COVID-19 Pandemic Vaccine Uptake, Hesitancy, and Myths: The Worldview of Older Ghanaian Adults

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Abstract

The study sought to investigate COVID-19 vaccine acceptance, uptake and hesitancy including the myth(s) militating against COVID-19 vaccine uptake among older Ghanaian people. There is the need to ascertain the emergent COVID-19 vaccine acceptance challenge and ways of addressing them. The paper utilizes the phenomenological method to investigate the lived experiences of older adults during the COVID-19 pandemic. The findings show that vaccine uptake acceptance and hesitancy are induced by a myriad of factors. Similarly, specific attitudes are fostered by voluntary acceptance and administration protocols. Most often vaccines are disproportionately distributed leading to shortages in certain areas with large numbers of people, inoculators not at designated posts, inadequacy or flaws may be responsible for the inability of those who are prepared to be inoculated in the designated areas to be inoculated, missed inoculation timing, systemic challenges, vaccine uptake hesitancy. Two (2) distinct vaccine uptake pathways pertain in the context of this paper. These pathways are structured around adherence and compliance with inoculation regimes in Ghana, or non-compliance to the same due to diverse COVID-19 pandemic misinformation and/or myths. Five distinct myths pertaining to the coronavirus vaccine were discovered, namely the preservation of older people's

lives for wisdom; vaccine is constituted by protein taken from deceased fetuses; the vaccine does not offer 100% immunity from coronavirus infection; there is the notion that inoculated persons will die in two (2) years of vaccine uptake; finally, hearing of discouraging stories/information impeded vaccine acceptance and the associated uptake. Collectively, these precipitate among older persons feelings of powerlessness and social disintegration which promote a fear of vaccine uptake acceptance, which restricts social participation.

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Introduction

It is a well-known fact that cities, towns, and villages revolve around various activities, from attending weekly church services (Marston et al., 2020) to organising and attending funerals, going to the pub and cinema, among others. These leisure activities are their only connection with like-minded individuals, and their own access to socialisation (Dovie et al., 2019). These have been significantly stalled by the COVID-19 pandemic. Hence, the next available survival means is to take the vaccine while maintaining the other COVID-19 protocols.

Taking vaccination ensures that the inoculated person does not get sick and/or die from infection. As a result, there are diverse types of COVID-19 vaccines produced for inoculation against the coronavirus. These encompass the Pfizer/BioNtech Comirnaty vaccine, the Oxford AstraZeneca vaccine in the United Kingdom; the Moderna COVID-19 vaccine (mRNA 1273); the Janssen/Ad26. COV 2.S developed by Johnson and Johnson; Novavax vaccine; Sputnik V vaccine manufactured in Russia; Sinopharm vaccine is produced by Beijing Bio-Institute of Biological Products Co Ltd, the SII/Covishield vaccine and Sinovac vaccine; Coronavac

developed by Sinovac in China; Covaxin developed by Bharat Biotech in India. Some of these vaccines are characteristically single or double dose(s) in nature (WHO, 2021). It is worth noting that in Ghana out of these, AstraZeneca vaccine, Moderna COVID-19 vaccine and Johnson and Johnson vaccine we are being administrated in the initial phase of vaccine administration based on availability.

Characteristically, this array of vaccines shares similar features with others including standalone features. First, the Pfizer-BioNTech vaccine is a two-dose vaccine based on genetic material called messenger ribonucleic acid (mRNA). Second, the Oxford-AstraZeneca vaccine is a two-dose vaccine which is based on genetic material (this is time deoxyribonucleic acid or DNA) that makes the spike protein. Third, the Moderna vaccine is a two-dose vaccine that is based on mRNA that codes for the Coronavirus spike protein, like the Pfizer-BioNTech vaccine. Fourth, Johnson and Johnson vaccine is a single dose vaccine that is based on the DNA of the spike protein. Fifth, the Novavax vaccine is a two-dose subunit vaccine that is based on the Coronavirus Spike protein. Sixth, the Sputnik V vaccine is a two-dose vaccine that is based on DNA of the spike protein. It is like the Astra-Zeneca vaccine. Seventh, the Sinopharm vaccine is a single dose vaccine that is based on a chemically inactivated SARS-CoV-2 virus. Last but not the least, the Sinovac vaccine is also a single dose vaccine based on the inactivated SARS-CoV-2 virus (WHO, 2021).

COVID-19 vaccination administration in Ghana

Ghana undertook her version of the administration of the COVID-19 vaccine inoculation exercise in March 2021. Overall, 360, 000 individuals received the inoculation between March 1-9, 2021 (Boadu, 2021). These were eligible to receive the second

dose of the vaccine in May 19-26, 2021, that is approximately 10 weeks after the first dose. This is actively meant for people in 43 districts in the Greater Accra, Ashanti, and Central regions. These three (3) regions were the most affected during the initial stages of the pandemic in Ghana and which were affected by the issuance of the lockdown (Dovie, 2021). These were covered in the first and second phases of the vaccination exercise (Boadu, 2021). For the second phase, Ghana received 350, 000 doses of AstraZeneca under the COVAXX initiative in conjunction with existing stock according to President Nana Addo Dankwa Akufo-Addo in his 25th COVID-19 pandemic related address to the Ghanaian nation on May 16, 2021. He admonished that: 'let us take the vaccine when it gets to our turn' (national televised communication, May 16, 2021; Boadu, 2021, p.3).

The president noted that the first phase involved vaccinating a segment of the population in the 43 districts mentioned early on who included health workers, persons with co-morbidities, persons 60+, physically challenged persons, journalists, frontline workers, security personnel and a cross-section of persons in the three (3) arms of government. The second phase entailed vaccination of other health workers across the country. Nearly, a million people have now received the first dose of the vaccination (Boadu, 2021, p. 3). The international vaccine politics in conjunction with the unpredictability of the supply chain alongside the third wave of infections in Europe and Asia (Boadu, 2021) may have impeded the continuous acquisition and access to AstraZeneca and thus the supplementation of the same with Moderna, Johnson and Johnson vaccines. This, however, implies that people who take AstraZeneca for the first time must continue with the same and so on. This implies that having a dose of both is not conducive.

The Ghanaian government's COVID-19 pandemic response strategies are to stop the importation of cases into the country via closure of the nation's borders; containment of cases and slowdown its spread of infections; care for the sick namely people with positive cases; minimization of impact of pandemic related measures - financial issues supported by the Ministry for Gender, Children and Social Protection (MGCSP); boost domestic capacity and self- reliance e.g., produce PPEs locally. In relation to social distancing, there is the possibility that in situations where the center says stay at home and keep social distance, the periphery makes it possible for individuals to do the exact opposite. This is the reflection of uncoordinated governance (Dovie, 2021, p.46).

It has been observed that infections have reduced from 400 to 100 daily (Boadu, 2021). Yet, this should not discourage people, especially the elderly, from participating in the exercise. The president also stated that 'until we vaccinate the requisite numbers of Ghanaians and achieve herd immunity which will help return our lives to normalcy, the imposition of Restrictions ACT 2020, (ACT 1012) will remain in force and the security agencies will not relent in their efforts to enforce it.

There has been 97, 728 infections and 802 coronavirus related deaths reported in the country since the pandemic emerged. However, Ghana has run short of the AstraZeneca vaccines after single dose inoculation of 864, 918 (2.8%) and double dose coverage of 396, 759 (1.3%). As a result, the mode of vaccination has been switched to the acquisition and use of Johnson and Johnson, of which 17, 000 have been obtained (Ghana Television News at 10pm on July 14, 2021). In all, Ghana has administered at least 1, 265, 306 doses of the COVID-19 vaccine thus far, that is about 2.1% of the nation's population with 1, 119 doses administered daily, which implies taking 5, 436 days to inoculate enough people for another 10% of the population (REUTERS,

2021). The World Bank approved $ 200 million COVID-19 emergency preparedness and response project second additional financing (GTV News at 10pm on July 7, 2021).

Drivers and barriers to vaccination uptake

Several factors have the propensity to impede vaccine uptake. The drivers of and barriers to vaccination uptake include logistics, psychological, social, political, and cultural factors. Bruwen et al. (2017) document that the motivation to accept and get inoculated is influenced by various social and practical factors. Other political, social, and economic factors entail the provision of free medical care. For instance, van den Berg et al. (2019) posit that the decision to participate in malaria vaccine trials in three (3) low- and middle-income countries (LMICs) was driven by the provision of health care and community and domestic hierarchies versus individual voices.

Vaccine uptake may be implemented and/or administered under voluntary and mandatory regimes. Most governments across the world have implemented or adopted mandatory vaccine uptake e.g., Australia, France, Italy, U.S.A. (California), Germany with restrictive mandates and as personal non-belief opt-out (Attwell et al., 2021; Eddy, 2019) options. In some cases, fines are imposed to motivate vaccine hesitant individuals and refusers' behavior (Attwell et al., 2021). However, the latter does not balance or create imbalances in choice and liberty with disease prevention (Attwell et al., 2021). Implementation of restrictive mandatory vaccination policies as it is in the case of Ghana is an indication of the exhaustion of a non-persuasive option and elimination of barriers to access. Ordinarily, this is to be turned to when at least other tools and/or options have failed (Omer et al., 2019). This and others may contribute to lower vaccine carnage(s) among elderly

Ghanaians. One way to reduce the number of unvaccinated older adults may be via making exemptions difficult, yet possible (e.g., Omer et al., 2018).

In addition, mandates may not guarantee solutions to the challenge of vaccine refusal (Attwell et al., 2021). Since what works in one setting does not work in others. Yet, the bid to attain targeted vaccine coverage to elicit/ensure community protection (herd immunity) may be legitimate and useful tools dependent on cultural and political acceptability with concerns for individual rights and freedom.

There are a variety of underlying multimorbidity related to the COVID-19 pandemic namely diabetes, heart disease, liver disease, hypertension, kidney, and other chronic diseases (Chee, 2020). The risk of COVID-19 pandemic infection has been observed to be higher for older adults with underlying co-morbidities (Chee, 2020) in particular, given their increased vulnerability to the pandemic.

Misinformation on social media platforms such as Facebook, Twitter, WhatsApp, Internet (Attwell et al., 2021; Dovie, 2019), mobile phone, word of mouth is one of the major barriers to vaccine uptake among the elderly from pro-and-anti-vaccination persons. Collectively, these constitute anti-vaccination strategies' claim of loss of freedom to generate institutional mistrust and proffer the promotion of information on alleged circumstances especially non-proven) safety issues whilst pro-vaccination communication strategies use proven facts and scientific authority to debunk myths and disinformation (Attwell et al., 2021). Understanding the drivers of COVID-19 vaccine acceptance is of global concern, since a lag in vaccination in any country may result in the emergence and spread of new variants that can overcome vaccine- and prior disease-conferred immunity

(Arce et al., 2021). Therefore, the steps required in attaining this objective entail an outline of the issues at hand, which is the impact of the COVID-19 pandemic; the next step relates to the gathering of the necessary information utilizing semi-structured interviews on vaccine uptake and attendant hesitancy in Tema in Ghana's Greater Accra region. This has become necessary because the discussion of the issue at hand provides a unique insight into the situation in Ghana, which to our knowledge has not yet been explored.

Several studies have investigated willingness to take a potential COVID-19 vaccine in high-income countries, and some studies have included middle-income countries (Arce et al., 2021). However, not much is known about vaccine acceptance in low-middle-income countries where large-scale vaccination has yet to begin. Vaccine hesitancy has been observed as a critical challenge to global health (WHO, 2019b) as far as pandemics are concerned. Individual choices, personal contexts, public health benefits and consequences (Demi et al., 2019) pertain to vaccine specific attitudes. In furtherance to these, Attwell et al. (2021) have argued that many studies focusing on vaccine hesitancy and acceptance have been conducted in the more economically advanced countries. "However, we need more studies from low-and-middle income countries that take into consideration their unique characteristics" (p. 190). Thus, this lack of adequate literature justifies the significance of this article. This study sought to explore older people's uptake of the COVID-19 pandemic, especially their perspectives on the reactions or responses to vaccine uptake.

Method

The study was conducted in Accra and Tema in the Greater Accra Region of Ghana. The study adopted interpretive phenomenology to investigate the lived vaccine uptake and hesitancy experiences of older Ghanaians during the COVID-19 pandemic. This approach of phenomenology enabled the researchers to gain in-depth understanding of vaccine acceptance, uptake, and hesitancy in urban Ghana. Noteworthy is that the lived experiences are holistic and interrelated such that it is not easy to delineate one experience from the other. Hence, this study presents findings with intersections between the perceptions pertaining to COVID-19 related vaccine uptake acceptance or hesitancy dynamics among older individuals.

The target population was older Ghanaian citizens who were willing to take part in the study. The study was explained to all the participants and those who volunteered and met the inclusion criteria were selected.

Twelve (12) participants were purposively selected, constituted by six women and 6 men through purposive sampling. Semi-structured individual interviews were conducted in English, audio-taped, transcribed and analyzed using thematic analysis procedures. Examples of questions asked included the following: Could you please tell me more about your life during COVID-19 vaccination exercises? Informed consent was obtained from all participants and rigor was ensured through prolonged engagement of participants in the field and member checking. The ages of the study participants ranged from 60 to 89 years, whereas their educational backgrounds span Middle School Leaving Certificate (MSLC) through to the doctorate degree levels (Table 1).

Table 1: Participant demographics

Respondent	Pseudonym	Gender	Age	Marital Status	Education	Occupation
R1	Essi	Female	67	Widow	Standard 7	Retired
R2	Ametefe	Male	60	Married	PhD	Senior lecturer
R3	Adzo	Female	68	Widow	Standard 7	Retired
R4	Manu	Male	70	Married	PhD	Senior lecturer
R5	Sule	Male	63	Married	PhD	Senior lecturer
R6	Koku Cash	Male	89	Widower	PhD	Retired
R7	Salma	Female	67	Divorced	Bachelor' degree	Businesswoman
R8	Baaba	Female	65	Married	Masters'	Retired
R9	Aweley	Female	77	Married	Masters'	Businesswoman
R10	Lakai	Female	61	Married	A'Level	Businesswoman
R11	Eduah	Male	60	Married	Masters'	Clergy
R12	Lartey	Male	60	Married	Bachelor's degree	Businessman

Source: Field data

Data collection

The individual interviews were conducted in English. The interviews lasted between 40 to 45 minutes. To elicit free individual expressions, open ended questions were posed. Probes were used to gain in-depth understanding of the phenomenon under investigation. The authors collected all the data, whereas the choice of location and time of interviews were at the convenience of the participants. Twelve (12) interviews were audio-recorded with a digital voice recorder with the consent of the participants. These interviews were conducted between March and June 2021. The interviews were transcribed verbatim and field notes were written on context and non-verbal behavior during the interviews. Reflections during data collection were also written as part of the field notes to ensure that the views of the participants of the study were duly represented. The study was conducted at the individual participants' homes and/or chosen locations in Accra and Tema.

Data management and analysis

In this study, concurrent data analysis was undertaken following Collaizzi's (1998) phenomenological processes of qualitative analysis proposed in seven (7) distinct stages namely where all transcripts were: (1) read and re-read to fully understand the lived experiences of the participants. The transcripts were coded, and similar codes were grouped. The authors and an independent person coded the data independently, after which differences were discussed to ascertain a consensus on the most appropriate code for a piece of data. (2) Descriptions were extracted from the transcribed interviews or identified phrases or sentences that were related to the participants' COVID-19 pandemic vaccine uptake and hesitancy lived experiences. (3) The meaning of

each significant statement was outlined. (4) The first three (3) steps for each description, and the creation of themes based on formulated meanings of the descriptions were repeated. Further, themes (e.g., vaccine acceptance; vaccine uptake; vaccine uptake hesitancy were developed and discussed, and discrepancies were resolved by going back to the data and making sure that the themes and sub-themes accurately represented the participants' worldviews. (5) Exhaustive descriptions were integrated from the results. (6) The exhaustive descriptions were summarized to formulate the fundamental structure of the phenomenon; and (7) in the study, trustworthiness was maintained through several processes. First the authors collected all the data which ensured that similar questioning techniques were used. The utilization of the thematic analysis approach ensured that the themes were fully developed. Member checking - asking participants follow-up questions were undertaken as a way of confirming the themes and sub-themes generated during thematic analysis. This ensured that any gaps in the data were filled, and the participants reviewed and confirmed the themes generated as a true representation of their worldviews.

The researchers systematically coded all data and then organized the codes utilizing thematic analysis, based on similarities, into larger and larger categories that led to a hierarchical structure of codes, themes (e.g., myths surrounding issues of COVID-19 pandemic and the associated vaccines - vaccine uptake acceptance and uptake hesitancy) and subthemes (e.g., wisdom). Themes, along with supporting excerpts from the data, were presented in the final report, including the description of those themes in relation to the research questions.

The data was managed with NVivo software version 11. The analytical process proffered by Bazeley and Jackson (2014) was followed in steps. A project comprising all the documents, coding

was undertaken, data and related information that assisted in the process of data analysis while saving the NVivo project was created. The transcribed interview files were labelled and imported. Chunks of data were then coded. This entailed finding obvious themes as well as auto-coding. A thematic multi-case analysis was employed, the comparative concentration of which was on individual cases and the preservation of their uniqueness.

The study sought to address the following research objectives: 1. to assess older adults' acceptance, uptake, and hesitancy of the COVID-19 pandemic vaccine, 2. to discover any myth(s) militating against COVID-19 vaccine uptake among the Ghanaian elderly.

Results

Vaccine uptake acceptance, and hesitancy perspectives

Vaccine acceptance and uptake is facilitated by voluntary acceptance and administration protocols. This is suggestive of the fact that older adults willingly take the inoculation whereas others are equally ready, but the inoculators were not available at the designated locations. This was the situation at Tema Communities 7, 8, and 25. Indeed, the latter induced the reference to Tema as a village by one of the male participants. Owing to this issue others missed the timelines provided per locality, for example, Koku Cash. There was also the display of total vaccine uptake hesitancy.

Taken vaccine

Some of the participants have had a single dose whereas others have had a double dose of the AstraZeneca vaccine. The results also intimated that most often vaccines are disproportionately distributed leading to shortages in certain areas with large

numbers of people. In terms of the location where the vaccination was received, the following revelations were made:

> *I have had the first shot of the vaccine and I am looking forward to receiving the second one* (Manu).
>
> *I had mine at the Korle Bu Teaching Hospital* (Manu).
>
> *I had the first shot of the inoculation at Endpoint. You know, they say the vaccination is to protect we the older people. May be Nana Addo needs to preserve our lives to draw on wisdom from us* (Salma).
>
> *I was at Volta Region at the time, and I had mine over there* (Ametefe).
>
> *When I went to my area, I was informed that the vaccines had run out. I then told my daughter, the one who works at Achimota Hospital, who arranged for me to have my first inoculation there* (Baaba).

Sometimes too, people get vaccinated in areas other than those designated for them due to the shortage of vaccines at such designated locations as it was observed in the case of Baaba. Noteworthy is that intimations above also included the value of older people expressed as a repository of wisdom.

Reactions to vaccination

The reactions to the inoculation were diverse. Therefore, the symptoms experienced after the inoculation entail feeling feverish; joint pains; slight body pains; malaria symptoms within a period of 24 hours, pain at the injection site, swelling at the injection site, fatigue, headache and muscle pain, fever and weakness. These were however managed with the intake of pain relievers such as paracetamol. Bodily reactions experienced after the inoculation have been catalogued in the following voices:

> *When I had the vaccination the first time, I had body pains and felt feverish and weak. As a result, I went to the other woman I went with to take the jab to make enquires and she told me she took paracetamol. And so, I did take some afterwards and got some relief after that. But it was not until after a couple of hours* (Salma).
>
> *The first shot was quite painful. I had to stay in bed for a whole day because I had body pains, felt weak and feverish* (Baaba).
>
> *I had my second shot, and it was normal. I did not have any reaction at all this time around* (Lartey).
>
> *I had my second jab at the same place, and it was not bad - Endpoint* (Larkai).

Absence of inoculators at designated posts

Systemic challenges, inadequacy or flaws may be responsible for the inability of those who are prepared to be inoculated in the designated areas. They said:

> *They have not come to our area yet* (Essi).
>
> *They have not come to my area. I made my daughter to find that out. She said they said they will come and that we will be informed about that later* (Adzo).
>
> *We have not had the first and second jabs because it looks like we are in a village in Tema. We are still waiting for them* (Koku Cash).

Missed inoculation timing

Being ready for vaccine uptake acceptance is as good as the designated timing for it. Stated differently, readiness for the inoculation is as significant as the time designated for it.

Fulfilling one to the detriment of the other is reminiscent of a flawed permutation as being observed.

> *They came to our area, but I missed the timing. When I enquired about the way forward, they said they will come again and that I'd get the chance to have my turn* (Koku Cash).

Vaccine uptake hesitancy

Refusal to participate in the vaccination exercise was fostered by diverse factors namely misconceptions or misinformation, religious beliefs and/or faith. Thus, the participants articulated the following:

> *I do not want to contaminate my body's system with that vaccine. The virus is not my portion* (Essi).
>
> *I would not take the vaccine because there are so many myths surrounding it which are unexplained sources of components of the vaccine* (Akweley).
>
> *I did not take it, so I do not get to contract it from any nurse or health personnel* (Nii Okine).

Myths and misinformation surrounding issues of COVID-19 pandemic and the associated vaccination

This paper highlights the several myths that surround vaccine acceptance hesitancy among Ghanaian older adults. The first myth is that the president of Ghana is prioritising vaccination of the elderly to draw on their wisdom. Indeed, it is about the preservation of lives no matter how old as it amounts to safeguarding their fundamental human rights. The most at-risk category of people has been articulated to encompass older adults and persons with underlying medical conditions. Second, the vaccine is constituted by protein taken from deceased fetuses;

third, the vaccine does not offer 100% immunity from coronavirus infection; fourth, there is the idea that inoculated persons will die in two (2) years of uptake; fifth, hearing of discouraging stories/ information impeded vaccine acceptance and the associated uptake; sixth, vaccine is meant to annihilate humans. These have been vividly articulated in the following quotes:

> *We have heard stories about the ingredients in the COVID-19 vaccine – protein taken from dead fetuses, which we Roman Catholics are strongly against* (Akweley).

> *I am not part of the vaccination. I understand it will create a lot of problems. It is something they want to use to destroy people. I have heard that those who have taken the vaccination, the medical doctors said in two (2) years they will see the effects – many of them will die. Some medical doctors have warned people not to take the vaccine because they know what is behind the vaccine. Besides the vaccine does not offer complete immunity. Even if you take the vaccine, you still must wear the nose mask, etc. So, some of us are out. We have heard so many stories that are discouraging us from taking vaccination* (Sule).

Frontline workers have been fingered as propagating misconceptions about the COVID-19 vaccines. The vitality of maintaining good health was viewed as an important attribute to ageing well. This theme was categorized into three related subthemes: staying alert, having a positive attitude, and modes to keep good mental health. In terms of:

> *Staying alert participants valued their state of alertness related to being independent, having control over their own affairs, and being self-governing. Being alert and having a good memory was mentioned frequently as an imperative dimension of aging well* (Essi).

It is worth acknowledging that being positive was also connected with spiritual merits, having faith, praying, and trust in God; these traits have been mentioned. The participants commented on the importance of reaching a state of serenity and tranquility as an important attribute to ageing well, even in the context of COVID-19. Having a positive attitude emerged as an important attribute to ageing well, and it was diversely characterized.

Discussion

The study sought to investigate COVID-19 vaccine acceptance, uptake and hesitancy among the elderly including the myth(s) militating against COVID-19 vaccine uptake among older adults in Ghana. Two (2) distinct vaccine uptake pathways pertain in the context of this paper. These pathways are structured around adherence and compliance with inoculation regimes in Ghana or non-compliance to the same due to diverse COVID-19 pandemic misinformation and/or myths. These misconceptions can be mitigated by social influence related favorable behaviors such as making social norms favorable to vaccination and/or more salient; highlight new and emergent norms in favor of vaccination, leveraging the role of health professionals; support health professionals to promote vaccination; factoring in endorsements from trusted community members; build timely trust in the vaccines (WHO, 2020).

The findings of this study have implications for the development, implementation, monitoring, and evaluation of tailored strategies to improve and sustain vaccine uptake. These findings also have implications for under-vaccination. Consistent with these findings is the assertion by Arce et al. (2021) that there is a higher willingness in LMIC samples (80% on average) to take the COVID-19 vaccines in LMIC samples compared to the

United States (65%) and Russia (30%). Further, the acceptance of vaccine(s) was primarily explained by an interest in personal protection against COVID-19, whereas concern about side effects was the most expressed reason for reluctance.

The need to get inoculated against infection by the coronavirus became necessary because the pandemic is affecting tens of thousands of people in diverse ways namely the loss of work, the lack of medical care and supplies including food supplies. (Dovie, 2021, p. 49).

Taking the vaccine provides protection against getting severe disease symptoms such as shortness of breath and complications such as pneumonia upon infection. Without the vaccine, an individual could develop severe symptoms and sometimes require hospitalisation and artificial support to breath. In addition, people may suffer side effects, and some of these side effects can interfere with a person's daily activities for a few days. Some of the side-effects of taking the vaccination entail injection site pain, swelling and redness, fatigue, headache, muscle and joint pains, chills, fever, nausea, malaise, and swollen lymph nodes. Different people may experience these differently yet not all these side effects, and these are usually more pronounced after a second shot. However, these are a depiction of normal signs that the body is building the requisite protection and will resolve within hours and up to 3 days. These same effects are also normally seen with many other vaccines. Of the common side effects namely headaches, fever and joint pains, pain relievers such as ibuprofen or acetaminophen were used to relieve this discomfort. It is, however, advisable to speak to medical doctors for further advice. In confirmation, Arce et al. (2021) observed that health workers were the most trusted sources of information about COVID-19 vaccines. As a result, vaccination campaigns in LMIC countries need to focus on translating acceptance into

uptake. This will ensure that messaging highlighting vaccine efficacy and safety, delivered by healthcare workers, may be most effective in addressing remaining hesitancy.

Significantly, ensuring that older people's acceptance of the COVID-19 vaccine is essential, even though the effective and equitable distribution of COVID-19 vaccines is a key policy priority.

After the first vaccination, it is anticipated that the inoculated individuals take the second vaccine between 4 and 12 weeks based on the regime of the vaccine. Noteworthy is that the vaccine has been observed to grant immunity against the coronavirus disease for 7-12 months. The rollout of the inoculation period for Ghana is anticipated to end in December 2021 with an anticipated 20 million people vaccinated in terms of nationwide coverage. The second dose of the inoculation exercise commenced on 19/05/2021 through to 26.05.2021 (Dr. Kwame Achianu of GHS, UTV News May 17, 2021). Ordinarily, the second dose is expected to be received by persons who have had the first dose. (This raises the question as to what the plan is for those who could not receive the first inoculation for various reasons especially in the three (3) designated regions and districts in Ghana). Here, there are two (2) options – either stay intact or move to another location. Older people, the physically challenged, health workers and frontline workers are the first category of persons to receive the inoculation.

The findings of this research particularly the vaccine hesitancy myths are like those in relation to the belief in parts of South Africa that the gang raping of young girls is a cure for HIV/AIDS has been noted as one reason why women are more likely to get HIV/AIDS (Masland et al., 2000). The results also have implications for Ghana's sensitization policy. It may pave the way for changes in global policies. Two distinct groups of older

adults were observed in the context of this paper namely vaccine hesitant elderly and non-vaccine hesitant elderly.

Psychological and behavioral factors worth considering in this context encompass the way people make choices, respond to options, perceive the world, and behave (Attwell et al., 2021, Institute for Government, 2010). In this context, older citizens may fear more than young people do, as they have greater difficulty understanding that ''danger'' is a social construct fed by the attention put on it, which may not be backed up by facts. The increasing commodification of security (by a market for personal security issues, products, and services). For instance, it is indicative that the COVID19 pandemic is one of these contemporary perceived ''dangers.'' This is because they both play an important role in a person's well-being.

Among other things, multi-component strategies that ensure equitable access to vaccination services and quality of vaccination services (as well as training for health care professionals) including interventions to enhance confidence and ensure informal vaccination decision making are prerequisites to the promotion of the resilience for vaccination programs (Attwell et al., 2021).

Research has long found that living in areas with lack of trust among residents may increase the fear (Funk et al., 2007; Sampson et al., 1997; Wyant, 2008) of for instance COVID-19 infection. Social isolation and poor social networks (Hale, 1996) are also bound to affect seniors' perceived safety. (Ceccato & Bamzar, 2016) in this context.

Behavioral responses by Jackson and Gouseti (2012) reported about avoidance behavior, protective behavior, behavioral and lifestyle adjustments, and participation in relevant collective

activities such as vaccine uptake acceptance. Avoidance behavior involves minimizing one's contact with people (social or physical distancing), routine activities, or places. Protective behavior constitutes activities that are thought to prevent crime (putting up fences by being inoculated) as well as wider activities of self-protection and safety improvement. Behavioral and lifestyle adjustments comprise a withdrawal from activities that are dangerous, such as in social gatherings (Ceccato & Bamzar, 2016; Franke & Elliot, 2021).

Conclusion

Two (2) distinct groups of people were observed in the context of this paper namely vaccine hesitant older adults and non-vaccine hesitant older persons. The latter is mostly due to misconceptions and the attendant misinformation about the COVID-19 vaccines. In consequence, vaccine uptake confidence can be attained via awareness creation to increase technical knowledge as well as to generate positive association with vaccine(s). Text messages to mobile phones may serve as a cost-effective way to reach larger populations of older people albeit the entire population to improve health outcomes in the context of the COVID-19 pandemic. Training is required for vaccine counsellors, health professionals and significant trainers. Downloadable intervention resource repository creation is imperative. These could be alone with spillovers for the vaccines – pertussis, influenza, Ebola, HPV, HIV, etc.

References

Arce, J.S.S., Warren, S.S., Meriggi, N.F., Scacco, A., McMurry, N., Voors, M. et al. (2021). *COVID-19 vaccine acceptance and hesitancy in low- and middle-income countries, and implications for messaging*. Retrieved from https://doi.org/10.1101/2021.03.11.21253419

Attwell, K., Betsch, C., Dube, E., Sivelä, J., Gagneur, A., Suggs, S.L., Picot, V. & Thomson, A. (2021). Increasing vaccine acceptance using evidence-based approaches and policies: Insights from research on behavioral and social determinants presented at the 7th annual vaccine acceptance meeting. *International Journal of Infectious Diseases, 105*, 188-193

Bazeley, P. & Jackson, K. (2014). *Qualitative data analysis with NVivo, (*2nd ed.). Sage.

Boadu, K.A. (2021). COVID-19 vaccination continues Wednesday. Daily Graphic. May 17, 2021, edition. Retrieved from https://www.graphic.com.gh.

Brewer, N.T., Chapman, G.B., Rothman, A.J., Leask, & Kempe, A. (2017). Increasing vaccination: Putting psychological science into action. *Psycho. Science Public Interest, 18*(3), 149-207.

Berg, H. (2019). Evidence-based practice in psychology fails to be tripartite: A conceptual critique of scientocentrism in evidence-based practice in psychology. *Front. Psychol*., *10*(2253). https://doi.org/10.3389/fpsyg.2019.02253

Chee, S.Y. (2020). COVID-19 pandemic: The lived experiences of older adults in aged care homes. *Millennia Asia*, *11*(3), 299-317. https://doi: 10.1177/0976399620958326

Collaizzi, P.F. (1978). Psychological research as the phenomenologist views it. Retrieved November 12, 2020, from: http://philipapers.org/rec/COLPRA-5

Demi, M.J., Norter, Klein, P., Huber, B.M., Pfeiffer, C. et al., (2019). We treat humans, not herds: A qualitative study of complementary and alternative medicine (CAM) providers' individualized approaches to vaccination in Switzerland. *Soc. Sci. Med*, *240*, 112556.

Dovie, D.A. (2021). Pearls in the COVID-19 pandemic: The case of older adults' lived experiences in Ghana. *Interaçõe: Sociedade e as Novas Modernidades*, *40*, 29-59.

Dovie, D.A. (2019). The status of older adult care in contemporary Ghana: A profile of some emerging issues. *Frontiers in Sociology, 4*:25. https://doi:10.3389/fsoc.2019.00025

Dovie, D.A., Dzorgbo, D.B.S., Mate-Kole, C.C., Mensah, H.N., Agbe, A.F., Attiogbe, A. & Dzokoto, G. (2019). Generational perspective of digital literacy among Ghanaians in the 21st century: Wither now? *Media Studies, 11*(20). https://doi: 10.20901/ms.10.20.7

Eddy, M. (2019). The New York Times: Germany mandates measles vaccine. 2019. http://www.nytimes.com/2019/11/14/world europe/germany-measlesvaccine.html.

Franke, V. C. & Elliot, C. N. (2021). Optimism and social resilience: Social isolation, meaninglessness, trust, and empathy in times of COVID-19. *Societies, 11*(35). https://doi.org/10.3390/soc11020035

Graphic.com.gh (2021). COVID-19 vaccine: Government abrogates Sputnik V contract.

Kapata, N., Ihekweazu, C., Ntoumi, F., Raji, T., Chanda-Kapata, P., Mwaba, P., & Mfinanga, S. (2020). Is Africa prepared for tackling the COVID-19 (SARS-CoV-2) epidemic? Lessons from past outbreaks, ongoing Pan-African public health efforts, and implications for the future. *International Journal of Infectious Diseases*, *93*, 233-236.

Marston, H.R., Musselwhite, C., & Hadley, R. (2020). COVID-19 vs social isolation: The impact technology can have on communities, social connections, and citizens. Retrieved August 30, 2020, from: www.robinhadley.co.uk/contact-me

Omer, S.B., Betsch, C., & Leask, J. (2019). Mandate vaccine with care. *Nature, 571*(7766), 467-472.

REUTERS (2021). COVID-19 tracker. https://www.graphics.reuters.com.

World Health Organization (WHO (2019). Vaccination misinformation. Statement by WHO Director General on Facebook and Instagram. Retrieved from http://www.who.int/news-room/04-9-2019-vaccine-misinformation-statement-by-who-director-general-on-facebook-and -Instagram.

WHO (2020). Behavioural considerations for acceptance and uptake of COVID-19 vaccines: WHO technical advisory group on behavioral insights and sciences for health meeting report. https/creativecommons.org/license/by-nc-sa/3.0/igo.

WHO (2021). Coronavirus disease (COVID-19): Vaccines. Retrieved from https://www.who.int/news-room/q-a-detail/coronavirus-disease-(covid-19).vaccines?adgroupsurvey={adgroupsurvey}&gclid=CjwKCAjwy42FBhB2EiwAJY0yQlWhlJyCmbs1u_Yd28lFNUvDRyLNSlkhEef4DpGTkuAQzAlKbLlbvhoCU7IQAvD_BwE