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Article

# A Qualitative Exploration of Factors Associated with COVID-19 Vaccine Uptake and Hesitancy in Selected Rural Communities in Kenya

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**Abstract: Purpose:** Post-pandemic management of COVID-19 infections and any emergent outbreaks is as an endemic disease remains a public health concern. Vaccine hesitancy may continue to hamper efforts to respond any new disease outbreaks and future epidemics. This qualitative study aimed to explore factors influencing covid-19 vaccine acceptance and hesitancy in Kenya too gain deeper insights on this issue. **Methods:** The study was implemented in Western Kenya using key informant interviews. Fourteen (14) key informants were purposively selected for the study. All interviews were transcribed and analyzed using thematic analysis. Interpretation of findings was done within the framework of the Health Belief Model. **Key findings:** Knowledge was a critical factor in combatting misinformation and fostering vaccine acceptance among participants in this study. Misinformation included rumors that the vaccine lowers immunity and was intended for population control. Cues to action included influence from political and opinion leaders and observing the loss of life among unvaccinated individuals. Perceived barriers to vaccine uptake included fear of vaccine safety, side effects, long waiting times at that time of our study, fear of contracting the COVID-19 at vaccination sites, family/spousal influence on vaccine uptake and fear of the unknown with the vaccine. **Conclusion:** Findings from this study provides insight into areas for targeted strategies for managing Covid-19 vaccinations and future pandemics. Within the framework of the Health Belief Model, this study identified salient barriers and facilitators of COVID-19 vaccine hesitancy that may be helpful to inform future pandemic response.

**Keywords:** qualitative; vaccine hesitancy; health belief model; post-pandemic management; Kenya

## 1. Introduction

Post-pandemic management of COVID-19 infections and emergent outbreaks and surges as an endemic disease is of major public health concern [1]. While the World Health Organization (WHO) declared Covid-19 no longer a public health emergency (PHE) in May 2023, there are still daily infections and deaths happening from the disease in varying numbers around the world [1]. Experts predict that the disease will transition to an endemic phase because no vaccine has yet to be developed that could provide lasting immunity or eliminate or eradicate the virus hence the virus continues to evolve into new strains [1,2]. Against this backdrop, addressing current and future potential COVID-19 vaccine hesitancy is critical towards increasing vaccinations.

Endemic phase is characterized by continued infections by the virus but in lesser numbers, but it is not synonymous to COVID-19 infections becoming safe, or the mortality and morbidity becomes less of a problem in the world [3]. According to various other studies [4] the disease burden and prevalence in the endemic phase will be influenced by different factors beyond the endemicity itself. These include how quickly the new variants emerge, development of efficacious COVID-19 vaccines, uptake of the vaccines, characteristics of people's immunity at the individual level, and herd immunity at the population levels.

Covid-19 garnered unprecedented magnitudes of misinformation, disinformation, and conspiracy theories in the recorded history of recorded epidemics and pandemics that necessitated the World Health Organization to declare this a major public health problem, known as infodemic [5]. Infodemic will continue to influence the current and future perceptions of vaccines and efforts of vaccination around the world continually contributing to vaccine acceptance, hesitancy, and refusal [6–8]. A myriad number of other factors significantly contributed to Covid-19 vaccine hesitancy globally and may still be difficult to deal with in a post-pandemic endemic phase [9,10]. While the world continues to learn more and apply lessons learned from the management of COVID-19, countries must continually strive to maintain the significant gains that have been made during the past 4 years through active surveillance, reporting and data collection [1].

Vaccine hesitancy (VH), defined as the reluctance or refusal to get vaccinated despite the availability of vaccines, is among the ten threats to global health [11]. In the early phase of a devastating global pandemic like it was for COVID-19, vaccine hesitancy can greatly hamper efforts to respond effectively and control the outbreak, prolonging the battle with the disease. Earlier studies in the outbreak and spread of the pandemic demonstrated that COVID-19 vaccine hesitancy exists at varying levels across populations from a low of 3% in Ecuador to as high as 72% in Kuwait [12]. Surprisingly, high levels of hesitancy are also reported even among health professionals with medical knowledge. According to recent studies [13,14] more than **one-fifth of healthcare workers globally** are hesitant about receiving a COVID-19 vaccine. The prevalence of vaccine hesitancy among health care workers worldwide ranged from about 4% to 72%, with an average of 22% [13]. Factors such as vaccine safety, efficacy, potential side effects, fear of vaccine driven by conspiracy theories, the novelty of the covid-19 vaccines and the urgency with which they were developed, have been identified as the top reasons for vaccine efficacy among healthcare workers and members of the general population [14,15]. Health professionals, among others, have a crucial role in disseminating information, providing health education, and attempting to convince people to follow vaccination schedules. Health professionals themselves may have doubts about the vaccines, resulting from many factors including mistrust of the healthcare system of their country, and this influences their own perceptions and decisions on vaccine acceptance as well as openly expressing their reservations hence impacting the preventative behaviors and decisions of the general population.

We adopted the Health Belief Model (HBM) as our conceptual framework to guide our study in the data we sought to collect. The HBM was developed in the early 1950s by social scientists in the US Public Health Service to understand the failure of people to adopt disease prevention strategies [16,17]. The six constructs of the HBM are perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. Over the years, as it evolved, this framework has been extensively applied in different ways in understanding behavioral health decisions and applied for different outcomes with varied findings, some positive while others were inconclusive [17–19].

The HBM is an important tool for public health professionals and others involved in policy and decision making on health and health outcomes of populations because it provides a framework for understanding how people perceive health risks and how these perceptions may contribute to how they respond to those risks [16–20]. The HBM framework suggests that people's beliefs and self-efficacy explain engagement (or lack of engagement) in health-promoting behaviors. With an understanding these perceptions, it is assumed that public health professionals can design interventions that are more effective in promoting healthy behaviors, influencing communication,

campaigns, and policy for motivating individual towards effective behavior changes for desired better outcomes [20–22].

While much success is attributed to the use of the framework, it is important to note that like all other theories and models/frameworks, the HBM has limitations. Notable among these include not accounting for habitual behaviors where individuals are not rational but more impulsive in their decision-making; not accounting for broader organizational, community, population, or structural factors that are not necessarily health-related but affect people's decisions; and assumes that cues to action are widely prevalent in encouraging people to act and that "health" actions are the main goal in the decision-making process in everyday lives or decisions made will be sustained [20,22,23]. However, despite the limitations, HBM it is still a widely applied framework for application in today's public health work and studies and contributes to generating relevant information and knowledge.

Majority of studies on vaccine hesitancy are largely quantitative with few qualitative available across the world, and particularly in Kenya. Qualitative studies, especially for healthcare research, are useful in understanding health behaviors by eliciting rich narratives on a phenomenon and deeper understanding of lived experiences of the target population [24] Against this backdrop, this qualitative study aimed to explore factors influencing covid-19 vaccine acceptance and hesitancy in Kenya to capture the lived experiences and other attributes of VH that numbers alone may not highlight. At the time of the study, such data would help gain a deeper understanding of context-specific factors associated with vaccine uptake and hesitancy which would contribute to efforts towards health promotion for vaccinations, policy implementation, and ways to manage Covid-19 pandemic and other future pandemics. Findings from the study may be helpful in designing effective intervention strategies as we deal with Covid 19 as an endemic disease.

## 2. Materials and Methods

### 2.1. Research Design

We utilized an exploratory qualitative cross-sectional research design by conducting key informant interviews (KII) on purposefully selected participants mainly because of ease of access and the population segments they are part of in the community. The study was conducted in May-August 2021, at the peak of COVID-19 globally. Our primary aim for the qualitative strategy through open-ended structured interview questions was to understand the factors associated with vaccine hesitancy, acceptance, motivators, and barriers to COVID-19 vaccine uptake among adults aged 18+ years. The study focused on eliciting information guided by the key salient elements of the model (perceived susceptibility, perceived severity, perceived benefits, perceived barriers to action, cues to action, and self-efficacy) to identify factors influencing vaccine acceptance and hesitancy.

### 2.2. Study Setting

This study carried out in Kakamega, Vihiga, and Kisumu Counties in western Kenya.

*Kakamega County* Kakamega County is located in the former Western Province of Kenya and borders Vihiga County to the south, Siaya County to the west, Bungoma and Trans- Nzoia counties to the north, and Nandi and Uasin Gishu counties to the east. Its capital and largest town is Kakamega, and it has a population of over 1.8 million people and an area of 3,033.8 km<sup>2</sup>. The county has twelve sub- counties, eighty- three locations, two hundred and fifty sub-locations, one hundred eighty- seven Village Units and four hundred Community Administrative Areas. There are 433,207 households with an average size of 4.3 persons per household [25].

*Vihiga County* lies in the Lake Victoria Basin and covers an area of 531.0 Km<sup>2</sup>, around 80 km northwest of Eldoret, around 60 km north of Kisumu, and approximately 350km west of Nairobi City, the capital city of Kenya. It is in the Western region of Kenya and borders Nandi County to the east, Kisumu County to the south, Siaya County to the west, and Kakamega County to the north. Its headquarters is in Mbale, and it is one of the four counties in the former Western Province. The county has a population of over 600,000 people of which 51.9% are females while male constitutes 48.1%;

64.4% of the total population are under the age of 30 [25]. The County has five administrative Sub-Counties. The county is further subdivided into 38 locations, and 131 sub-locations.

*Kisumu County.* Located in the western part of Kenya, Kisumu County is one of the 47 counties in the country. It borders Lake Victoria to the east and is home to the third-largest city in Kenya, Kisumu City. The county has a population of over 1.1 million people and covers an area of 2,085.9 km. The county is bordered to the north by Nandi County and to the North East Kericho County. Women make up 50.1% of Kisumu's population and men represented 49.9%. Sixty-four percent of the total population are under the age of 25. Administratively, the county is divided into 7 sub-counties, and these are further divided into 35 wards [25].

### 2.3. Study Population and Participants

The study targeted Key informants who were all adults 18+ years residing in Kisumu, Vihiga, and Kakamega counties in western Kenya respectively. Key informants are individuals with unique expertise and understanding in a given area. This was to collect information from a wide range of people who have firsthand knowledge about the community. There were 14 key informants which included Assistant Chief, motorcycle rider, community health volunteer, medical officer, nurse, gospel minister, youth mentor, security officer, lawyer, Islamic religious leader, women group leader, community health promoter, Evangelist.

### 2.4. Sampling Procedure

Purposive sampling was used to select the three counties and study participants. Purposive sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources [26]. This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest. The fourteen (14) key informants were selected purposively from the three counties.

### 2.5. Data Collection

A semi structured interview guide was developed through discussion depending on the antecedent knowledge and previous studies [26]. A semi structured interview guide was utilized so that flexibility during the interview would be ensured. The interview guide was anchored on the health belief model salient including the perceived severity, perceived susceptibility, perceived benefits, and barriers such as misinformation. Open ended questions and prompts guided the interview to form a colloquial manner to generate rich descriptions.

### 2.6. Data Collection

This was a qualitative study done in western Kenya using the key informant interview (KII) approach. Fourteen key informants were purposively selected to participate in the study. Data was recorded verbatim using an audio recording device and transcribed into Microsoft Word processor.

A semi structured interview guide was used for data collection. The interview guide was piloted among four (4) participants to determine if it elicited the requisite and desired responses from the study participants. The four informants who participated in the pilot were excluded in the study. Each participant was interviewed alone after making appropriate appointments in their offices or in a secluded area as was appropriate. The interview guide was utilized all through the interview to guarantee uniformity and standardization on the whole interview process at the same time permitting extensive probe on the phenomenon in question. The interviewer delved into emerging ideas depending on the participants' responses. Each interview session took between 15 and 20 minutes and was recorded using a tape recorder with permission from the study participants. In each interview field notes were also taken.

## 2.7. Data Analysis

Data from the Key informants' interviews (KII) was analyzed using the principles of thematic analysis process [27–29]. Data were categorized and Frameworks identified based on the issues in the interview guide and coding plan was developed to explore interactions. Each segment of the transcript (text file) was coded. The coded transcripts were then exported to QSR NVIVO 12.5 statistical software for analyzing qualitative data; this software give opportunity to organize, store, retrieve and process data with 90% level of output accuracy (QSR NVIVO 12.5 full version). The analysis was accomplished by first familiarizing with data by reading verbatim and noting significant themes. Emerging themes were identified, and coding categories were developed according to the views of the respondent [30–33]. Each segment of the transcript (text file) was coded according to each category to describe the factors influencing COVID-19 vaccine acceptance and hesitancy based on the Health Belief Model salient. The interpretation was done within the framework of the Health Belief Model (HBM).

## 2.8. Ethical Approval

The research protocol was reviewed and approved by the institution ethics review committee of University of Eastern Africa Baraton (Approval Code: (UEAB/REC/50/03/2021).

## 3. Results

### 3.1. Demographic Data

A total of 14 respondents participated in this study drawn from diverse occupation as indicated in Table 1 below.

**Table 1.** Occupation distribution of key informant study participants.

| Respondent (n=14) | Occupation                            |
|-------------------|---------------------------------------|
| R1                | Assistant chief                       |
| R2                | Motorcycle ( <i>boda boda</i> ) rider |
| R3                | Community Health Volunteer (CHV)      |
| R4                | Lawyer                                |
| R5                | Security officer                      |
| R6                | Islamic Religious Educator            |
| R7                | Community health worker (CHW)         |
| R8                | Youth Mentor                          |
| R9                | Medical Officer                       |
| R10               | Political leader                      |
| R11               | Nurse                                 |
| R12               | Gospel minister                       |
| R13               | Evangelist                            |
| R14               | Women group leader                    |

### 3.2. Factors Influencing the Uptake of COVID-19 Vaccine

#### 3.2.1. Low Perceived Severity of COVID-19

Respondents indicated that observing the devastating effects of covid-19 among those who were unvaccinated, particularly the loss of life, locally and internationally, influenced the uptake of COVID-19 vaccine. As a participant mentioned: “I think the most relevant is the fear of death” (R13, Evangelist occupation). People were willing to get vaccinated so that they could avoid getting infected by COVID-19. For example, a participant mentioned a reason why people get vaccinated: “people take the vaccine to be safe and due to fear for infection from others” (R8, Youth mentor occupation).

More so, participants highlighted the role that international travelling played in inducing COVID-19 vaccine uptake as noted in one of the participant's words:

*"We are living in a society where people do with the international travelling, so this influences them to take the vaccine as you can see people are really losing their lives, yes as you can see even in our country here"* (R1, Assistant chief).

It also emerged that another factor crucial in fostering covid-19 vaccine uptake was perceived severity of the disease, particularly the social consequence such as isolation and stigmatization. As one respondent mentioned:

*"People fear being infected, because if you are positive of covid-19 you will be isolated, so you will be away from your family members, also there is fear of stigmatization."* (R3, CHV).

### 3.2.2. Perceived Benefits

Respondents indicated that vaccine acceptance was fostered by the benefits perceived by the people to accrue from getting vaccinated. These benefits included the belief that the vaccine prevented the disease and also improved their immunity. One of the motorbike (Boda Boda) riders said:

*"Me I think, people go to get the vaccine because they believe that the vaccine prevents covid-19, so I think it is because they don't want to get that virus also they'll get immunity boost towards the virus"* (R2, Boda Boda Rider)..

A community health volunteer (CHV) said, "We normally say, prevention is better than cure, so people go for prevention... Another issue is that they see that if you get vaccinated early, the chance of getting the virus is low, and you can live longer as for example the measles vaccine." (R3, CHV).

Further benefits were cited to be the fact that the vaccination is free of charge:

*"One is to improve the immunity, also to be free from corona virus, and also to be healthy and... also to add the service is cost free."* (R5, security officer).

### 3.2.3. Low Perceived Susceptibility

One of the factors reported as influencing hesitancy was low perception of susceptibility to covid-19. This particularly affected uptake among the youth who did not perceive themselves to be at risk of the disease. As one of the respondents' stated:

*"people say that vaccine is for the elderly not for the young or the youths... people say that the elderly are the once who are at risks, we as the energetics ones we are just ok"* (R14, Women Group Leader).

This belief stems from the idea that younger people have a higher immunity compared to older populations. As identified by another of the study participants,

*"there is misconception among the youth about the age, whereby they think that they have strong immunity, whereby they believe that the elderly are at risk than them"* (R4, Lawyer).

In addition to the belief that younger populations were not as susceptible to COVID-19 compared to elderly ones, there was also the belief that COVID-19 susceptibility varied by geographical location. As explained by a study participant,

*"our people believe that covid 19 is for the cities, it is not found in the villages, hence there is reluctances in us who are in rural areas or rural small towns"* (R12, Gospel minister).

## 3.3. Barriers

### 3.3.1. Lack of Knowledge

Participants identified the lack of knowledge as a barrier to COVID-19 vaccine uptake. Respondents indicated that proper knowledge of vaccines and their purpose was critical in fostering

vaccine acceptance. This knowledge was fostered by public sensitization, as one participant highlighted:

*"Once proper knowledge [is gained], those who have knowledge [have] a proper uptake of the vaccine."* (R1, Assistant Chief).

Particularly, knowledge was important for dispelling rumors about the COVID-19 vaccine. According to another participant:

*"In my opinion you know if you inform the people about the drugs, you know they will be aware and willing, so that they can do away with the rumors of witchcraft and myths that is going around her in the community"* (R7, Community health worker).

To inform the public about the vaccine study participants reported that political and opinion leaders' actions and words motivated or influenced the general population to take the COVID-19 vaccine. A nurse, who was one of the respondents stated that:

*"the people who are in power are a major factor, because the people are seeing them as an example, hence they feel motivated to go and receive the jab"* (R11, Nurse).

The other factor cited to influence COVID-19 vaccine hesitancy was lack of knowledge on what respondents termed as "the basics of the vaccine." This included its efficacy and side-effects. As one respondent explained,

*"There is lack of knowledge, people do not have the basics of the vaccine."* (R5, Security officer). Another added that, *"...also others still don't know the effects of the vaccine to them"* (R2, Boda Boda Rider).

Overall, a lack of awareness was a significant barrier to vaccine uptake, as highlighted by a study participant, *"lack of sensitization, there is lack of sensitization in the areas we are living in"* (R8, Youth Mentor).

### 3.3.2. Misinformation

Another barrier was reported to perceived side effects of the vaccines, some of which arose from misinformation while others from lived experiences. The perceived side effects of the vaccine included the fear of blood clotting, trembling and shaking and even death. According to a respondent, people's willingness to take the vaccine was impacted by rumors of side effects:

*"some are willing but there are some side effects of vaccine as in the rumors they normally hear from their friends and fellows."* (R3, CHV).

Some of the rumors that were shared about the side effects of the vaccine included trembling and shaking after vaccination, pain, nose bleeding, issues of blood and clotting, as a respondent indicated: *"there is also rumor that when you get the vaccine, there are issues of blood clotting and so on..."* (R2, Boda Boda rider). And yet another participant highlighted,

*"the issue of nose bleeding which some people saw in vaccinated people, this really affected the uptake, and hence people fear"*. (R13, Evangelist).

Rumors also included the perceived inefficacy of the COVID-19 vaccine. As one respondent stated:

*"there is a rumor that these vaccines does not treat, and also people now see it that even if you get vaccinated you will still get the virus if you are exposed"* (R13, Evangelist).

Death was identified as one of the side effects of taking the vaccine, and surprisingly this was noted by a health professional:

*"I fear that one can get abnormal side effects and also deaths, people fear death"* (R9, Medical officer).

While some participants expressed perceptions of side effects, others highlighted side effects shared by those who had received the vaccine. For example, one of the participants explained that:

*“we have cases that emerged, like for example people whom have been vaccinated will tell the rest on how they feel like the signs and symptoms like headache, tiredness and so on, also you have there are this category of people whom do not want to be injected, in that they prefer oral drugs, they are afraid of the injection” (R11, Nurse).*

Other misinformation about the vaccine included rumors such as COVID-19 vaccine being about population control of the African populations by people from the West, with some asserting that those who get vaccinated ended up dead and that the vaccine would lower one’s immunity rather than boost it or even cause impotency among men and infertility in women. According to one respondent, *“some people argue that it is a way of controlling the population, as a way of suppressing the African population.” (R1, Assistant chief).*

Another participant echoed that, *“some believe that it may lower the immunity for the oppressed.”(R5, security officer).*

There were also rumors that the vaccine may impact reproduction. According to a study participant,

*“I have heard people say that when you get vaccine, you may lose you fertility, so you may end up not giving birth” (R6, Islamic Religious Educator).*

### 3.3.3. Access Issues

Barriers influencing COVID-19 uptake hesitancy included access issues such as long queues typical of vaccination centers initially, poor accessibility due to scarcity of vaccination sites, and the fear of contracting the disease from the ensuing crowd. According to one of the participants,

*“People fear to make a queue morning hour because they fear infected when they go to the crowd...” (R2, boda boda rider).*

To highlight structural accessibility issues, one of the respondents stated that: *“I can say the accessibility, so you know the transportation is very key and people are coming from very far, and people normally say that they are very committed with their daily activities so this is hard on them” (R3, CHV).*

Particularly, the combination of distance and fear of side effects of the vaccine, served as barriers to taking the COVID-19 vaccine. As a respondent explained,

*“Number one I can say, those already vaccinated goes on talking about side effects, and these side effects makes people to fear to go and take the vaccine... number two, is the issue of the distance, you know many people come from far, and this will make people to board a motorbike and pay the service for transportation, so this is a factor”. (R8, Youth mentor).*

### 3.3.4. Spousal Influence

It was also reported that covid-19 vaccine hesitancy was influenced by spousal influence, particularly for women. One respondent posited that in certain circumstances, the husband would refuse to let her wife get vaccinated out of fear especially if he does not want the vaccine himself. According to this participant,

*“ you find that on the side of pregnant women, her spouse may deny her a chance to go and take the vaccine because of fear of unknown effects” (R2, Boda Boda Rider).*

## 4. Discussion

This qualitative study explored the factors influencing covid-19 vaccine uptake and hesitancy in Kenya. Upon analysis, the findings were found to fit within the framework of the Health Belief Model and were thus interpreted. Knowledge was a critical factor in fostering vaccine acceptance among participants in this study, which is consistent with findings from another studies indicating that knowledge about the COVID-19 vaccine facilitates vaccine acceptance among sub-Saharan African populations [34]. Lack of knowledge on the efficacy and side effects of the vaccine was highlighted as factors that influence vaccine uptake in the current study and other studies on African populations

[35]. Misinformation in the current study included rumors about population control and that the vaccine lowers immunity. Misinformation about COVID-19 has been found to be particularly prevalent among varying African populations, leading to significant levels of vaccine hesitancy [7,35–37]. Participants in this study suggested that public sensitization may increase knowledge about COVID-19 vaccine and combat vaccine-related misinformation. Although the Kenyan government engaged in the dissemination of COVID-19 related information to dispel misinformation, it is uncertain the extent to which these campaigns were effective [38]. However, there is evidence suggesting that low levels of trust in the government may have reduced the acceptance of COVID-related government initiatives and information in Kenya [39].

A systematic review of HBM applied to the COVID-19 vaccine hesitancy indicated that cues to action have an inverse association with vaccine hesitancy [40]. Cues to action in this study included influence from political and opinion leaders, which aligns with findings from other studies examining factors that impact COVID-vaccine acceptance across several countries [41,42]. Participants in this study reported that observing the loss of life among unvaccinated individuals served as a cue to action. This aligns with findings from the literature that perceived severity is positively associated with COVID-19 vaccine uptake [43,44].

The current study observed vaccine acceptance because of the perceived benefits was that the vaccine prevents COVID-19 and improves immunity and the perceived severity of COVID-19, particularly the social consequences resulting from isolation and stigmatization. This is consistent with other findings from a quantitative study showing an inverse association between perceived benefits and severity of COVID-19 vaccine and vaccine hesitancy [40]. Findings from this study indicated that younger populations did not perceive themselves to be at risk of COVID-19, which is consistent with findings from another study on the risk perceptions of COVID-19 among younger versus older populations in sub-Saharan Africa (SSA) [45]. More so, perceived susceptibility to COVID-19 has shown negative associations with COVID-vaccine hesitancy, which supports findings from this study, wherein vaccine uptake was reported to be lower among youths with reduced perceived susceptibility to COVID-19 [40].

Perceived barriers to COVID-19 vaccine uptake in this study included fear of vaccine safety and side effects, which align with evidence from the literature highlighting factors associated with COVID-19 vaccine refusal in Kenya and other African countries [46–48]. Public health communication campaigns can focus more effort on educating the public on the side effects of the vaccine. Participants in the current study also identified scarcity of vaccine and long waiting times at vaccination sites as barriers to vaccine uptake, which is consistent with results showing poor accessibility to COVID-19 vaccine in SSA countries such as Ghana, South Africa and Zimbabwe [37,47,49]. The fear of contracting COVID-19 from crowds at vaccination sites is a unique finding in the current study that has not been reported elsewhere. Spousal influence on vaccine uptake resulted from fear of the vaccine, as reported by participants in this study. No other studies have reported on marital partner preventing the other from accessing COVID-19 vaccine among African populations. However, the concept of fear of the vaccine and its association with vaccine hesitancy has been found among some African populations [10,37]. This may be an area for further exploration in research in many more populations across the continent.

## 5. Conclusions

This study is not without limitations. As this was a qualitative study, it was impossible to draw any conclusions regarding causal associations between variables determining vaccine hesitancy among the target population. The use of KII approach fosters the possibility of bias in the selection of study participants. However, KII also offers significant benefits in gathering key insights on the determinants of vaccine hesitancy from strategic community members with deeper understanding of this phenomenon. Findings from this study will provide important guidance for implementing post-pandemic management interventions and informing future pandemic prevention strategies.

**Author Contributions:** F.N. — conceptualized the study and significantly worked on the manuscript, revised and provided approval for submission. N.C.K. — conceptualized the study, data collection, manuscript preparation and revisions. C.W. — conceptualized the study, methods, data analysis, and reporting and manuscript revision. W. A. — data collection, manuscript preparation and revisions, T.A.-manuscript preparation, and revision. All authors have read and agreed to the published version of the manuscript.

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**Institutional Review Board Statement:** The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Ethics Committee of University of Eastern Africa, Baraton. Approval Code: (UEAB/REC/50/03/2021).

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study by signing a consent form that had explanation on the voluntary participation and purpose of the study explained to them.

**Data Availability Statement:** The datasets used and/or analyzed during the current study are contained within this article. Any additional data or clarification available upon reasonable request.

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**Conflicts of Interest:** None declared.

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