

An Analysis of Conspiracy Beliefs of Covid-19 Vaccination in Ghana

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Abstract

This is a survey which researched into the perspectives of Ghanaians about conspiracy beliefs of COVID-19 vaccination in Ghana. Most Ghanaians who believe in science and in the strength of COVID-19 vaccine in the country to help stop the spread of the corona virus disease have been vaccinated and are willing to convince others to be vaccinated. However, others hold varied views concerning the existence of the virus itself and the extreme adverse effect of the vaccine should they take it. Like some vaccines that have been used to curtail some ailments, the COVID-19 vaccine has been received with mixed feelings. The result of the study reveals that conspiracy beliefs of COVID-19 vaccination are not highly prevalent in Ghana.

Keywords

Vaccination, COVID-19, Conspiracy, Beliefs

1. Introduction

The Coronavirus disease 2019 (COVID-19) is an infectious disease caused by coronaviruses, specifically, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronaviridae Study Group of the International Committee on Taxonomy of Viruses, 2020; Aylward & Liang, 2020). The virus was identified and reported from Wuhan City of China in December, 2019 (Du Toit, 2020) COVID-19 is transmitted from person to person through small droplets from the nose or mouth, which are expelled when a person with COVID-19 coughs, sneezes, or speaks via contact with fomites (Aylward & Liang, 2020). The SARS-CoV-2 which is highly contagious, spread globally in a short period of time, and was declared a global pandemic by the World Health Organization on March 11, 2020 (Lone & Ahmad, 2020).

In Ghana, the first two cases of COVID-19 infection were recorded on 12th

March, 2020. In a frantic effort to control the spread of the infection which had already been reported in three regions of Ghana: The Greater Accra, Ashanti, and Upper West Regions, the President of Ghana imposed a partial lockdown from 01:00 GMT beginning 30th March 2020, for 21 days in pursuant to the powers granted him under the Imposition of Restrictions Act, 2020 (Act 1012). On the day of the announcement, there were already 141 reported confirmed COVID-19 cases with 5 fatalities. Citizens were only permitted to leave homes for essential items such as food, medicine, water, pay their utility bills, as well as visit the hospital, pharmacies, or banks, among others. The government of Ghana outlined five objectives to address the likely effects of the COVID-19 pandemic in Ghana. These were 1) limit and stop the importation of the virus; 2) contain its spread; 3) provide adequate care for the sick; 4) limit the impact the virus on social and economic life; and 5) expand domestic production capability to strengthen self-reliance (<http://www.ghananewsagency.org/> 20th April, 2020 cited in Afriyie et al., 2020).

Fast forward, 23rd June, 2020, marked exactly 100 days since Ghana confirmed the first two reported cases of COVID-19. As of that time, Ghana's case count stood 14,568 out of which 10,907 persons had recovered and 95 declared officially dead (<http://www.myjoyonline.com/> 23rd June, 2020) and as of the time of engaging in this study, Ghana's case count stood 127,482 out of which 123,238 persons had recovered and 1156 declared officially dead. The novel corona virus has indeed had dire consequences on residents of Ghana and many who have lost their livelihoods prayed the government of Ghana to enforce all measures put in place as well as look for vaccines as soon as they are developed to help curtail the spread of the disease in Ghana.

2. Statement of the Problem

Vaccines are effective tools that protect health and prevent diseases. It has been established by scientists that vaccination reduces the mortality rate and gravity of disease caused by SARS-CoV-2 (Abu-Raddad, Chemaitelly, & Butt, 2021). When people are vaccinated against Coronavirus disease, the virus can not transmit as easily as possible from person to person, and the community is less likely to contract COVID-19 which is called "community immunity" or "herd immunity" (Aschwanden, 2020). It means, the more people are vaccinated, the lesser the chance of COVID-19 spread. High vaccination rates protect vulnerable population such as infants, old age people, pregnant women, first-line health workers and people of all ages with compromised immune systems, who are not fully vaccinated yet (Polack et al., 2020).

Since the COVID-19 pandemic continues to erupt, and morbidity and mortality figures continue to soar globally, the seriousness of this issue has made it imperative for the swift and unprecedented development of COVID-19 vaccine to ensure people get access to affordable, safe, and efficacious vaccine. Many efforts have been directed towards the development of the vaccines against COVID-19

to avert the pandemic and most of the developing vaccine candidates have been using the S-protein of SARS-CoV-2 (Dhama et al., 2020). However, according to data released by World Health Organization (WHO), as of 5 August 2021, only 15.1% of the world's population had been fully vaccinated. In many countries, boycotting and rejecting COVID-19 vaccines and vaccine hesitancy remain widespread (Chou & Budenz, 2020; Dror et al., 2020; Thigpen & Funk, 2020; Troiano & Nardi, 2021).

Ghana became the first country in the world to receive about 600,000 COVAX vaccines, AstraZeneca/Oxford vaccine, licensed to the Serum Institution of India to be used in the country. The president of Ghana, members of council of state, clergy, senior media practitioners and a host of other dignitaries publicly took their first jab of the vaccine to convince and assure Ghanaians about the safety and efficacy of the vaccine. This was to debunk conspiracy theories about the misinformation of COVID-19 that were propagating fast, especially through social media (Gruzd & Mai, 2020; Ferrara, 2020) that had also got some Ghanaians already wading into the conversation on social media. Conspiracy theories are omnipresent among members of modern and traditional societies (West & Sanders, 2003). Most people in the world believe in conspiracy theories. In 2004, 49% of New York City inhabitants believed the U.S. government to be complicit in the 9/11 terrorist attacks (Sunstein & Vermeule, 2009). In addition, in a nationally representative sample of the U.S. population, 37% answered "agree" to the following statement: "the Food and Drug Administration is deliberately preventing the public from getting natural cures for cancer and other diseases because of pressure from drug companies." Another 31% answered "neither agree nor disagree," and only 32% dissented with this statement (Oliver & Wood, 2014a).

COVID-19 is not the first disease which brings along conspiracy theories (Oliver & Wood, 2014b). Vaccines are a frequent topic (Jolley & Douglas, 2014; Kata, 2012), and such theories have also been shown to be problematic in AIDS prevention (Herek & Glunt, 1991; Herek & Capitanio, 1994), or recently in the prevention of the spread of Zika (Klofstad, Uscinski, Connolly, & West, 2019) and Ebola (Vinck, Pham, Bindu, Bedford, & Nilles, 2019). Vaccine apprehension has been linked to religious values, personal beliefs, and safety issues based on widespread misconceptions, such as the connection between vaccines and autism, brain injury, and other disorders, according to various reports (McKee & Bohannon, 2016). At the heart of the anti-vaccine conspiracy movement lays the argument that large pharmaceutical companies and governments are covering up information about vaccines to meet their own sinister objectives (Jolly & Douglas, 2014). According to the most popular theories, pharmaceutical companies stand to make such healthy gains from vaccines that they bribe researchers to fake their data, cover up substantiation of the dangerous side effects of vaccines, and inflate statistics on vaccine efficacy (Kata, 2012; Offit, 2010). Along the same vein, Kata (2010) posits that anti-vaccine conspiracy theories present an attempt to explain away overwhelming scientific evidence that vaccines are

effective, safe, and necessary. Another potential block to the success of COVID-19 vaccinations is a negative public opinion of the vaccine. A June 2020 survey found that 71.5% of people would be very or somewhat likely to take a COVID-19 vaccine, leaving almost a third less accepting of the vaccine. However, this could have a serious impact on the vaccine's implicit efficacy at controlling the spread of COVID-19 if significant portions of the population were to reject the vaccine. In Russia, for example, less than 55% of those surveyed would accept the vaccine (Moore, 2021). Past studies found that many people are rejecting scientific facts due to conspiracy theories "criminalizing" medicine and medication (Douglas et al., 2017). People continue to have doubts about vaccine safety and efficacy, including the durability of COVID-19 defense, as many cases of reinfection have been recorded (Reuters, 2021; Chen et al., 2020). Vaccine hesitancy and resistance are major issues around the world, causing the World Health Organization (WHO) to list them among the top ten health risks for 2019 (Geoghegan, O'Callaghan, & Pa, 2020).

In Ghana few researches has been conducted on Covid-19. For instance, Kenu Frimpong and Koram (2020) looked at Ghana's response to the Covid-19 pandemic and concluded that a clear social distancing and personal hygiene measures should be enforced in the workplace with well-defined batch system working groups that are separated from each other to help curb the spread. Asante and Mills (2020) also researched into Socio-Economic Impact of COVID-19 Pandemic in Market places in Urban Ghana. Their findings revealed that the presence of Covid-19 has the huge impact of limiting access to affordable food in Ghana and other African countries. Lamptey et al. (2021) also looked at the Potential Acceptance and Determinants of COVID-19 vaccines in Ghana. Their study which measured people's intentions of accepting the vaccine should they be available revealed that Ghanaians had the intention of accepting the vaccine. However, the researchers were of the view that the real intention might differ when the vaccine is available as intention varies over time and in the context of a dynamic society. They also stated that they were unable to explore the motivation behind the acceptance or barriers behind the hesitancy of the COVID-19 vaccine. Now the vaccine is available in Ghana, but to determine whether Ghanaians were ready to take the vaccine or not was the puzzle this research sought to unravel. Based on this, this study sought to explore the perspectives of some Ghanaians after the introduction of COVID-19 vaccines in Ghana and examined whether conspiracy beliefs about the vaccine would prevent Ghanaians from taking the COVID-19 vaccine or not.

3. Objective

- 1) To explore the prevalence of conspiracy beliefs in Ghana after the preface of the vaccine.
- 2) To examine whether the conspiracy beliefs would prevent people from taking the COVID-19 vaccine.

4. Method and Data Collection

This study adopted an online questionnaire survey. The sample population of the study captured Ghanaians who fall between the ages of 18 and 65 living in Ghana. Fifty-two out of the targeted population of 100 citizens participated in this study. The researcher collected and analysed data through Google forms. Google forms were used as a platform to create a self-prepared online questionnaire with 2 sections: Bio-data and conspiracies.

There were 10 closed-ended questions and 10 open-ended questions in all. The questionnaire was automatically hosted through a unique URL. Access to the URL link was protected by a password. A unique study ID gave participants access to the URL link to participate. The ID also ensured confidentiality of data. Responses from participants were secured using a cloud database where data was sorted, scaled, scored, and imported to excel spreadsheets.

Google forms permit online data analysis and graphical presentation. So, when participants filled the web questionnaire via social media (WhatsApp), online data was automatically recorded in Google spreadsheet in an analyzable manner which allowed for tabulation and graphical representation of data. The questionnaire responses were downloaded in excel, analysed and interpreted.

5. Results

Objective 1

To explore the frequency of conspiracy beliefs in Ghana after the preface of the vaccine.

Table 1. AstraZeneca vaccine in Ghana.

Are you happy that the drug, Oxford AstraZeneca vaccine is finally available Ghana to help curb the spread of the COVID 19?	Frequency	Percentage
Yes	40	76.9
No	12	23.1
Total	52	100

Table 1 shows that 76.9% of which represents the majority were happy that the Oxford AstraZeneca vaccine had been secured in Ghana to help stop the spread of the virus, while 23.1% were not happy about it.

Table 2. Potency of the vaccine.

Do you believe in the potency of this vaccine?	Frequency	Percentage
Yes	35	67.3
No	17	32.7
Total	52	100

Aschwanden (2020) posits that when people are vaccinated against Coronavirus disease, the virus can not transmit as easily as possible from person to person, and the community is less likely to contract COVID-19 which is called “community immunity or “herd immunity”. Studies carried out in 2020 showed that the efficacy of the AstraZeneca vaccine is 76.0% at preventing symptomatic COVID-19 beginning at 22 days following the first dose and 81.3% after the second dose (Voysey et al., 2021). Another study in Scotland found that, for symptomatic COVID-19 infection after the second dose, the vaccine is 81% effective against the Alpha variant (lineage B.1.1.7), and 61% against the Delta variant (lineage B.1.617.2) (Sheikh, McMenamin, Taylor, & Robertson, 2021). It is therefore not surprising to see from **Table 2** that 67.3% of the respondents believe that the COVID-19 vaccine is efficacious while 32.7% said they do not believe in the potency of the vaccine.

Table 3. Intake of vaccine.

Have you taken your jab already?	Frequency	Percentage
Yes	15	28.8
No	37	71.2
Total	52	100

Table 3 highlights that 28% of the respondents had taken the vaccine already while 71.2% had not taken the vaccine. Those who had already taken the vaccine explained that their motivation was to reduce the severity of the infection and most importantly because it had been approved by the World Health Organization (WHO), the Ghana Food and Drugs Board Authority and the Ghana Health Service. However, the remaining 71.2% who had not yet been vaccinated based their hesitance on the negative rumours surrounding the vaccine and of the fact that the vaccine cannot give total protection because after one had been vaccinated, he or she must still follow the protocols that have been put in place to halt the spread.

Table 4. Vaccine population control.

Do you believe that the vaccine has been developed to limit or control population size?	Frequency	Percentage
Yes	9	17.3
No	43	82.7
Total	52	100

Previous studies identified trust as an intrinsic and potentially modifiable component of successful uptake of a COVID-19 vaccine (Abbas et al., 2018; Malik et al., 2020; Kreps et al., 2020; Lazarus et al., 2021; Wu et al., 2017). **Table 4** showed that 17.3 of the respondents believed that the vaccine has not been developed to limit or control population size, while 82.7 disagreed to that asser-

tion.

Table 5. Vaccine to usher the era of the “mark of the beast”.

Have you ever nursed the thought that the vaccine is to usher in the era of the “mark of the beast”?	Frequency	Percentage
Yes	7	13.5
No	45	86.5
Total	52	100

As shown in **Table 5**, 13.5% only thought that the COVID-19 vaccine is being used to launch the era of the “mark of the beast”. The majority representation, 86.5, disagreed.

Table 6. Vaccine as a track device.

Do you believe that the vaccine contains microchip or track device or it will cause infertility	Frequency	Percentage
Yes	5	9.6
No	47	90.4
Total	52	100

In YouTube videos of 25 September, 2021 titled “COVID-19 vaccine” and of 29 September 2020 from India Today, it was explained how a microchip is being used to check the effect of the drugs on COVID-19. This reveals how there is still a mistrust that the microchip is what would be implanted in the human being for all its Satanic purposes, despite all clarifications on the matter (see also **BBC News of 30 May, 2020**). Responses from the survey (**Table 6**) however revealed that only 9.6% of the respondents believe the vaccine contained a track device for tracking activities of individuals as was seen in the YouTube videos, while a majority of 90.4% respondents did not agree to this assertion.

Table 7. Vaccine as a DNA falsification.

Are you of the view that the vaccine will alter your DNA after you take it?	Frequency	Percentage
Yes	5	9.6
No	47	90.4
Total	52	100

Table 7 highlighted that 9.6% of the respondents thought that taking the COVID-19 vaccine would alter their DNA while 90.4 respondents were of the view that the coronavirus vaccine will not alter their DNA if they should vaccinate themselves. A recent article published in *principia scientific.com* shows Bill

Gates admitting the COVID-19 vaccine to change the DNA, and as a result, making doctors rebel to this admission (O'Sullivan, 2020: p. 1).

Table 8. Covid-19 makers as creators of Covid-19.

Do you perceive that COVID-19 vaccine makers created COVID-19?	Frequency	Percentage
Yes	14	26.9
No	38	73.1
Total	52	100

As highlighted in **Table 8**, 26.9% perceived that COVID-19 vaccine makers created COVID-19, while 73.1% whose view were contrary explained that they had read and heard that coronavirus is not created, and it is also not the first-time coronavirus had caused an epidemic globally. Their view harmonizes with [Lu et al. \(2020\)](#). The stated that it was not the first time that a coronavirus causing an epidemic has been a significant global health threat: in November 2019, an outbreak of coronaviruses (CoVs) with severe acute respiratory syndrome (SARS)-CoV started in the Chinese province of Guangdong and again, in September, 2012 the Middle East, respiratory syndrome (MERS)-Co V appeared.

Objective 2

To examine whether higher levels of conspiracy beliefs would prevent people from taking the COVID-19 vaccine.

Table 9. Advocates of Covid-19 vaccine.

If you are given the chance to convince someone to take the jab, will you, do it?	Frequency	Percentage
Yes	34	65.4
No	18	34.6
Total	52	100

Table 9 showed that 65.4% of the respondents were prepared to convince others to take it while 34.6% of the respondents were not ready to convince individuals to take the vaccine.

Table 10. Reasons for being an advocate of the vaccine or vice versa.

State your reason for agreeing or disagreeing to convince people to or not to take the vaccine.	Frequency	Percentage
Protection against virus	34	65.4
Right to choose/conspiracies/age	18	34.6
Total	52	100

Table 10 clearly showed that majority of the respondents (65.4) who believed in science and the potency of the vaccine to protect individuals from spreading the virus said they were prepared to convince people to take the vaccine while 34.6% responded in the negative with reasons that the vaccine is for population control, and individuals have the right to choose based on their belief or age brackets.

6. Discussion

Vaccination is often considered one of the most efficient means of preventing disease and is often a cost-effective tool for improving health at the population level (Bloom, 2011; Londono et al., 2021; Preaud et al., 2014). The results from data collected for this study suggested that most Ghanaians have firm belief in the potency of the coronavirus vaccine. They were convinced that Oxford/AstraZeneca that the government had acquired to be used in the country is safe because it has been approved by WHO and the Ghana Food and Drugs Board Authority, therefore it is efficacious to be used in the country. They were thus, willing to convince people who are due to various reasons like adverse health outcomes, misconceptions, lack of trust in the healthcare system, safety and efficacy, and inadequate knowledge (Setbon & Raude, 2010) and have not yet taken the vaccine to allow themselves to be vaccinated when it is available in their communities

7. Conclusion

Kata (2010) posits that anti-vaccine conspiracy theories present an attempt to explain away overwhelming scientific evidence that vaccines are effective, safe, and necessary. Even though the view of Kata (2010), reinforces views of some Ghanaians in this study, most respondents believed the potency and safety of the vaccine outweigh the adverse effects which are temporary and have already taken the vaccine. They were more so willing to advocate people to vaccinate themselves when the vaccine is sent to their locality. The government of Ghana should consider intensifying education on the COVID-19 vaccine to convince more people, especially, those clouded with conspiracy beliefs about the COVID-19 vaccine. This study was not without limitations. Firstly, it was mainly based on the Ghanaian context. Secondly, although it was an online survey and nationally representative, the sample size was small compared with Ghana's population.

Future studies on other variables that can also contribute to Ghanaians' intent to receive vaccines have not been considered in this study and can be researched into to address the limitation.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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