

“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

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Vaccine hesitancy among AYP and their social networks, if not addressed, may undermine the effectiveness of the COVID-19 response in South Africa.

Vaccines are an essential public health intervention in response to global emerging infectious diseases such as COVID-19. South Africa aims to vaccinate 67% of its population in 2021 to contain the transmission and effects of COVID-19. While evidence suggests that younger South African adults may be less likely to accept vaccines than older adults, little is known about vaccine hesitancy among South African adolescents and young people.

This chapter discusses findings on vaccine-related beliefs, intentions and acceptability from participatory work with South African adolescents and young people ages 17 to 29 years, conducted through online closed-group activities.

Findings highlight vaccine hesitancy among adolescents and young people that, if not addressed, may undermine the effectiveness of the vaccine-based COVID-19 response. Reasons provided for reluctance to use vaccines include: mistrust of government and scientists; low illness vulnerability perceptions; conspiracy-related beliefs; fear

of injections and potential side-effects, and a preference for non-biomedical (traditional and/or natural) remedies. Potential enablers of vaccine acceptability and uptake include: receiving information from trusted sources; the desire for safety; perceived vaccine effectiveness, and observing the safe uptake among trusted people such as peers and family members.

Access to accurate information is important, but may in itself be insufficient. We suggest a multi-dimensional approach aimed at addressing perceptions of low vulnerability to disease, mistrust and the perceived effectiveness and safety of vaccines. Ensuring accurate information from trustworthy sources, meaningfully engaging traditional and alternative health practitioners, developing family- and peer-based initiatives, and building trust in government and international health infrastructure may support vaccine uptake, thus strengthening social and health outcomes for South Africa’s next generation.

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Introduction

COVID-19 vaccine coverage is crucial to halting further waves of COVID-19, offering protection against infection, severe illness and death, and reducing the risk of onward transmission.¹ South Africa aims to vaccinate 67% of its population in 2021 to contain the COVID-19 pandemic.² While the risk of severe illness among adolescents and young people (AYP) is lower than for older populations, this group is still at risk of COVID-19 acquisition and transmission.³ More recent, easily transmissible variants have shown increased morbidity among AYP.³ Vaccines are being increasingly rolled out to adolescents as young as 12 years old, including in South Africa.⁴

With the approval and distribution of COVID-19 vaccines, issues of accessibility and equity have come to the fore, exposing once again the power asymmetries and historic inequalities underlying global health.⁵ Despite recently acquiring a substantial number of vaccines, vaccine inequality in South Africa remains high, with lower rates of vaccine coverage among individuals who do not have medical insurance or are living in informal settlements.⁶

The effectiveness of vaccines in containing infectious disease outbreaks depends also on the willingness of individuals to use them. In many high, low- and middle-income countries where COVID-19 vaccines are available, a considerable proportion of the population chooses not to be vaccinated.^{7,8} Emergent evidence on adult COVID-19 vaccine hesitancy in Africa highlights concerns over safety and effectiveness, conspiracy-related and religious beliefs, inaccurate information spread over social media, and mistrust in governments.⁷ Mistrust of Western vaccines, rooted in the history of unethical Western medical practices in Africa, has also been reported.⁷ Less is known about vaccine hesitancy among AYP in Africa.

This chapter presents findings on COVID-19 vaccine-related beliefs, intentions and acceptability from a participatory study with adolescent and young advisors. We highlight potential barriers and enablers, considering implications for initiatives aimed at increasing informed COVID-19 vaccine uptake.

Methodology

In 2020, we co-designed a series of research activities with two Teen Advisory Groups (TAGs) in the Eastern and Western Cape Provinces. TAGs use qualitative, arts-based and participatory methods to gather context-specific information and explore the subjective experiences and stories of AYP, co-designed with adolescent and young advisors themselves. Findings reported on in this chapter stem from engagements on the COVID-19 experiences, challenges and coping of AYP⁹, with whom the research team have built rapport through in-person activities over the

course of four to 12 years.¹⁰ TAGs were constituted alongside three cohort studies. Ethical approvals were provided by the University of Cape Town (HREC 226/2017, v7.0, July 2020) and the University of Oxford (IDREC R48876/RE003, June 2020).

Findings reported here draw from an online group activity, conducted over closed Facebook groups in May 2021. Facebook was chosen as an accessible platform that can be used data-free and password-protected for those without personal devices. Sixteen participants in the 17–29 age group (n=6 Eastern Cape, n=10 Western Cape, n=6 male, n=10 female) responded to a prompt asking if they would get vaccinated if it was made available to them, and engaged in follow-up prompts from the facilitator. The data presented here were transcribed verbatim, with isiXhosa-language responses translated into English.⁹ The data were analysed thematically.¹¹

Key findings

Sixteen AYP advisors responded to an open-ended Facebook prompt of whether they would receive vaccination if vaccines were made available to them. Nine said that they would not get vaccinated, four said that they would, and three were undecided or said that they would, if mandated by their school.

Barriers to acceptability and uptake

Themes explaining vaccine hesitancy or unacceptability were: mistrust of government and scientists, fear of the vaccine and its side-effects, and a preference for or belief in non-biomedical (traditional) remedies. Mistrust extended to the existence and extent of COVID-19, adolescents' vulnerability to contracting it, and vaccine safety and efficacy. Some stated that they did not believe in the existence of COVID-19, believed myths around COVID-19 vaccine side-effects, or questioned the efficacy and safety of the vaccine – as illustrated by the following quotes:

People are scared, saying that if the vaccine was 'expired', it makes it easy for your immune system to catch COVID-19 fast. (Male, 28, Western Cape)

I won't get or sign up for a vaccine course; I don't believe it (COVID-19) exists. (Female, 20, Western Cape)

I don't want to put in (my body) something that might not work out for me or make me sick ... until I hear many testifying (about the vaccine) ... maybe I might consider to get it. (Female, 22, Western Cape)

One of the reasons for advisors being mistrustful was inconsistent and conflicting COVID-19-related messaging. This was demonstrated by a young advisor who tested positive asymptotically for COVID-19 while pregnant.

a Edited for readability.

She was told afterwards that someone else's results may have been given to her in error. She linked this confusing and stressful experience of receiving conflicting COVID-19 information from health workers to her mistrust of the vaccine:

I don't know how serious Corona (is) because ... in Dec I was pregnant I had a headache that would not stop. They (the clinic) said I must go for a COVID-19 test ... the results came out positive ... I called my doc and they said it may not be my results so ... (the) only thing I have to do is do take too much fluids and Panado and I was fine so I will not get vaccinated. (Female, 22, Western Cape)

Alongside being uncertain about the safety and efficacy of the vaccine, several advisors shared their belief in non-biomedical remedies for preventing and treating COVID-19. They indicated that they self-medicated, or prepared preventative herbal mixtures at home, demonstrating an enacted desire to protect themselves from acquiring COVID-19. They revealed multi-layered, and sometimes conflicting narratives around the existence of COVID-19, the safety and effectiveness of the vaccines, and a belief in the efficacy of non-biomedical remedies:

I'm not going to get the Vaccine. There is a mixture that I drink so although I'm safe ... (Female, 20, Western Cape)

I for one don't really think I want to (take the vaccine) coz there is a mixture that we drink here at home ... we mix lemon, ginger, garlic in 1 bottle then we have 2 mini cups daily ... we don't know much about this vaccine and we've been hearing this and that... (Female, 23, Western Cape)

Some described not knowing enough about the vaccine. This did not necessarily mean that they wanted or intended to change their vaccination intentions if they did receive information. Underlying this was the suggestion that there is a lack of accurate information about the vaccine and COVID-19 itself. Some advisors suggested that their decision to not be vaccinated was unrelated to whether they had received biomedical health messaging. Rather, mistrust of the information they had, a sense that information is being purposefully withheld, and, in some cases, a related belief in the efficacy of non-biomedical remedies, were the reasons for their decision not to take the vaccine.

TAG member: *We are not planning to get it cz we are not well educated about it.*

Facilitator: *What method ... can help you to be well informed about vaccine?*

TAG member: *I don't want to lie even if I could (be)well informed I will never get it; I have survived different illnesses by self-medication so I am not the type of person who depends on injections or pills in order for me to be healed ... I use concoctions ... and they work and now it is said that this vaccine makes clots ... there are a lot of negative things said even by professionals so we don't*

know who to trust or not to trust so all this is confusing ... it doesn't make sense and the numbers will increase yet there is a vaccine and they are claiming we are in the 3rd wave? How do they know? ... There are many questions that are not being answered in this COVID thing and this vaccine. (Female, 21, Western Cape)

Some advisors also believed that they were at low risk of contracting COVID-19, because they had not yet contracted it, did not know anyone ill with COVID-19, did not believe it to exist, or did not believe that it was as serious as suggested by media and government officials.

Another reason for not taking the vaccine was fear linked to the injection and side-effects. Concerns included fear of needles and experiencing headaches, body aches or blood clots; these were in part linked to information that had been referred to adolescents by others.

I'm scared of the needle I so wish there was a pill ... the problem is the needle is painful. (Female, 21, Eastern Cape)

I've been hearing ... some people who've been vaccinated ... experiencing headaches or body aches ... I wish they would make an effort to at least try to tell people whether who actually gets sick from the vaccine coz people will end up being scared. (Female, 23, Western Cape)

I'm scared yhoos I don't think I will get it on I hear about it on the radio ... that people vomit blood clots. (Male, 23, Eastern Cape)

They also discussed family members' decisions to be vaccinated, demonstrating the close relationships in shaping vaccine-related trust and acceptability. They related their family members' vaccine-related decisions and beliefs to their own:

My grandma she does not believe in it, she says it's a lie n she is afraid to be injected and I didn't sign up coz I'm scared. (Female, 23, Eastern Cape)

They observed the COVID-19 prevention practices, beliefs and experiences of close adults in describing their own perceptions of vaccine-related safety:

TAG member 1: *My grandmother says she will never put those things; she will steam with Artemisia and drink warm water so she will not put in something she does not know the consequences of in the years to come.*

TAG Member 2: *Yhoos adults don't trust these things and then we don't blame them.*

Facilitator: *Would you get the vaccine if it was open to you?*

TAG member 2: *It helps and does not have side-effects. (Male, 19, Eastern Cape)*

After he (my uncle) got it he always had a headache; he slept so much he didn't go to work so I am little scared of it but now he is fine there is nothing wrong ... maybe that thing happened after he had just got it ... but I want to get it (if it) is safe. (Female, 19, Eastern Cape)

Enablers of vaccine acceptability and uptake

The four advisors who said that they would be vaccinated explained that they wished to be protected from COVID-19 and were concerned about elderly caregivers. They expressed desires to 'be safe' and to survive the pandemic, and believed that potential side-effects of the vaccine were temporary and minor compared to the potential effects of COVID-19:

I would get it ... I don't want to have COVID and its side-effects are quick to end ... (Female, 19, Eastern Cape)

I will register when it opens for us ... Rather be safe than sorry ... We don't know what is coming. (Male, 21, Western Cape)

Relationships with caregivers, particularly the elderly, and fear for their wellbeing were central. Concerns included wishing to prevent transmitting COVID-19 to their caregivers and feelings of relief following their caregivers' vaccination.

Hello guys ... my grandmother. I hope it will help her coz I want this disease to end so that everything can get back to normal. (Female, 21, Eastern Cape)

They also supported caregivers' technology-based vaccine registration, in a way acting as 'gatekeepers' to vaccine uptake.

She (grandmother) was helped by me coz he couldn't line up in the long queues ... yhea I think this vaccine will eradicate this COVID. (Female, 21, Eastern Cape)

Discussion

This chapter highlights findings on vaccine hesitancy among AYP that, if not addressed, may undermine the effectiveness of the COVID-19 response in South Africa. However, they also point to factors that may increase COVID-19 vaccine acceptability and serve as entry-points for improving vaccine roll-out efforts.

Given limited existing research on COVID-19 vaccine acceptability among AYP in Africa, we discuss these findings in relation to evidence on: adult COVID-19 vaccine hesitancy in Africa; adolescent hesitancy related to other vaccines in Africa, and COVID-19 vaccine hesitancy among AYP in other contexts.

Most advisors who participated in this activity were vaccine-hesitant, congruent with evidence showing high levels of hesitancy among the general South African population.^{12,13,14} Younger people have similar concerns to older people about side-effects and vaccine effectiveness, but are more hesitant to take the COVID-19 vaccine.^{12,14,15}

Mistrust of scientists and government institutions, perceived low risk of contracting COVID-19, fears of side-effects, and questions around vaccine efficacy were cited as reasons explaining AYP's unwillingness to be vaccinated. These findings resonate with those of COVID-19 vaccine hesitancy studies among adults in Africa and globally, which show inadequate information, fears of side-effects, and concerns around vaccine effectiveness to be drivers of vaccine hesitancy.^{7,8,16}

Correlations between adolescent vaccine hesitancy and adverse vaccine histories, as well as lack of information, have been documented.¹⁷ The South African Attitudes Survey (covering ages 16 years and older), found that vaccine hesitancy is linked to concerns around side-effects.¹² Some participants also discussed low risk perceptions of COVID-19, a finding that has been documented in the general South African population.¹⁸

A recent systematic review of primary research studies on AYP (aged 10–24 years) in Africa (2010–2020) assessed the acceptability of interventions aimed at positively influencing developmental outcomes.¹⁹ Given the timeframe, there were no included studies specific to COVID-19 vaccine acceptability. The review identified 10 Human papillomavirus (HPV) and HIV vaccine interventions, and highlighted reasons for acceptability or unacceptability of these vaccines. Reasons for vaccine hesitancy reported in this chapter resonate with those provided by the systematic review to explain low acceptability. These include a lack of knowledge of vaccine interventions or the diseases they aimed to prevent; myths and mistrust of government and scientists; anticipated stigma, as well as fear of the injection and of potential vaccine side-effects.¹⁹ Fear of side-effects was in part based on 'real' potential effects, such as pain at the injection site, and in part on myths and misinformation.¹⁹ A further reason for low acceptability highlighted by the review was that of perceived low vulnerability to the illnesses the vaccines were intended to prevent¹⁹, which resonates with the findings presented here.

Our findings also highlight potential enablers for vaccine acceptability and uptake among young South Africans. For the few who did want to be vaccinated, their willingness was linked to a desire to be safe and protected from COVID-19, and to a concern for the wellbeing of caregivers to whom they might transmit COVID-19. Similarly, a recent survey indicates that South African adults are motivated to take the COVID-19 vaccine to protect themselves, and others, including family members.¹²

Communication of vaccine benefits that focus on important facets of people's lives, such as family, friends, health and social networks, can influence vaccine acceptability.^{20,21} Perceived effectiveness and broader benefits are documented key reasons for high acceptability of HPV and HIV vaccines among African AYP.¹⁹

Young advisors discussed the role of COVID-19 information received from biomedical health practitioners and government sources with ambivalence, often alluding to not having enough knowledge, while also suggesting that they do not trust the information that they already have from these sources. They discussed their own COVID-19- and vaccine-related beliefs and practices in relation to caregivers and close family members, and knowledge that they had received first-hand from trusted close sources. Literature on COVID-19 vaccines dovetails with these findings, suggesting that family, friends and peers play an important role in vaccine acceptability and uptake.²¹ Vaccine communication is better received when heard from multiple, trustworthy sources.¹²

Encouragement by peers and observation of others' experience of low side-effects may also be facilitators of acceptability and uptake of other vaccines. For example, in one South African study, the majority of adolescents who expressed mistrust of an HIV vaccine believed that the most accurate information about its effectiveness came from personal experiences of friends, family, and community members; they explained that observing these experiences could encourage vaccine use in a way that media, for example, could not.²²

Our findings have implications for the COVID-19 response and interventions to increase vaccine uptake. Vaccine hesitancy in the context of an emerging infectious disease outbreak such as COVID-19 is a public health concern. Such hesitancy places vaccinated and non-vaccinated individuals at risk, adds strain to already overburdened health system, and threatens virus containment.¹⁶ The findings suggest a complicated and uneven terrain of COVID-19 vaccine-related beliefs, acceptability and intentions among AYP, which affect their willingness to receive the vaccine. As vaccines are made available to younger age groups, vaccine hesitancy among AYP may become a key public health issue, and may also affect uptake among their older caregivers.

Multi-layered and potentially interrelated factors of health beliefs and practices, social influences, mistrust of government and public health institutions, and the use of non-biomedical products underpin these findings. They also align with the broader vaccine acceptability literature on AYP in Africa, which documents the important role of health beliefs and practices, social influences, mistrust of government and public health institutions, fear of vaccine side-effects, perceived effectiveness of vaccines, and the use of non-biomedical products. The large overlap between factors highlighted by our findings, and evidence

related to broader vaccine uptake among African AYP¹⁹, are noteworthy and have important implications for the current debates and responses to vaccine hesitancy in the context of COVID-19.

The strong similarities between reasons given for COVID-19 vaccine acceptability or unacceptability and those given for acceptability of other vaccines suggests that, to a large extent, common underlying factors may be driving AYP's willingness to be vaccinated. Better understanding of and engagement with these factors would therefore be important not only to increase COVID-19 vaccine uptake, but also to address vaccine hesitancy more broadly. This echoes suggestions that, given South Africans' reticence towards vaccines in general, efforts to address COVID-19 vaccine hesitancy should address overall concerns about vaccines and other biomedical interventions.¹²

In responding to these varied concerns and beliefs around vaccines, it may also be important to adapt responses to the key drivers of vaccine hesitancy among different groups of young people. For example, concerns around side-effects may require different messaging and responses than those addressing a disbelief in COVID-19 itself. Similarly, the concerns of young advisors who said that they would be vaccinated if it were mandatory but did not otherwise take a strong stance on the issue, should be addressed in a different manner to the concerns of AYP who indicated a preference for traditional medicines only.

Conclusions

These findings point to potential barriers and facilitators of COVID-19 vaccine acceptability and uptake. It will be important to consider, unpack and address these multiple barriers and enablers, both for the COVID-19 vaccine roll-out, and for successful infectious disease responses more broadly. Mistrust in government and international health systems has emerged as a concerning determinant of vaccine hesitancy and one that is particularly important to tackle. Factors such as good leadership and trust in healthcare providers and leaders are central to the success of emergency and public health responses.²⁹

Ensuring accurate information from trustworthy sources, meaningfully engaging traditional health practitioners in health systems and responses, exploring peer-, caregiver- and family-based initiatives, and building trust in government and international health infrastructure, are likely to support vaccine acceptability and uptake among AYP. This will go a long way towards strengthening social and health outcomes for South Africa's next generation.

Recommendations

We suggest a combination of approaches aimed at addressing perceptions of low vulnerability to contracting COVID-19, as well as perceived vaccine effectiveness and safety. These include ensuring that adolescents have access to accurate information about the detection and acquisition of COVID-19 and vaccine information from sources that they trust, as well as engaging with mistrust of the biomedical health system. Involving community leaders and young people in development of such messaging can improve vaccine coverage and address vaccine concerns. A successful community-led vaccine drive in Johannesburg recently saw community members going door to door and inviting people to be vaccinated at a mobile vaccine site.⁶

While access to accurate information is important, this in itself may be insufficient. Our findings suggest that trustworthiness of Western biomedical technologies and information from national and international sources could be greater obstacles for acceptability than availability and reach of information. Throughout our 17 months of COVID-19-related activities with adolescent and young advisors, they demonstrated strong understandings of available COVID-19 science – including prevention measures and symptoms – suggesting that they had received and correctly interpreted public health messaging.⁹ However, many also held non-biomedical beliefs about the origins and spread of COVID-19 and related control measures. This indicates that what should be addressed is not primarily a lack of information, but rather a lack of trust in international and national responses and institutions involved in the public health response, and beliefs in the possibilities of alternative approaches to health. The data presented here raise questions about multiple sources of information and suggest that there is confusion about vaccine-related science. This lack of cohesion bears semblance to the early days of the HIV epidemic, from which COVID-19 researchers and public health practitioners may learn a great deal.

The intersection between biomedical and traditional products and services merits particular attention, given the findings presented here and in the broader literature which documents a mistrust of biomedical solutions, linked to an affinity for traditional approaches. Meaningfully engaging with traditional health practitioners within the COVID-19 response and vaccine roll-out plans is one potential strategy for effective messaging to those who are vaccine-hesitant and have an affinity for traditional products and services. A similar call has been made for meaningful integration of traditional health practitioners in the South African health system more broadly.²³ High rates of engaging traditional health practitioners in South Africa, combined with their documented role of supporting communal, psychosocial and spiritual well-being, make a case for their greater acknowledgement and engagement.²⁴ Traditional healers have demonstrated willingness to support public health interventions²⁵ including for the COVID-19 response.²⁶ Supporting such approaches

can ensure population-responsive interventions that take into account the important role of underlying beliefs about illness that exist within traditional health paradigms. In the current context of COVID-19, the potential value of this approach may be greater than ever before.

The institutions and individuals who are central in adolescents' lives – such as peers, caregivers, teachers and faith leaders – are possible channels for effective intervention through peer- and family-based initiatives. These could be bolstered by social and traditional media-based messaging and sharing of experiences from those who have been vaccinated.²⁷ School and community leadership may represent authorities that are more trusted by young people than biomedical providers and government officials, and can therefore play a key role in providing accurate messaging to promote vaccine uptake. This is supported by a study in Bangladesh²⁸ that found the provision of vaccines in school to improve access and uptake, and by a recent community-based, community-led vaccine initiative in Johannesburg that generated more community uptake than could be met by vaccines available.⁶

Lastly, it may also be important to consider AYP's concern for the wellbeing of older caregivers – and the ways in which AYP support their caregivers' technology-based vaccine registration – as a channel to encourage vaccine uptake among AYP and their caregivers. Considering uptake initiatives aimed at adolescents, who are likely to have better access to and comfort with technology, may serve as an entry-point for interventions to support uptake among older people. Given that similar beliefs and practices often occur within families (and families often access traditional health products and services together), family-based messaging and campaigns may provide practical support, while creating space for families to take decisions together. Linking registration processes to families and household members may also support coverage.²⁹

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