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A qualitative exploration of perceptions of the COVID-19 vaccine in Malawi during the vaccine rollout phase

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Abstract

Aim: Although the COVID-19 vaccine in Malawi has been well taken up and encouraged by the current administration, many individuals either are hesitant to get vaccinated for COVID-19 or refuse to do so. Research has uncovered associated demographic and psychological reasons, but there is a lack of qualitative work involving individuals across Malawi to explore reasons for this hesitancy. We aimed to explore factors leading to hesitation and/or refusal to COVID-19 vaccination in Malawi.

Methods: The study utilized an online survey to collect free-text responses to assess factors leading to hesitation or refusal of COVID-19 vaccination in Malawi. The respondents were part of an ongoing community project in Central Malawi. In total, 284 individuals took part (72 males, 212 females). The mean age was 47.94 (SD = 8.36). Sixty-nine respondents (24.3%) had been vaccinated and 215 (75.7%) had not. An inductive thematic analysis was conducted.

Results: Four themes were yielded, describing; fear of vaccination, becoming vaccinated to protect others, perceived pressure to be vaccinated, and perceptions of the COVID-19 vaccine being ineffective and experimental.

Conclusion: Measures to increase COVID-19 vaccine uptake and acceptance should target fear and misinformation as constraints. Interventions such as individual sensitization and motivational interviewing should be considered for guiding individuals towards considering COVID-19 vaccination.

Keywords: COVID, vaccine acceptance, vaccine hesitation

INTRODUCTION

Vaccination against COVID-19 is an important step towards ending the COVID-19 pandemic[1]. To date, 2.17 million doses of COVID-19 vaccines have been administered in Malawi, and an estimated 6.0% of the total population in Malawi has been fully vaccinated[2]. Malawi has received a total of 4,469,720 million COVID-19 vaccine doses from COVAX, African Vaccine Acquisition Trust (AVATT), bilateral and donations. The COVID-19 pandemic is the latest epidemic incident that requires us to rethink and adjust the current healthcare models without any further delays. Health can no longer be conceived only in relation to human beings; it should also be considered in global terms, as a dimension that connects humans, plants, animals, and the environment as a holistic, One Health. While many approaches grouped under the One Health can be useful for limiting the spread of new epidemics or pandemics, they face significant implementation difficulties because they require significant changes, such as attitudes, social, and ethical practices. In Malawi, many are either undecided or have refused to be vaccinated[3]. Vaccine hesitation is a deferment in getting vaccinated or a rejection of vaccination despite the accessibility of vaccination services[4]. There are several factors that have been reported to be associated with vaccine hesitance, such as gender (women, especially pregnant women and those in the reproductive age bracket, are more hesitant than men), age (young people are more undecided than older people)[5,6], and educational status (lower educational level is associated with higher hesitancy)[5,6]. Other studies have reported conspiracy theories, attitudes, and beliefs as some factors that cause hesitancy[7-9]. The majority of the Malawian population who have been hospitalized due to COVID-19 are unvaccinated, and therefore it is important to realize the reasons to develop interventions that can be developed to increase vaccination rates. While it is imperative to unearth mental issues behind COVID-19 vaccine hesitation[10], most of the studies conducted have been quantitative. In-depth, qualitative exploration would be beneficial to understand how these views and attitudes are developed and sustained. To our understanding, there are very few small-scale case studies published in the Daily Times and the Nation newspapers in Malawi that have focused on certain populations (healthcare workers and police) and locations.

We anticipate that reasons for vaccine hesitancy will change over time as rollout progresses. Thus, this study aimed to explore factors leading to hesitation to and/or refusal of the COVID-19 vaccination in Malawi from a group of people enrolled in a community-based project.

METHODS

This study contributes to the Zambia Malawi Collaboration (ZaMaC) component in Malawi. It is part of a capacity strengthening project with an element of implementation research. Data collection on demographic and mental issues associated with COVID-19 vaccine acceptance were collected via a survey. The Malawi vaccination rollout program was prioritized by age groups (starting with the elderly) at the time of data collection. Near the end of data collection, vaccines had been made available to younger adults over the age of 18 years.

Participants

Individuals eligible to participate were 18 years or older and residing in central Lilongwe in Malawi. Participants were recruited from an ongoing non-communicable disease community-based project and were contacted via email and mobile SMSs. Study participants did not receive material or monetary remunerations for their participation.

Measures

Closed-ended survey questions and scales were used to collect data on demographics and people's perceptions to understand factors associated with COVID-19 vaccination hesitancy or refusal in Malawi.

Procedure

Data were gathered from May to September 2021, when the vaccination rollout was taking place. Participants were invited to fill out an anonymous virtual survey after providing electronic informed consent to participate. The survey took about 7 min to complete with components on demographic variables, coronavirus conspiracy theories, and motivation constructs. After the survey, respondents were thanked for their participation and a WHO link[1] with additional information relevant to COVID-19 was provided.

Analysis

A six-step thematic analysis procedure following Braun and Clarke[11] was used to analyze the data because it reduces the influence of the researcher's logical pre-conceptions on the findings[11]. First, we familiarized ourselves with the data by reading the responses more than once. Secondly, codes were generated and then the themes were created. In the fourth step, the themes were reviewed and then defined. The final step involved writing up the themes. The data were also reviewed by an independent research team and no major deviations were identified. The study report followed the guideline according to the standards for reporting qualitative research (SRQR)[12].

RESULTS

Descriptive analysis

In total, 284 individuals took part (72 males, 212 females). The mean age was 47.94 (SD = 8.36). Sixty-nine respondents (24.3%) had been vaccinated and 215 (75.7%) had not. The mean age of unvaccinated individuals was higher (M = 53, SD = 37.92) [Table 1].

The inductive thematic analysis yielded four themes: fear of vaccination, becoming vaccinated to protect others, perceived pressure to be vaccinated, and participants opinion of the COVID-19 vaccine being dangerous and experimental. These are described in detail in Table 2.

Qualitative analysis results

Fear of vaccination

Fear of getting vaccinated was one of the most reported barriers by respondents. The most common sources of fear were potential reactions and side-effects. Some responses were the limited choices of the vaccines as they preferred many choices to pick one with limited side-effects. The most troubling side-effects reported included rumored fertility issues and potential formation of blood clots. Most respondents responded that they would rather delay vaccination for COVID-19 at the moment because they were breastfeeding, pregnant, or receiving fertility medications.

"I know very little about these vaccines and yet they are already being administered to people. Maybe it would be good to conduct more clinical trials before administration. The idea of blood clots, and fertility issues scars

Table 1. Demographic characteristics of the respondents

	Overall
N	284
Gender	
Male	72 (25.4%)
Female	212 (74.6%)
Unvaccinated	215 (75.7%)
Age in years *M (SD)*	47.94 (8.36)
Age categories	*N* (%)
18-27	2 (0.7%)
28-37	28 (9.9%)
38-47	118 (41.5%)
48-57	101 (35.6%)
≥ 58	35 (12.3%)
Mean age of vaccinated (SD)	17.5 (7.85%)
Mean age of unvaccinated (SD)	53 (37.92%)
Level of education (%)	
No formal education	25 (8.8%)
Primary incomplete	87 (30.6%)
Primary completed	78 (27.5%)
Junior certificate of education	48 (16.9%)
Malawi school certificate of education	46 (16.2%)
Community location (%)	
Area 18	105 (36.9%)
Kawale	129 (45.4%)
Mitundu	50 (17.6%)

me." (#95, 39 years)

Becoming vaccinated to protect others

Some participants had a positive attitude towards the COVID-19 vaccination. In some instances, participants mentioned that the President and Ministers were also at the forefront, trying to motivate people to vaccinate in order to protect others. Participants felt that it was their responsibility to be vaccinated to protect the susceptible and elderly population as a way of protecting the public's health. However, some respondents felt it was the duty of the vulnerable and elderly population to get vaccinated in order to protect their own health. In addition, some respondents mentioned that getting vaccinated would fast-track and lift country-wide restrictions.

"I feel like it is my moral duty and responsibility to get vaccinated in order to protect the vulnerable and elderly like my grandparents." (#22, 41 years)

Perceived political pressure to be vaccinated

Many of the unvaccinated respondents cited experienced a lot of pressure to get vaccinated. Some mentioned that they were not allowed to access some services without being vaccinated. This pressure was also felt by the government officials pushing the agenda to ensure people get vaccinated. This pressure has led to a lot of people having regrets about being vaccinated and others being unable to raise their concerns about the vaccine. The political pressure has also acted as an impediment for participants to get the vaccination, with many feeling it impeded with their personal autonomy.

Table 2. Themes generated from the inductive thematic analysis, with supporting quotations

Themes	Supported quotes
Fear of vaccination	"*My main concern is the negative side-effect of the vaccine. I have a lot going on and would not want to add another worry to my health*" (#116, 22 years)
	"I am still young and need to have a family, the idea of being unable to have children scare me" (#242, 27 years)
	"I would rather wait and know more about the vaccine first" (#115, 31 years)
	"*It feels like I am being rushed and I fear the rumors about blood clot and fertility issues being passed around*" (#33, 46 years)
	"Fertility issues related to the vaccine are a concern because they will have a long-term effect to me" (#275, 30 years)
Becoming vaccinated to protect others	"*I took the vaccine because I felt the need to make sure I protect myself and others around me*" (#07, 23 years)
	"*It is my moral duty and responsibility as a citizen of my country to ensure that I protect others, and this is the reason why I intend to get vaccinated*" (#43, 36 years)
	"I choose to get vaccinated to fast-track normalcy. We have been locked and restricted of movements for a while now" (#142, 26 years)
Perceived political pressure to be vaccinated	"*The government is pushing us [civil servants] to be vaccinated before getting into any government premises. If I had any other choice, I would not have taken it*" (#77, 48years)
	"*The strong-arming strategy from the government is a concern*" (#97, 34 years)
	"*Because of the pressure, I am afraid of raising any concerns or questions since it might be taken as am advocating for people to boycott vaccination*" (#20, 44 years)
	"For one to be able to access some services or even travel freely, I feel forced to have it" (#275, 45 years)
	"*There is a lot of pressure to get vaccinated especially because others are getting it within and in other neighboring countries*" (#169, 49 years)
	"*The government and the media are doing a great job to pressure people to have the vaccine without the need for personal autonomy and choice*" (#132, 56 years)
COVID-19 vaccination being dangerous and experimental	"*I have a high survival rate if I contract COVID because I am healthy and lack any underlying condition. Furthermore, I have not contracted COVID since the pandemic started*" (#116, 41 years)
	"*The chances of a health person dying from COVID is very minimal*" (#61, 28 years)
	"*I am young and health and hence I do not see the need for the vaccine especially now that I am not sure about its effectiveness*" (#219, 52 years)
	"*There are a lot of concerns over safety of the vaccine especially among health young population. It does not add up*" (#95, 56 years)

"The government forcing us to get vaccinated without allowing us to raise our concerns and ask questions is really upsetting." (#11, 29 years)

COVID-19 vaccine being dangerous and experimental

Respondents signified that the COVID-19 vaccine was dangerous and ineffective, as one could still get COVID-19 even after being fully vaccinated. Additionally, some respondents emphasized that the long-term efficiency and efficacy of the vaccine was currently unknown. Currently, there are discussions of either having the COVID vaccination on a yearly basis or additional booster doses. There were a lot of questions raised about the safety of the vaccine.

Such opinions demotivated respondents from getting vaccinated. Many were confident of their own immune system to protect them rather than a vaccine. Some even mentioned that it would be easier to get COVID-19, heal, and increase their immunity rather than getting the vaccine. For some, the benefits of vaccination outweighed the risk and for others vice versa.

Some respondents felt that the vaccination rollout was part of a clinical trial and they did not want to participate in it. This notion made people lack faith in the government in trying to slow progress of COVID-19 infections.

"I would rather heal and develop my own natural immunity than get the vaccine." (#207, 44 years)

DISCUSSION

This study explored opinions on the COVID-19 vaccine from a sample of the population residing in Area 18, Mitundu, and Kawale community in Central Malawi. Several aspects of the elements herding reluctance towards rejection of the vaccine emerged. These included fear over short- and long-term efficiency and efficacy of the vaccine, perceived political pressure to get vaccinated, and the vaccine is ineffective and experimental and a form of clinical trial on the population. However, some participants were motivated to get vaccinated with the desire to have things return back to "normal".

Vaccine safety and fear of side-effects are important concerns that have been reported in previous studies as a barrier to COVID-19 vaccine uptake[13]. However, our findings reveal that providing vaccine options may lessen the fear and increase uptake of vaccines.

The perceived political force to be vaccinated is a barrier to vaccine uptake. In some instances, respondents reported regret after receiving vaccination, which may affect uptake of second or booster doses with people choosing not to be vaccinated. Information campaigns and advocacy may be an alternative strategy and useful to allow people to raise and air out concerns. In addition, empathic and ordinance recommendation may be required to encourage change, since it has proven successful for vaccine hesitancy elsewhere[14]. This should be explored as an alternative option in the near future.

Finally, respondents raised a concern that the COVID-19 vaccine is dangerous and experimental (trial-basis); this inference emerged as a result of balancing the risks and benefits, which has been previously reported as an important factor in changing people's approaches towards COVID-19 vaccination[15]. However, some may end up forming negative attitudes as propagated by some media and misinformation over the Internet[13,15]. In addition, some respondents mentioned that they had lost faith and trust in getting any accurate information from the government. Therefore, providing clear, correct, and accurate information is important, in particular from the government and especially if passed via media.

Despite all the negative sentiments towards vaccine hesitancy, some respondents were motivated to get the vaccine with a perception that it will protect them and others as well as a way to fast-track getting things back to "normal". This would be a good government strategy for nation-wide campaigns in the country. In line with this, people should be encouraged to follow all COVID-19 guidelines. Media, e.g., social media and radio, can also be utilized to deal with COVID-19 vaccine hesitancy[16], dismissing mythologies about the vaccine and pursuing all the misinformation being passed around.

The factors described above raise great concern if not addressed as a whole, as described in the One Health approach[17]. Health is important, and, given the Covid-19 pandemic, there is a lot of interaction among people, animals, plants, and the environment. For this reason, it has become apparent that one should protect the health not only of human beings but also of the whole ecosystem and its components. COVID-19 vaccines are a step closer to change the epistemological stance.

This study offers argument into COVID-19 vaccine hesitation from an extensive set of qualitative data collected from respondents in Central Malawi. Most respondents were from Kawale and Area 18 with a small population from Mitundu. We recognize some limitations in our study. The responses were all written, and hence there was no opportunity to ask participants for additional elaboration on their respondents. Hence, further exploration using focus groups and individual interviews is required to gather

more extensive and in-depth responses. Nevertheless, we conducted qualitative research with 284 participants with some respondents expressing themselves at length. The data collection was carried out during the time of COVID-19 vaccine rollout with reports of vaccine stock-outs. In addition, the Government of Malawi rolled out the COVID-19 vaccine in a phased approach starting with healthcare workers and other priority groups such as immigration officers, police officers, teachers, and those with underlying condition and/or above the age of 60 years; hence, some respondents were not eligible to receive it yet due to this approach. This would have contributed to some of the responses. However, most adults had received at least one dose of the vaccine, and, towards the end of data collection, all adults above the age of 18 years were eligible for vaccination. However, further insight into COVID-19 hesitancy or refusal could be gained by conducting broader qualitative research on vaccine hesitancy.

This was an online qualitative study, and we acknowledge that our findings may not be generalizable to the wider Malawian population. The results were gathered by online survey, which might have excluded people who would have otherwise contributed to the study. In addition, our findings were generalized because the responses were written, and there was no room for further probing. However, the examples presented provide insight into the factors driving vaccine hesitancy. We believe that our study can further improve strategies to optimize vaccine coverage. There is room for further in-depth interviews and focus group discussions that would make it possible to weigh each of the dominant perceptions and provide specific approaches to overcome them.

In conclusion, this study provides understanding of COVID-19 vaccine hesitation from qualitative data collected from respondents from Central Malawi. Our study provides an understanding of how COVID-19 vaccine hesitation could be tackled. There is a need to design interventions that support individuals by ensuring the correct information is provided to allow people to make decisions. Recognizing and focusing on the barriers revealed by this study can contribute to increasing COVID-19 vaccine acceptance and uptake in Malawi and possibly elsewhere. In addition, stakeholders should map out the needs pointed out by the different respondents by community to develop a harmonized campaign to raise uptake of COVID-19 vaccines.

DECLARATION

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Authors' contribution

Designed and carried and collected the data: Safary E

All the authors contributed study analysis, data interpretation and drafting, reviewing and revising the manuscript.

All authors read and approved the final manuscript.

Availability of data and materials

The full dataset (transcripts) generated and analyzed during the current study is not publicly available because they contain information that could compromise the privacy of research participants. They can be made available on request from the corresponding author due to privacy concerns of the nature of the study but can be made available from the corresponding author [Safary E].

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Conflicts of interest
Both authors declared that there are no conflicts of interest.

Ethical approval and consent to participate
This study respected the principles in the Declaration of Helsinki. All methods performed in this study were in accordance with the ethical standards of the institutions and/or national research committee. The study was granted ethics by the National health Science Research Committee, Malawi protocol number #19/03/2272 and the Ethics Committee of the Medical Faculty of Heidelberg University S-113/2019. Voluntary informed consent was obtained in order to participate in the study.

Consent for publication
The participants were told (orally) that the findings would be published in scientific journals and that the findings would be presented in the form of examples/quotes provided by the participants.

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