/10.1016/j.vaccine.2021.12.062> PMID: 35042646
- [9] Gittings L, Casale M, Kannemeyer N, *et al.* Even if I'm well informed, I will never get it": COVID-19 vaccine beliefs, intentions and acceptability among adolescents and young people in South Africa. *S Afr Health Rev* 2021; (1): 297-304. <http://dx.doi.org/10.61473/001c.75448>
- [10] Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. *Med Teach* 2020; 42(8): 846-54. <http://dx.doi.org/10.1080/0142159X.2020.1755030> PMID: 32356468
- [11] Kumar R. *Research Methodology: A Step-by-Step Guide for Beginners*. (5th.), Thousand Oaks, CA: Sage Publications 2019.
- [12] Mahato P, Adhikari B, Marahatta SB, *et al.* Perceptions around COVID-19 and vaccine hesitancy: A qualitative study in Kaski district, Western Nepal. *PLOS Glob Public Health* 2023; 3(2): e0000564. <http://dx.doi.org/10.1371/journal.pgph.0000564> PMID: 36962942
- [13] Mckee S, Sheikhan NY, Patenaude S, *et al.* 'Is It Safe? Is it not?' A Youth-Led photovoice study of youth perspectives of COVID-19 vaccine confidence. *Health Expect* 2024; 27(5): e70051. <http://dx.doi.org/10.1111/hex.70051> PMID: 39369276
- [14] Masianoga ES, Govender KK. Ethical leadership and employee creative behaviour: A case study of a state-owned enterprise in south africa. *J Prof Bus Rev* 2023; 8(6): 3. <http://dx.doi.org/10.26668/businessreview/2023.v8i5.748>
- [15] Muthoni J, Otjombe K, Thaele D, *et al.* COVID-19 vaccination hesitancy among youths in Soweto, South Africa. *Vaccines* 2023; 11(5): 960. <http://dx.doi.org/10.3390/vaccines11050960> PMID: 37243064
- [16] Olawade DB, Wada OZ, Odetayo A, Akeju OO, Asaolu FT, Owajori GO. COVID-19 vaccine hesitancy among Nigerian youths. *J Educ Health Promot* 2022; 11(1): 244. http://dx.doi.org/10.4103/jehp.jehp_1756_21 PMID: 36177416
- [17] Tu P, Kotarba M, Bier B, Clark R, Lin C. Internal and external motivations and risk perception toward COVID-19 vaccination in adolescents in the US. *Vaccines* 2022; 10(5): 697. <http://dx.doi.org/10.3390/vaccines10050697> PMID: 35632453
- [18] Savulescu J. Good reasons to vaccinate: Mandatory or payment for risk? *J Med Ethics* 2021; 47(2): 78-85. <http://dx.doi.org/10.1136/medethics-2020-106821> PMID: 33154088
- [19] Somefun OD, Casale M, Ronnie GH, *et al.* Amplifying youth voices: Young people's recommendations for policy and practice to enhance vaccine acceptability. *BMC Health Serv Res* 2024; 24(1): 1425. <http://dx.doi.org/10.1186/s12913-024-11630-8> PMID: 39558407
- [20] *Vaccines and immunization: What is vaccination?* World Health Organization.
- [21] Kelekar AK, Lucia VC, Afonso NM, Mascarenhas AK. COVID-19 vaccine acceptance and hesitancy among dental and medical students. *J Am Dent Assoc* 2021; 152(8): 596-603. <http://dx.doi.org/10.1016/j.adaj.2021.03.006> PMID: 34030867
- [22] Wie SH, Jung J, Kim WJ. Effective vaccination and education strategies for emerging infectious diseases such as COVID-19. *J Korean Med Sci* 2023; 38(44): e371. <http://dx.doi.org/10.3346/jkms.2023.38.e371> PMID: 37967881
- [23] Mashamba-Thompson TP. Implementation science: Bridging the gap between point-of-care diagnostics research and practice. *Diagnostics* 2022; 12(7): 1648. <http://dx.doi.org/10.3390/diagnostics12071648> PMID: 35885552
- [24] Stats SA. *South African Statistics 2018*. Pretoria: Statistics South Africa 2018. Available from: <https://www.statssa.gov.za/publications/SASStatistics2018>
- [25] Gorga SM, Brandt EJ, Rosenberg J, Waselewski ME, Amaro X, Chang T. Youth perceptions of COVID-19 vaccination. *JAMA Health Forum* 2021; 2(8): e212103. <http://dx.doi.org/10.1001/jamahealthforum.2021.2103>