

Understanding Covid-19 Vaccine Hesitancy in Africa: A Systematic Review of Sociocultural Beliefs, Trust in Health Systems, and Misinformation Dynamic

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Abstract COVID-19 vaccine hesitancy became a major challenge affecting vaccination efforts across African countries during the COVID-19 pandemic. This systematic review examined sociocultural beliefs, trust in health systems, and misinformation dynamics influencing vaccine hesitancy across Africa. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Electronic databases including PubMed, Scopus, Web of Science, Google Scholar, African Journals Online (AJOL), and ScienceDirect were searched for studies published between 2020 and 2026. Additional reports were obtained from the World Health Organization (WHO), United Nations Children's Fund (UNICEF), and Africa Centres for Disease Control and Prevention (Africa CDC). Studies addressing COVID-19 vaccine hesitancy among African populations were included. A total of 286 records were identified, with 38 studies meeting the inclusion criteria after screening and eligibility assessment. The review revealed that vaccine hesitancy across Africa was driven by multiple interconnected factors including misinformation spread through social media, mistrust in governments and healthcare systems, sociocultural and religious beliefs, fear of vaccine side effects, and concerns regarding vaccine safety. Misconceptions related to infertility, hidden political agendas, and harmful effects of vaccines were frequently reported. Healthcare worker hesitancy, poor public health communication, and socioeconomic inequalities further contributed to low vaccine confidence in several African settings. The review concludes that improving vaccine uptake in Africa requires culturally sensitive communication strategies, strengthened institutional trust, effective misinformation control, and stronger community engagement to improve confidence in future vaccination programs.

Keywords Africa, COVID-19 Vaccine Hesitancy, Misinformation, Public Health Communication, Sociocultural Beliefs, Trust in Health Systems, Vaccine Acceptance.

Introduction

Vaccination has remained one of the most successful public health interventions for controlling infectious diseases, reducing mortality, and improving global health outcomes [1]. During the COVID-19 pandemic, the rapid development and deployment of vaccines represented a major scientific and medical achievement aimed at limiting transmission, reducing severe illness, and preventing deaths associated with the disease [2]. Governments, international organizations, and public health institutions promoted vaccination as a central strategy for controlling the pandemic and restoring social and economic stability. Despite these efforts, many countries experienced substantial challenges related to vaccine acceptance and uptake, particularly within low- and middle-income settings [3]. In several regions, low vaccination coverage weakened public health responses and slowed progress toward population immunity.

COVID-19 vaccine hesitancy quickly became a major global public health concern during the pandemic period. Vaccine hesitancy refers to delay in acceptance or refusal of vaccines despite the availability of vaccination services [3]. Even before the emergence of COVID-19, the World Health Organization had identified vaccine hesitancy among the major threats affecting global health because of its growing influence on immunization programs and disease prevention efforts [4]. During the pandemic, fear, uncertainty, misinformation, and mistrust surrounding newly developed vaccines further intensified hesitancy across different populations [5].

Globally, vaccine-related decisions were influenced by a combination of social, cultural, political, and institutional factors [6, 7]. Concerns regarding vaccine safety, fear of side effects, distrust in governments and pharmaceutical industries, and exposure to misinformation contributed significantly to reduced vaccine confidence in many countries.

Social media platforms such as Facebook, WhatsApp, YouTube, and Twitter became major channels through which false information and conspiracy narratives circulated rapidly [8]. Claims suggesting that COVID-19 vaccines could cause infertility, alter human DNA, implant microchips, or serve hidden political agendas generated fear and confusion within several communities worldwide [9].

In Africa, vaccine hesitancy became particularly concerning despite continuous vaccination campaigns and efforts to improve public awareness [10]. Historical distrust in governments, previous experiences with healthcare systems, sociocultural beliefs, and limited confidence in public institutions influenced vaccine attitudes across several African populations [11]. In some settings, communities questioned the rapid development of COVID-19 vaccines and expressed uncertainty regarding vaccine safety, transparency, and possible long-term effects [12].

To improve vaccine uptake, several African countries implemented public sensitization campaigns, community mobilization strategies, and engagement of healthcare workers, religious leaders, and community influencers [13]. Trust in healthcare professionals was frequently associated with improved vaccine acceptance, whereas mistrust in political institutions and public authorities often contributed to resistance toward vaccination programs [14]. However, vaccine hesitancy persisted across many African settings despite these interventions [15]. This persistence suggests that hesitancy was not simply a matter of inadequate vaccine supply or lack of information but was also linked to broader social realities, institutional trust, communication dynamics, and cultural perceptions surrounding health and vaccination.

Although many studies have explored COVID-19 vaccine hesitancy within specific

African countries and populations, the available evidence remains fragmented. Some studies focused mainly on misinformation and social media influence, while others examined sociocultural beliefs, vaccine safety concerns, or trust-related factors independently. Limited synthesized evidence exists bringing together these interconnected determinants across African populations. Understanding how these factors interact is important for strengthening public health communication, improving vaccine confidence, guiding policy decisions, and supporting future vaccination programs across the continent.

This systematic review was therefore conducted to synthesize available evidence on sociocultural beliefs, trust in health systems, and misinformation dynamics influencing COVID-19 vaccine hesitancy across Africa. The review provides an integrated examination of cultural, institutional, and communication-related factors shaping vaccine attitudes across multiple African settings rather than focusing on isolated determinants or single-country experiences. The findings may contribute to strengthening public health communication strategies, improving vaccine confidence, and supporting future immunization programs within African populations.

Materials and Methods

This study was conducted as a systematic review aimed at synthesizing evidence on sociocultural beliefs, trust in health systems, and misinformation dynamics influencing COVID-19 vaccine hesitancy across Africa. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a structured and transparent review process [16].

A comprehensive literature search was conducted between January and April 2026 using electronic databases including PubMed, Scopus, Web of Science, Google Scholar, African Journals Online (AJOL), and ScienceDirect. Additional reports and policy

documents were retrieved from the World Health Organization (WHO), United Nations Children's Fund (UNICEF), Africa Centres for Disease Control and Prevention (Africa CDC), and other international public health organizations involved in immunization programs in Africa [17-19].

The search strategy combined keywords and Medical Subject Headings (MeSH) related to vaccine hesitancy and Africa. The main search terms included "vaccine hesitancy," "vaccine acceptance," "COVID-19 vaccine hesitancy," "misinformation," "social media," "trust in health systems," "sociocultural beliefs," and "Africa." Boolean operators such as AND and OR were used to refine the search and improve retrieval of relevant studies.

Studies were included if they focused on COVID-19 vaccine hesitancy within African populations and addressed sociocultural beliefs, misinformation, trust-related factors, or health system influences affecting vaccine uptake. Quantitative studies, qualitative studies, mixed-method studies, systematic reviews, and national survey reports published between 2020 and 2026 in English or French were considered eligible for inclusion. Editorials, conference abstracts, opinion papers, duplicate studies, and articles with inaccessible full texts were excluded from the review.

Titles and abstracts of retrieved studies were screened for relevance before full-text review. Relevant information extracted from selected studies included author, year of publication, country, study design, study population, key determinants of vaccine hesitancy, and major findings. The findings were synthesized narratively and organized into thematic areas including sociocultural beliefs, trust in health systems, misinformation dynamics, perceived vaccine safety concerns, healthcare worker attitudes, and socioeconomic factors influencing COVID-19 vaccine hesitancy across Africa.

Results

The literature search conducted across PubMed, Scopus, Web of Science, Google Scholar, African Journals Online (AJOL), and ScienceDirect identified 286 records related to COVID-19 vaccine hesitancy in Africa. Additional articles and reports were obtained from the World Health Organization (WHO), Africa Centres for Disease Control and Prevention (Africa CDC), and reference lists of relevant studies. After removal of 48 duplicate records, 238 articles remained for title and abstract screening.

During the screening stage, 161 articles were excluded because they did not focus on

COVID-19 vaccine hesitancy within African populations, addressed unrelated public health topics, or lacked relevance to the objectives of the review. Seventy-seven full-text articles were subsequently assessed for eligibility. Following full-text review, 39 studies were excluded because they did not sufficiently address sociocultural beliefs, misinformation, trust-related factors, or determinants of vaccine hesitancy in Africa. Editorials, commentaries, conference abstracts, duplicate publications, and studies with inaccessible full texts were also excluded. Finally, 38 studies met the inclusion criteria and were retained for the review. The study selection process is summarized in Figure 1.

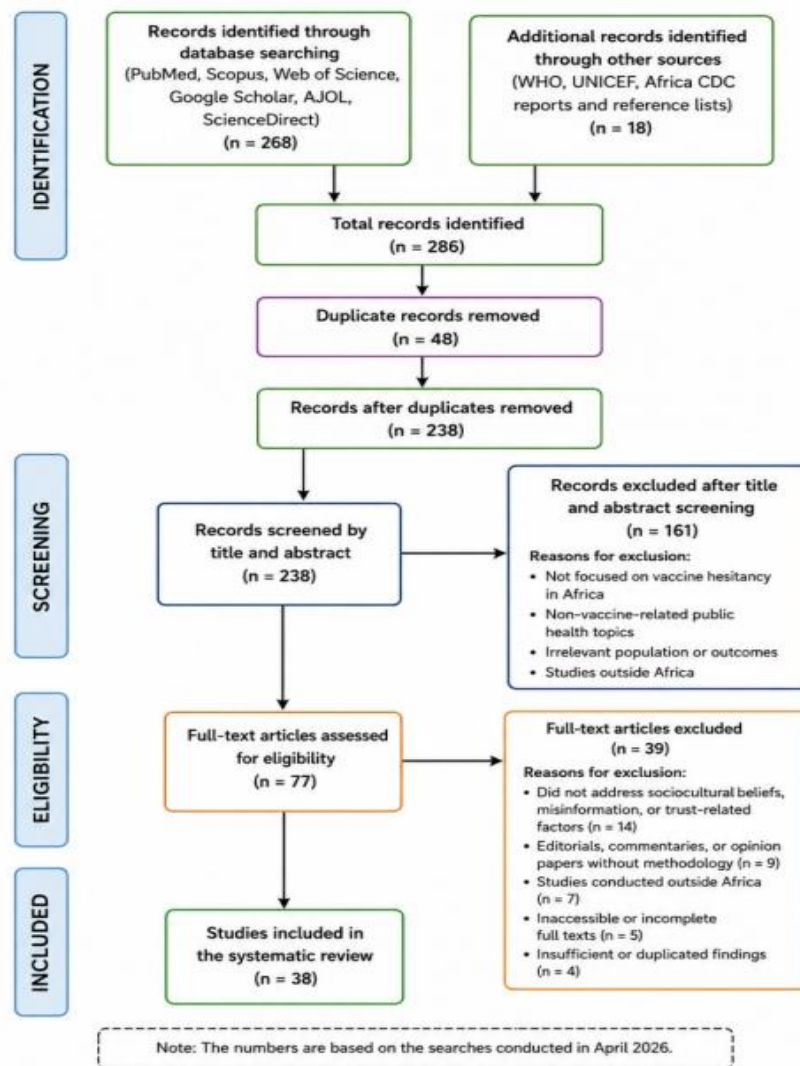


Figure 1. Flow Diagram Showing the Study Selection Process for the Systematic Review on Vaccine Hesitancy in Africa

The included studies were published between 2020 and 2025 and were conducted across several African countries including Cameroon, Nigeria, Ghana, Ethiopia, Uganda, South Africa, Zimbabwe, Tanzania, Egypt, and the Democratic Republic of Congo. Multi-country African studies and systematic reviews were also represented [20-25]. Most of the studies employed cross-sectional study designs,

while others consisted of qualitative studies, mixed-method studies, systematic reviews, scoping reviews, and meta-analyses. The majority of the studies focused on COVID-19 vaccine acceptance, vaccine hesitancy, and associated determinants among adults, healthcare workers, university students, and community populations. The characteristics of the included studies are presented in Table 1.

Table 1. Characteristics of Studies Included in the Systematic Review on COVID-19 Vaccine Hesitancy in Africa

No.	Author(s)	Year	Country/Setting	Study Design	Study Population	Main Findings
1	Dinga et al.	2021	Cameroon	Cross-sectional	Adults	High vaccine hesitancy linked to trust and media influence
2	Dinga et al.	2022	Cameroon	Cross-sectional comparison	Adults	Traditional remedies and mistrust influenced hesitancy
3	Cheuyem et al.	2025	Cameroon	Systematic review/meta-analysis	General population	Reported pooled vaccine hesitancy and acceptance rates
4	Solís Arce et al.	2021	African LMICs	Multi-country survey	Adults	Trust in healthcare workers improved vaccine acceptance
5	Bono et al.	2021	Multi-country Africa	International survey	General population	Safety concerns and trust affected uptake
6	Acheampong et al.	2021	Ghana	Cross-sectional	Adults	Vaccine safety concerns reduced acceptance
7	Echoru et al.	2021	Uganda	Cross-sectional	Adults	Fear of adverse effects contributed to hesitancy
8	Wake	2021	Ethiopia	Cross-sectional	Adults	Social media misinformation influenced attitudes
9	Cooper et al.	2021	South Africa	Review	General population	Historical distrust influenced vaccine perceptions
10	Afolabi & Ilesanmi	2021	Africa	Commentary / Review	General population	Discussed vaccine hesitancy in Africa
11	Akrong et al.	2024	Ghana	Systematic review	General population	Synthesized hesitancy evidence in Ghana

12	Abubakari et al.	2023	Five African countries	Multi-country survey	Adults	Assessed vaccine readiness and hesitancy
13	Ackah et al.	2022	Africa	Scoping review	General population	Identified contextual determinants of hesitancy
14	Alie et al.	2024	East Africa	Systematic review/meta-analysis	Adults	Reported pooled vaccine hesitancy estimates
15	Unfried et al.	2024	Sub-Saharan Africa	Quantitative analysis	Adults	Trust in institutions predicted acceptance
16	Al-Mustapha et al.	2022	Nigeria	National survey	Adults	Assessed national vaccine hesitancy patterns
17	Njoga et al.	2022	Nigeria	Cross-sectional	Adults	Identified determinants of vaccine hesitancy
18	Olawade et al.	2022	Nigeria	Cross-sectional	Youths and students	Misinformation influenced vaccine attitudes
19	Omale et al.	2022	Nigeria	Cross-sectional	Adults and healthcare workers	Poor confidence affected vaccine acceptance
20	Sato	2023	Nigeria	National survey	Adults	Examined changing hesitancy trends
21	Erega et al.	2022	Ethiopia	Cross-sectional	Adults	Fear and myths influenced hesitancy
22	Mose et al.	2022	Ethiopia	Systematic review/meta-analysis	General population	Synthesized vaccine acceptance determinants
23	Sahile et al.	2022	Ethiopia	Cross-sectional	College students	Assessed predictors of vaccine acceptance
24	Tilahun et al.	2023	Ethiopia	Cross-sectional	University students	Identified barriers to vaccine uptake
25	Anteneh et al.	2024	Ethiopia	Latent class analysis	Adults	Classified patterns of vaccine hesitancy
26	Okai et al.	2022	Ghana	Cross-sectional	Adults	Identified determinants of vaccine acceptance
27	Brackstone et al.	2022	Ghana	Cross-sectional	Adults	Political allegiance influenced hesitancy
28	Lamptey et al.	2021	Ghana	Nationwide survey	Adults	Assessed predictors of vaccine uptake

29	Asumah et al.	2022	Ghana	Cross-sectional	Healthcare professionals	Safety concerns reduced confidence
30	Kabagenyi et al.	2022	Uganda	Population-based survey	Adults	Identified demographic predictors of hesitancy
31	Bongomin et al.	2021	Uganda	Cross-sectional	High-risk populations	Assessed vaccine acceptance
32	Kanyike et al.	2021	Uganda	Cross-sectional	Medical students	Mistrust and fear influenced hesitancy
33	Ditekemena et al.	2021	DR Congo	Cross-sectional	Adults	Assessed vaccine hesitancy and acceptance
34	Nzaji et al.	2020	DR Congo	Cross-sectional	Healthcare workers	Low confidence influenced vaccine acceptance
35	Moola et al.	2021	South Africa	Qualitative	Community members	Fear and mistrust shaped perceptions
36	Sewpaul et al.	2023	South Africa	Cross-sectional	Adults	Socioeconomic factors influenced hesitancy
37	Adebisi et al.	2021	Nigeria	Review	General population	Misinformation influenced vaccine attitudes
38	Osuagwu et al.	2021	Sub-Saharan Africa	Multi-country survey	Adults	Distrust and misinformation contributed to hesitancy

Sociocultural and Religious Beliefs Influencing Vaccine Hesitancy

Sociocultural and religious beliefs emerged as important determinants of COVID-19 vaccine hesitancy across several African settings [20-33]. In Cameroon and Nigeria, some participants associated COVID-19 vaccines with infertility, hidden political agendas, and harmful intentions toward African populations [20, 21, 29, 30]. Preference for traditional remedies and herbal medicine over vaccination was also reported in some communities [20, 25]. Studies conducted in Ghana and Ethiopia further showed that

religious beliefs and community perceptions influenced attitudes toward vaccination [23, 24, 31-33]. In Uganda, acceptance of vaccination was additionally shaped by social beliefs, fear, and misconceptions surrounding vaccine safety and effectiveness [26].

Trust in Governments and Health Systems

Several studies identified mistrust in governments, healthcare systems, and pharmaceutical institutions as major barriers affecting vaccine uptake across African populations [22, 25, 27, 28, 34-38]. In Cameroon, South Africa, Nigeria, and the

Democratic Republic of Congo, low confidence in government communication and public health authorities contributed significantly to vaccine hesitancy [20, 27, 29, 38]. Multi-country African studies further demonstrated that trust in healthcare workers positively influenced vaccine acceptance and confidence [22, 34]. However, weak public communication, concerns regarding transparency, and distrust in political systems negatively affected public willingness to receive COVID-19 vaccines in several countries [35-37].

Misinformation and Social Media Influence

Misinformation circulating through social media platforms was consistently identified as an important contributor to vaccine hesitancy [22, 29, 33, 39]. WhatsApp, Facebook, YouTube, and other digital platforms were frequently reported as major channels for the spread of false information regarding COVID-19 vaccines. Common misconceptions included beliefs that vaccines could alter human DNA, cause infertility, implant microchips, or lead to severe long-term health complications [29, 33].

Perceived Vaccine Safety Concerns

Fear of side effects and concerns regarding vaccine safety were among the most recurrent barriers identified across the reviewed studies [22-24, 32, 40]. Participants expressed fears related to blood clotting, infertility, severe illness, death, and unknown future health effects associated with COVID-19 vaccines [22, 32]. Healthcare workers in Ghana, Tanzania, Egypt, and the Democratic Republic of Congo also reported uncertainty regarding vaccine safety and effectiveness. Studies have indicated that the rapid development and emergency approval of COVID-19 vaccines contributed to public skepticism and uncertainty [22].

Healthcare Worker and Health System Factors

Healthcare worker attitudes and broader health system limitations also influenced vaccine hesitancy across African settings [22, 25, 40]. Weak healthcare infrastructure, inconsistent public health communication, limited community engagement, and inadequate risk communication strategies were also identified as barriers affecting vaccine acceptance [25, 40]. At the same time, healthcare workers remained important sources of trusted health information in several communities [22, 34].

Socioeconomic and Demographic Factors

Several studies reported that socioeconomic and demographic characteristics influenced vaccine hesitancy patterns across African populations [39, 40]. Younger individuals, unemployed persons, populations with lower educational levels, and some rural communities were more likely to express vaccine hesitancy in several settings [26, 27, 30, 31]. However, some studies also showed that vaccine hesitancy was present among educated populations due to misinformation exposure and mistrust in institutions [4, 33]. Socioeconomic inequalities, poor access to reliable health information, and limited health literacy were further associated with reduced vaccine confidence across several African countries [27, 35-37].

The findings from the reviewed studies demonstrate that COVID-19 vaccine hesitancy in Africa is influenced by complex interactions between sociocultural beliefs, misinformation dynamics, trust-related factors, perceived vaccine safety concerns, healthcare system limitations, and socioeconomic realities.

Discussion

COVID-19 vaccine hesitancy became one of the most difficult barriers affecting vaccination efforts across African countries during the pandemic period. This review shows that hesitancy was not driven by a single factor but rather by the interaction of sociocultural beliefs, misinformation, distrust in institutions, political experiences, and health system limitations. Across many African settings, public perceptions surrounding COVID-19 vaccines were strongly shaped by historical experiences, local realities, and community narratives. Fear of side effects, distrust in governments, misinformation spread through social media, and uncertainty surrounding vaccine safety repeatedly appeared across the reviewed studies [20-22, 25, 29, 34].

In many African communities, health decisions are closely connected to cultural beliefs, religious influence, and trust within social networks. This was evident in studies conducted in Cameroon, Nigeria, Ghana, and Ethiopia where misconceptions related to infertility, population control, hidden political motives, and harmful foreign intentions affected public confidence in COVID-19 vaccines [20, 21, 23, 24, 29-33]. In some settings, traditional medicine and herbal remedies were perceived as safer and more familiar alternatives compared to newly developed vaccines [20, 25]. Such findings reflect the importance of understanding local belief systems when implementing public health interventions. Vaccination campaigns that fail to consider cultural realities may struggle to achieve community acceptance regardless of vaccine availability.

The findings also reveal important differences between African countries and populations. In Cameroon and Nigeria, mistrust was frequently linked to political narratives, rumors, and suspicion toward foreign-supported health interventions [20, 21, 29, 30]. In contrast, studies from South Africa highlighted how historical inequalities, political

dissatisfaction, and previous experiences with healthcare systems shaped vaccine attitudes [27]. These differences demonstrate that vaccine hesitancy in Africa cannot be approached as a uniform continental problem. Social experiences, political environments, and health system histories vary considerably across countries, influencing how communities interpret public health messages.

Trust in governments and healthcare systems emerged as another major issue influencing vaccine uptake [22, 25, 27, 28, 34-38]. Individuals who lacked confidence in governments or public health institutions were generally more hesitant to accept vaccination. In several settings, communities questioned the transparency of information provided by health authorities and expressed doubts regarding the intentions behind vaccination campaigns [20, 38]. Low institutional trust appeared particularly important in countries where populations already faced political instability, weak healthcare systems, or poor access to reliable health information.

At the same time, healthcare workers remained among the most trusted sources of health information in many African communities [22, 34]. However, an important contradiction became visible across several studies. While healthcare professionals were expected to promote vaccination, some healthcare workers themselves expressed fear, uncertainty, and hesitancy regarding COVID-19 vaccines. Concerns regarding side effects, insufficient information, and the rapid development of vaccines contributed to hesitation even among trained professionals. This contradiction likely weakened public confidence because communities often depend on healthcare workers for guidance during health emergencies. When healthcare providers themselves express uncertainty, public doubt can increase substantially.

Misinformation played a particularly strong role in shaping vaccine attitudes across the continent [22, 29, 33, 37]. Social media

platforms such as WhatsApp, Facebook, and YouTube became major channels for spreading false claims regarding COVID-19 vaccines. Rumors suggesting that vaccines could alter DNA, cause infertility, implant microchips, or intentionally harm African populations circulated widely during the pandemic [29, 33]. In many settings, misinformation spread more rapidly than official public health communication. This was especially problematic in communities with limited access to verified scientific information or low health literacy levels.

Younger populations and university students appeared especially vulnerable to misinformation exposure through digital platforms. However, hesitancy was not limited to less educated groups alone. Some studies showed that educated populations also expressed mistrust and skepticism toward vaccines [33]. This suggests that vaccine hesitancy is more complex than lack of knowledge alone. Exposure to conflicting information, political distrust, and uncertainty surrounding rapidly evolving scientific guidance also influenced attitudes among educated individuals.

Fear of vaccine side effects remained one of the most consistent concerns across the reviewed studies [22-24, 32, 40]. Participants frequently expressed fears related to infertility, blood clotting, severe illness, disability, and possible long-term health consequences. Similar concerns were reported among healthcare workers in Ghana, Tanzania, Egypt, and the Democratic Republic of Congo. The rapid development and emergency approval of COVID-19 vaccines appeared to increase public uncertainty in several settings. For many communities, the speed of vaccine production created doubts regarding safety, testing processes, and long-term effects.

Weak healthcare infrastructure and poor public communication further complicated vaccination efforts in several African countries [25, 34, 40]. Inconsistent messaging from

public health authorities, limited community engagement, and inadequate risk communication reduced confidence in vaccination programs. In some areas, access to accurate information remained limited while rumors and conspiracy theories continued to spread freely. These challenges demonstrate that vaccine hesitancy should not only be viewed as individual refusal but also as a reflection of broader structural weaknesses within health systems and communication structures.

The review also highlights the influence of socioeconomic realities on vaccine acceptance [39]. Younger individuals, unemployed populations, rural communities, and people with lower educational levels were more likely to express hesitancy in several settings. Economic hardship, social exclusion, and limited access to healthcare services may contribute to distrust toward public institutions and vaccination programs. In many African countries, populations facing daily economic difficulties may prioritize immediate survival needs over preventive health interventions such as vaccination.

These findings have important implications for future vaccination programs and public health communication strategies across Africa. Increasing vaccine availability alone may not be sufficient to improve uptake where mistrust and misinformation remain widespread. Stronger engagement with communities is necessary. Religious leaders, traditional leaders, community influencers, and healthcare workers should be actively involved in communication efforts because they often hold greater trust within communities than political institutions.

There is also a need for stronger digital risk communication systems capable of identifying and responding rapidly to misinformation circulating through social media. Public health messaging should be culturally sensitive, locally adapted, and delivered in clear language that communities can easily understand. One

communication strategy may not work equally across all African settings because social realities and public concerns differ considerably between countries and communities.

This review additionally highlights important research gaps. Most included studies used cross-sectional designs, making it difficult to understand how vaccine attitudes changed over time during the pandemic. Evidence evaluating interventions specifically designed to reduce vaccine hesitancy in African settings also remains limited. Future research should therefore focus on longitudinal studies, intervention-based research, and evaluation of culturally adapted communication approaches capable of improving vaccine confidence within different African populations.

Some limitations should be considered when interpreting the findings of this review. Most included studies focused specifically on COVID-19 vaccines during the pandemic period, which may limit direct generalization to other vaccination programs. Differences in study designs, target populations, and measurement approaches may also affect comparability between studies. Despite these limitations, the review provides important evidence that vaccine hesitancy in Africa is shaped by complex interactions between sociocultural beliefs, institutional trust, misinformation dynamics, perceived vaccine safety concerns, and broader health system realities.

Conclusion

COVID-19 vaccine hesitancy remains a major public health challenge across African countries despite the availability of vaccination programs and continued efforts to improve vaccine uptake. The findings from this systematic review show that vaccine hesitancy in Africa is influenced by multiple interconnected factors including sociocultural beliefs, mistrust in governments and healthcare systems, misinformation circulating through

social media, concerns regarding vaccine safety, and weaknesses in public health communication. Fear of side effects, religious and traditional beliefs, low confidence in institutions, and exposure to false information emerged consistently across the reviewed studies as important barriers affecting vaccine acceptance.

The review further demonstrates that vaccine hesitancy in Africa is strongly shaped by local realities and contextual experiences. Variations in political environments, historical experiences, cultural beliefs, and healthcare system capacity influence how different populations perceive vaccination programs. These findings indicate that generalized approaches may not adequately address vaccine hesitancy across diverse African settings. Public health interventions therefore need to adopt culturally sensitive and community-centered communication strategies that involve trusted healthcare workers, community leaders, and religious leaders.

Strengthening trust in public health institutions, improving access to accurate health information, and addressing misinformation through effective risk communication remain essential for improving vaccine confidence across African populations. There is also a need for stronger investment in health literacy, digital communication monitoring, and community engagement strategies to counter false narratives surrounding vaccines.

Future research should focus on evaluating interventions aimed at improving vaccine confidence and understanding how vaccine attitudes evolve over time within different African populations. Greater attention should also be given to the role of social media, political trust, and health system strengthening in shaping public acceptance of vaccination programs across the continent.

Ethical Approval

Ethical approval was not required for this study because it was a systematic review based exclusively on published literature and publicly available reports. No human participants were directly involved, no primary data were collected, and no identifiable personal information was accessed. The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines.

Data Availability

All data supporting the findings of this study are included within the article and its referenced sources. No new datasets were generated during this study.

Author Contributions

Egbe Derick Agbor conceived and designed the study, conducted the literature review, analyzed the data, and drafted the manuscript. Eyong Manyiyong Queenta contributed to the study design, interpretation of findings, and critical revision of the manuscript. Fietsop Ernestine Nkemta, Frida Bessem Taku Bate, and Eyong Bessemeyong Velda contributed to data interpretation, manuscript revision, and

editing. All authors read and approved the final manuscript.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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