



# The Status of Covid-19 Vaccines Hesitancy Two Years after the Rollout of COVID-19 Vaccines

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

Two years have passed since the world was hit by the COVID-19 pandemic, and with the roll-out of vaccines, the hope for a return to normalcy has been rekindled. However, vaccine hesitancy remains a challenge in many parts of the world, as some individuals remain skeptical about the safety of the vaccines. A far-flung of literature reviewed indicates that, vaccines are essential in disease prevention, yet, elements within populations are still hesitant for some, due to the lack of confidence in the effectiveness of the vaccines, and some, for religious beliefs among others to accept COVID-19 vaccines. Although, COVID-19 as declared by the World Health Organisation is no more a pandemic, the refusal to accept the vaccines could once again jeopardize our health system if another pandemic hit us. This paper examines whether vaccine hesitancy has changed two years after the roll-out of COVID-19 vaccines.

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## 1. INTRODUCTION

According to the World Health Organization (WHO), vaccine hesitancy is defined as the delay in acceptance or refusal of vaccines despite the availability of vaccine services [1]. Most countries especially Africa have their health facilities stretched because of COVID-19 pandemic. Various outbreak were identified in Africa countries due as a results of prioritization of COVID-19 preventive measures over other diseases [2–4]. Vaccine hesitancy is not a new phenomenon, and it has been observed in previous vaccination campaigns. However, the COVID-19 pandemic has brought vaccine hesitancy to the forefront of public health discourse. Since the roll-out of COVID-19 vaccines, there have been concerted efforts by governments, healthcare providers, and other stakeholders to address vaccine hesitancy. These efforts have included public education campaigns, targeted outreach to underserved communities, and the use of trusted messengers to convey accurate information about the vaccines. Despite these efforts, vaccine hesitancy remains a significant challenge in many parts of the world [5,6].

In the United States, The FDA approved the first COVID-19 vaccine in 2021. COVID-19 vaccines worldwide have been met with a significant level of resistance [7]. Acceptance of the COVID-19 vaccine has been slow and there have been cases of outright refusal to accept vaccines despite their availability [8]. Reviews have attributed vaccine hesitancy to issues of complacency, confidence and convenience [9]. Other schools of thought are of the view that, instead of saying vaccine hesitancy, it should rather be vaccination hesitancy. Interestingly, higher hesitancy contributes to low vaccine demand, but low hesitancy does not mean high demand for vaccines [10]. However, a contrary view opines that no matter the level of hesitancy at the early stages of vaccine roll-out, vaccines eventually get accepted when disease burdens become increasingly alarming [11].

In 2019, a new coronavirus (COVID-19) has been identified and many efforts have been directed toward the development of effective vaccines. However, the willingness for vaccination is deeply influenced by several factors.

## 2. WHAT ARE THE CAUSES OF COVID-19 VACCINE HESITANCY?

The reasons for vaccine hesitancy are complex and multifactorial. They include lack of trust in the healthcare system, misinformation, fear of side effects, and cultural or religious beliefs. In 2019, the World Health Organization maintained that vaccine hesitancy was among the top threats to global health [1]. Fourteen papers reviewed posited that the causes of vaccine hesitancy include concerns over safety, lack of trust, lack of need for vaccination and cultural reasons [12]. Concerns over the safety of COVID-19 vaccines were harbored by almost all countries [13]. Broadly, the efforts to accept, reject or delay vaccine acceptance have been categorized under contextual, individual and group factors. Strangely, religious reasons have also been identified as one of the reasons why people were hesitant to accept COVID-19 vaccines [5]. A school of thought opined that an epidemiological triad is responsible for vaccine hesitancy; this triad represents interactions between the external environment, agent (vaccine) and the host [14]. If these interactions are not properly addressed, hesitancy will continue to be a vaccine problem [14]. It was documented that pharmaceutical companies were not a source of trusted sources of information considering the history of unethical conduct by some of the leading manufacturers of COVID-19 vaccines hence the hesitancy [8,15,16]. A significant contribution to vaccine hesitancy also hinged around the activities of anti-vaccine movements [17]. Interestingly, the proliferation of vaccine misinformation for use by political entrepreneurs and operatives in countries (such as Ghana) for electoral purposes has also contributed to vaccine hesitancy in many communities [9].

## 3. WHAT IS THE CURRENT SITUATION FOR COVID-19 VACCINE HESITANCY?

Generally, studies of the subject matter have been scanty, particularly in the Middle East, North Africa, Sub-Saharan Africa, Eastern Europe, Central Asia, and Middle and South America. However, digging into available and relevant literature revealed that some surveys on the topic have been conducted in some thirty-three (33) different countries across the globe [5]. Globally, the acceptance rate of the COVID-19

vaccine was highest in Ecuador with a rate of 97.0%, Malaysia came second with a rate of 94.3%, and Indonesia scored 93.3% whilst China's COVID-19 Vaccine acceptance rate stood at 91.3%. It is imperative to note that, the lowest rates of COVID-19 vaccine acceptance were found in Kuwait with a rate of 23.6%, whilst Jordan had a rate of 28.4%. Again, Italy, Russia and Poland scored 53.7%, 54.9%, and 56.3% respectively. Intriguingly, the United States COVID-19 acceptance rate was 56.9% and that of France was 58.9%. As indicated supra, studies on the topic are scanty and hence only eight surveys among healthcare workers thus doctors and nurses could be unearthed at the time of this work [18]. The vaccine acceptance rates between nurses and doctors ranged from 27.7% to 78.1% in the Democratic Republic of the Congo and Israel respectively [19]. In the majority of survey studies among the general public stratified per country (29/47, 62%), the acceptance of COVID-19 vaccination showed a level of  $\geq 70\%$ . Studies have glaringly pointed to the fact that the Middle East, Russia and Africa among others have reported significantly low rates of COVID-19 Vaccine acceptance. If this trend were to hold for a longer period, the resultant effect could be catastrophic to the global efforts to control the COVID-19 pandemic [20].

#### **4. STRATEGIES IN FIGHTING AGAINST COVID-19 VACCINE HESITANCY**

Studies in this area are scanty, especially in North and sub-Saharan Africa. Understanding why there is vaccine hesitancy is part or could be a part of the solutions to the problem of hesitancy. A study analyzed the phenomenon by categorizing participants into different age groups and sought to understand the following: their relation to the problem and their characteristics, secondly the most important information about immunization that could be used to counteract hesitancy and finally the best approaches that could be used to transmit the messages to the target groups [13]. The study concluded that the best approaches should be used in promoting vaccine-related messages and these include long-term education in general and the need for the inclusion of children and adolescents in vaccine and immunization education so they could grow up accepting the concept.

Varied proposals have also been made towards the fight against hesitancy. It is being advocated that policy decisions should be made in a very

transparent manner before rolling out vaccinations or immunizations. Others are of the view that, more information be made available to populations before vaccines are rolled out, and the procedures involved in the vaccine administration should be made known whilst diffusing controversies and conspiracy theories [12].

#### **5. CONCLUSION**

Although overwhelming evidence supports the fact that vaccines are essential in disease prevention, yet, elements within populations are still hesitant for some, due to the lack of confidence in the effectiveness of the vaccines, and some, myths and misconception about vaccines among others to accept COVID-19 vaccines. Scientific knowledge of vaccines and the size of clinical trials during vaccine development reduce vaccine hesitancy among populations.

Vaccine acceptance among potential users and healthcare providers play a pivotal role in vaccine usage or rejection. Therefore, the focus of this article was not on whether the COVID-19 vaccines are efficacious or not, but as to whether there has been a change towards the COVID-19 vaccine hesitancy during and after the pandemic. Indeed, studies in this area are scanty and it is therefore recommended that more studies be done to address the scope of COVID-19 vaccine hesitancy.

#### **CONSENT AND ETHICAL APPROVAL**

It is not applicable.

#### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

#### **REFERENCES**

1. World Health Organisation. Vaccine Hesitancy: A Growing Challenge for Immunization Programmes; 2015.
2. Asumah MN, Satapathy P, Abubakari A, et al. Measles outbreak in northern Ghana highlights vaccine shortage crisis. *New Microbes New Infect.* 2023;53.
3. Asumah MN, Padhi BK, Sinha A. Rising cases of cholera in Ethiopia: A need for sustainable wash practices? *Int J Surg.* 2023;109:608–609.

4. Goel K, Sen A, Satapathy P, et al. Rabies on rise in Africa amid COVID and monkeypox: A global health concern. QJM An Int J Med.
5. Fajar JK, Sallam M, Soegiarto G, et al. Global prevalence and potential influencing factors of COVID-19 vaccination hesitancy: A Meta-analysis. Vaccines. 2022;10:1356.
6. Asumah MN, Abubakari A, Fosu B, et al. Determinants of COVID-19 vaccine acceptance and hesitancy among healthcare professionals in the Kintampo North Municipality, Bono East Region, Ghana. Ghana Med J. 2022;56:152–159.
7. Gupta S, Cantor J, Simon KI, et al. Vaccinations against COVID-19 may have averted up to 140,000 deaths in the United States: Study examines role of COVID-19 vaccines and deaths averted in the United States. Health Aff. 2021;40:1465–1472.
8. Mohammed A-S, Asumah MN, Padhi BK, et al. Predictors of SARS-CoV-2 vaccine uptake among health professionals: A cross-sectional study in Ghana. Vaccines. 2023;11:190.
9. Larson HJ, Gakidou E, Murray CJL. The vaccine-hesitant moment. N Engl J Med. 2022;387:58–65.
10. MacDonald NE. SAGE working group on vaccine hesitancy. Vaccine hesitancy: Definition, scope and determinants. Vaccine 2015;33:4161–4164.
11. AlShurman B, Butt ZA. Proposing a new conceptual syndemic framework for COVID-19 vaccine hesitancy: A narrative review. Int J Environ Res Public Health. 2023;20:1561.
12. Kumar D, Chandra R, Mathur M, et al. Vaccine hesitancy: Understanding better to address better. Isr J Health Policy Res. 2016;5:1–8.
13. Arede M, Bravo-Araya M, Bouchard É, et al. Combating vaccine hesitancy: Teaching the next generation to navigate through the post truth era. Front public Heal. 2019;6:381.
14. Mose A, Haile K, Timerga A. COVID-19 vaccine hesitancy among medical and health science students attending Wolkite University in Ethiopia. PLoS One. 2022;17:e0263081.
15. Dhama K, Sharun K, Tiwari R, et al. COVID-19 vaccine hesitancy—reasons and solutions to achieve a successful global vaccination campaign to tackle the ongoing pandemic. Hum Vaccin Immunother. 2021;17:3495–3499.
16. Dzantor EK, Asumah MN, Inusah A, et al. Adverse events reported after first dose of SARS-CoV-2 vaccine in the Northern Region of Ghana. Nurs Open. 2023;10:1785–1793.
17. Nuwarda RF, Ramzan I, Weekes L, et al. Vaccine hesitancy: Contemporary issues and historical background. Vaccines. 2022;10:1595.
18. Peretti-Watel P, Seror V, Cortaredona S, et al. A future vaccination campaign against COVID-19 at risk of vaccine hesitancy and politicisation. Lancet Infect Dis. 2020;20:769–770.
19. Al-Amer R, Maneze D, Everett B, et al. COVID-19 vaccination intention in the first year of the pandemic: A systematic review. J Clin Nurs. 2022;31:62–86.
20. Sallam M. COVID-19 vaccine hesitancy worldwide: A concise systematic review of vaccine acceptance rates. Vaccines. 2021;9:160.

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