Overcoming COVID 19 Vaccine Hesitancy in Nigeria through Strategic Communication

CHIAKAAN, J. Gbaden PhD. & SHADRACH, Idi

Department of Mass Communication, Taraba State University, Jalingo
Department of Mass Communication, Taraba State University, Jalingo
Email: shadrachidi@gmail.com

Abstract

Covid 19 Vaccine rejection otherwise known as hesitancy is a serious challenge undermining the Government mass vaccination campaign against the virus in Nigeria. This study investigated the perception of Nigerians toward COVID 19 vaccine, the level of vaccine hesitancy, the predictors of vaccine hesitancy and strategic communication approaches that can be employed to overcome the hesitancy in the country. The study adopts mixed method based on the use of questionnaire and interview to collect data from members (n=370) of the populace in Taraba State as well as experts (n=6) in strategic communication across different Universities in Nigeria. Outcome of the study revealed high rate of COVID 19 vaccine rejection among Nigerians and the major predictors were fear of side effect, rumours, conspiracies surrounding the virus and mistrust toward government. The study further revealed that strategic communication principles such as audience segmentation, tailored messages, use of multimedia can help in promoting the acceptability of the vaccine. This is possible if experts in strategic communication form part of the campaign team for the mass vaccination programme.

Keywords: Campaign, Communication, COVID 19, Hesitancy, Strategic, Vaccine

Introduction

Covid 19 is one of the major historical global health and social disruptions of the 21st century. It first emerged in late 2019 in Wuhan (Hubei, China) and it hastily becomes a global threat affecting all nations of the world to the extent that by March 2020, it was declared a pandemic by the World Health Organization (WHO). It caused tremendous mortality and morbidity, as of May 23rd 2023, 6,935,889 persons were reported by WHO death due to Covid 19 virus. This development has also led to an unprecedented economic loss to both developed and developing nations.

At earlier stage, countries were engaged in lockdown leading to closure of borders, schools, social gatherings and religious meeting among others. Other non-pharmaceutical interventions (NPIs) adopted include enforcing the use of face mask, keeping of social distancing, regular hand washing with soap or use of hand sanitizer among others (Nicola, Alsafi, Sohrabi, Kerwan & Al-Jabir, 2021). Though these measures are still considered key to the fight against Covid 19, seeing that they were able to slow down the progression of the disease, the most promising strategy that can reduce the mortality and morbidity rates remains within the capacity of medical technology. Such medical technology includes effective, safe, and accessible vaccines. The Pan American Health Organization (2021) states that vaccine is a key element in the package of measures to tackling Covid 19. From March 2020 when the WHO declared Covid 19 a pandemic (Cucinotta & Vanelli, 2020), scientists and pharmaceutical companies raced against time to develop Covid 19 vaccines (Coustasse, Kimble & Maxik, 2021).

The African Vaccine Acquisition Task Team of the African Union and the WHO-led COVAX consortium with its global partners secured million doses of COVID-19 vaccines to achieve 60% coverage in Africa. As of March 4, 2021, several countries across Africa including Nigeria have initiated Covid 19 vaccination programmes. However, the success of the COVID-19 vaccination programme depends on the proportion of the population willing to be vaccinated, and reports suggest that up to 70% of the population of any given country require vaccination to bring an end to the pandemic (Bartsch, O'Shea, Ferguson, Bottazzi, Wedlock & Strych *et al*, 2020).

As at 12 June 2021, only 1.6 billion people received at least one dose of COVID-19 vaccine, and around 727 million people were fully vaccinated (Moola, Gudi, Nambiar, Dumka, Ahmed, Sonawane & Kotwal, 2021). Reports also suggest that 85% of the doses were administered in high- and upper-middle-income countries, compared to only 0.3% of doses administered in Low-middle-income countries [LMIC] (New York Times, 2021). Specifically, only about 1% of Africans have been fully vaccinated against COVID-19 (Mtewa, Ndege, Atela, Alam & Kinyanjui, 2021) and in Nigeria, as at February 28th, 2022, only 8.4% of the more than 200 million population of Nigeria received at least first dose of Covid 19 vaccine while only 3.8% of the population were fully vaccinated (National Primary Health Care Development Agency [NPHCD], 8th August, 2022 as cited by Premium Times Newspaper January 15, 2023). The NPHCDA's indicates a presence of vaccine hesitancy in Nigeria.

According to Obregon, Chitnis, Morry, Feek, Bates and Galway (2009), certain public health concerns cannot be primarily addressed by medical science, rather demand effective communication. The Strategic Advisory Group of Experts on Immunization (SAGE) Working Group on Vaccine Hesitancy (WG) have noted that communication is a tool to address vaccine hesitancy and that poor communication can undermine vaccine acceptance in any setting. However, it appears there is less information in the literature about Nigerian COVID-19 vaccine communication interventions. Specifically, studies that examined the use of strategic communication to address the problem of COVID-19 vaccine hesitancy are lacking, hence, the need for the current study.

Problem Statement

The Federal Government of Nigeria in collaboration with international partners have provided Covid 19 vaccines free of charge for Nigerians. These vaccines are accessible at designated clinics and hospitals around the Nation. However, the COVID-19 vaccine-related conspiracy theories have built new momentum leading to vaccine hesitancy in the country. To this end, the government across is struggling to boost public trust and enthusiasm to get vaccinated as only few persons willingly take the vaccine.

One of the major strategies for health intervention is the use of communication to encourage adoption of health precautionary measures. Though Covid 19 has attracted a plethora of studies, there remain a paucity of studies from Nigerian perspective regarding how strategic communication can be employ to mitigate Covid 19 vaccine hesitancy in the country. To fill this gap, the current study was carried out.

Research Questions

i. What is the perception of Nigerians toward Covid 19 vaccine?
ii. What is the level of Covid 19 vaccine hesitancy in Nigeria?
iii. What are the predictors of Covid 19 vaccine hesitancy in Nigeria?

iv. How can strategic communication be employed to overcome vaccine hesitancy in Nigeria?

Theoretical Framework

The current study is premised on the Health Belief Model (HBM). The theory was developed in the 1950's by Hochbaum, Rosenstock and others, to explain the failure of people participating in programs to prevent and detect disease in the U.S. Public Health Service (Asemah, Nwammuo, & Nkwam-Uwaoma, 2017). The theory originally holds that health-related behaviour depends on the combination of several factors, namely, perceived susceptibility, perceived severity, perceived benefits and perceived barriers. Perceived severity refers to the belief that the consequences resulting from getting the disease are serious, hence the need for protection (Betsch, Böhm, & Chapman, 2015). Perceived susceptibility refers to the belief that there is high risk of getting the disease (i.e. the absolute risk) (Neumann-Böhme, Varghese, Sabat, Barros, Brouwer, van Exel, Schreyögg & Stargardt, 2020). Perceived benefits refer to the belief that adopting a given protection measure will reduce the risk or seriousness of the disease threat. Finally, perceived barriers refer to the belief that certain challenges can restrict the adoption of a given protection measures. These barriers can be psychosocial, physical, or financial factors (inconsistent font size and type).

Today the theory has become one of the most widely used models for understanding health behaviour toward intervention programmes against different diseases including Covid 19 around the world. The theory is considered apt to the current study in that it will take effective strategic communication amidst conspiracy theories to persuade Nigerians to understand the perceived severity of the consequences of contacting COVID-19, likelihood (Perceived susceptibility) of contacting the disease, the benefit of taking Covid 19 vaccine as well as become willing and make effort to be vaccinated regardless of challenges such as distance, time, belief systems etc that have always discourage them from getting vaccinated. Therefore, the HBM constructs can serve as framework that can lead to effective development of strategic communication or tailored interventions that will enhance the acceptance of the vaccine in Nigeria.

Literature Review

Vaccine hesitancy is defined by the WHO Strategic Advisory Group of Experts cited by MacDonald (2015) as delay in acceptance or refusal of vaccination despite availability of vaccination services. From developed nations, several studies (e.g Neumann-Bo¨hme, Varghese, Sabat, Barros, Brouwer, van Exel, *et al*., 2020) have showed varying trends of vaccine hesitancy rates among different countries as well as factors contributing to vaccine hesitancy. The studies indicate that disinformation and anti-vaccine campaigns, especially, on social media, negative perceptions of the pharmaceutical industry, concerns about the reliability or source of vaccines and less trust in scientific and governing authorities are the major reasons driving vaccine hesitancy. Similarly, in Iliyasu et al (2021) assessed the predictors of acceptability of the COVID-19 vaccine and identified reasons for vaccine hesitancy among adults in urban Kano, northern Nigeria as doubts about the existence of COVID-19, mistrust for authorities, and popular credence to rumors and conspiracy theories contributed to Covid 19 hesitancy in the country. In the same light, Chutiyami et al (2022) examined the subjective reasons for hesitancy to receive COVID-19 vaccination among the general Nigerian population using an online social media survey. The study revealed that fear related to vaccine content (e.g., efficacy), negative effects on the body, distrust of the system/government and psychological concerns and misconceptions predict Covid 19

vaccine hesitancy in the country. Chutiyami et al's study above agrees with Olawa, Lawal, Odoh, Azikiwe, Olawole, Odusina, Ayodele Ajayi (2023) results which show that 56.8% of participants mistrust the government and that such mistrust was significantly associated with low acceptance of COVID-19 vaccination in Nigeria.

Studies on Covid 19 vaccine communication are still in infancy stages but studies on general health communication in managing Covid 19 in Nigeria abound. For instance, Maikomo and Shadrach (2021) examined the use of social marketing to flatten the curve of Covid 19 in Nigeria. Lucas, Tordue, Jibril, Sambo and Bako (2020) examined the use of traditional communication to overcome misinformation regarding Covid 19 while Chiakaan, and Oruonye (2020) investigated the use of risk communication to fight Covid 19 pandemic. These studies and many other related studies contributed to knowledge on the subject of communication and management of Covid 19, however, they were carried out before Covid 19 vaccine were developed. Few studies (e.g Anorue, Ugboaja, Nwabunze, Ugwulor-Onyinyechi & Njoku, 2021) that were later carried out after the development of Covid 19 vaccine, primarily focus on the effectiveness of the role of mass media in creating awareness and acceptability of the vaccine. However, studies that examine the use of strategic communication in fighting Covid 19 hesitancy is lacking. This is couple with the fact that the knowledge of strategic communication as an independent field or genre of communication which can help organizations and government institutions achieve their goals and mission is still in its infancy stage in Nigeria. This observed lacuna necessitates the need for the current study which is on overcoming Covid 19 vaccine hesitancy in Nigeria through strategic communication.

Research Methods

The study was in two stages. The first stage was the collection of quantitative data from the target audience about the predictors of Covid 19 vaccine hesitancy while the second stage was the collection of qualitative data from experts in strategic communication. This study used a cross-sectional survey research design. Quantitative data were collected from Nigerians (≥18 years old) resident in Taraba State using questionnaire. The sample size of the respondents was 374 based Fisher's formula at a confidence level of 95%, and 5% margin of error. For the qualitative data 6 experts of strategic communication from different universities were selected and interviewed. The technique of selecting the both subjects was purposive. The quantitative data were analyzed using descriptive statistics while the qualitative data were analyzed thematically.

Result of the Findings

The section below demographically describes the respondents that were used to collect data as well as the description of the data they provided in line with the research questions.

Table 1. Socio-demographic characteristics of respondents

Characteristics	Frequency No. (%) N = 374
Sex	
Male	201 (53.7)
Female	173 (46.3)
Age group	
18-29	82 (21.9)
30-39	101 (27)
40-49	98 (26.2)
≥50	93 (24.9)
Occupation	
Farmer	175 (46.8)
Traders	72 (19.3)
Civil servant	99 (26.5)
Student	37 (9.9)
Others	11 (2.9)
Highest Educational Attainment	
None	11 (2.9)
Primary	32 (8.6)
Secondary	150 (40.1)
Tertiary	181 (48.4)
Religion	
Christianity	211 (56.4)
Islam	141 (37.7)
Others	22 (5.9)

Source: Field Survey, 2022

Table 1 above presents demographic data of the respondents. It indicates that 53.7% of the respondents are males while 46.3% are females, this implies that both sexes were represented in the study. Data on the age of the respondents show that 21.9% were between 18-29 years, 27% were between 30-39 years while 26.2% were between 40-49 years and 24.9% were above 50 years. This indicates that persons of different age bracket legible to take the vaccine formed part of the study. Furthermore, the Table revealed that the majority of the respondents (46.8%) are farmers by occupation. This was followed by 26.5% who are civil servants while traders made 19.3%, students 2.9% and others 9.9%. The data here indicates that majority of the populace in Taraba State are either farmers or civil servant. Literacy of people is a significant variable that can influence attitude toward adopting health precautionary measures. Thus, the educational attainment of the respondents was also measured, the data indicate that only 2.9% have not attended any formal school. However, majority (48.4%) have been to tertiary school and 40.1% had attained secondary school level while 8.6% have reached primary school level. This result indicates a significant number of literate persons took part in the study and reside in the state. Religious belief is also a factor that determines people's response to issues especially health issues especially during pandemic or outbreak of disease. Against this backdrop, this study measured the religion of the respondents. The result shows that Majority (56.4%) of the respondents are adherents of Christian religion, this is followed by the adherents of Islamic religion (37.7%) and other religions such as the traditionalist formed 5.9%. This implies that there are more adherents of Christian religion in the study setting.

Individuals have different views regarding Covid 19 Vaccine. The preceding data is on the views of the respondents regarding the Vaccine.

Table 2: Respondents' Perception of COVID-19 Vaccine

Perception Statements	Yes *n=370 (*%)	No *n=370* (%)	Not sure *n=370* (%)
Vaccine is necessary to end the COVID-19 pandemic.	61 (16.4)	82 (22.2)	277(61.4)
I believe COVID-19 vaccine is safe.	87 (23.5)	189 (51.1)	94 (25.4)
I am willing to pay any price within my power to get vaccine.	15 (4.1)	201 (54.3)	169 (45.7)
Vaccination will make me feel less worried about COVID-19	29 (7.8)	154 (41.6)	187 (50.5)
Vaccination will decrease my risk of getting COVID-19	79 (21.4)	92 (24.9)	199 (53.8)

Source: Field Survey, 2022

Table 2 above presents data about the perception of the respondents about COVID 19 vaccine. This is in line with the first objective of the study. Accordingly, the result indicates that only 16.4% believed that COVID 19 Vaccine is necessary to end the pandemic while 22.2% did not believed and majority 61.4% was not sure. Also, only 23.5% believed the vaccine is safe, 51.1% did not believe the vaccine is safe while 25.4% was not sure, this indicates a negative perception toward COVID 19 vaccine. Furthermore, only 4.1% were willing to pay price to get vaccinated, more than half of the respondents (54.3%) were not willing to pay any price to get vaccine and 45.7% were not sure. Additionally, only 7.8% said Vaccination will make them feel less worried about COVID-19 while 41.6% thought otherwise and 50.5% were not sure. Similarly, only 21.4% perceived that COVID 19 vaccine will decrease their risk of contracting the disease but 24.9 did not agree and majority were not sure. The overall impression from the data in the Table above is that the respondents majorly had negative perception and uncertainties regarding the vaccine.

Covid 19 vaccine hesitancy is the degree to which one accept to take or reject a vaccine as well as influence others in the same direction. Items were provided in the Table below to measure hesitancy among the respondents.

Table 3: Respondents Level of Covid 19 Vaccine Hesitancy

Hesitancy Statements	Yes *n=370 (*%)	No *n=370 (*%)
I have taken the first dose of COVID-19 vaccine.	105 (28.4)	265 (71.6)
I have taken the second dose of COVID-19 vaccine.	81 (21.9)	289 (78.1)
I have taken the booster dose of COVID-19 vaccine.	69 (18.6)	301 (81.4)
Most members of family and friends have received the COVID vaccine.	99 (26.8)	271 (73.2)
I believe most people in my locality have received COVID-19 vaccine.	56 (15.1)	314 (84.7)

Source: Field Survey, 2022

Table 3 above present data on the level of Covid 19 vaccine hesitancy amongst the respondents. The results indicate that only 28.4% of the respondents had the first dose of the vaccine while 71.6% did not. Regarding the second dose, only 21.9% took it while 78.1% did not. Regarding the booster dose, only 18.6% took it while 81.4% did not. Furthermore, the result shows that only 26.8% opined that most members of their family and friends took COVID 19 vaccine while 73.2% said otherwise. Also, only 15.1% indicate that most people in their locality were vaccinated against COVID. The general implication of the data above is that there is high level of vaccine hesitancy amongst the respondents and by extension in Taraba State. Only quarter of the respondents have taken the vaccine and less have been fully vaccinated.

Table 4: Predictors of Covid 19 Vaccine Hesitancy among the Respondents

Predictors of Covid 19 Vaccine Hesitancy	Yes *n=370 (*%)	No *n=370 (*%)
Rumours about the actual existence of the virus	219 (59.2)	151(40.8)
Perceived side effects of COVID-19 vaccine	289 (78.1)	81(21.9)
I am concerned about rumours of depopulation & infertility related to COVID-19 vaccines	180 (48.6)	190 (51.4)
Insincerity of government	201 (54.3)	169 (45.7)
I am concerned about the speed of manufacturing the vaccine	85 (23)	285 (77)
I am concerned about the sincerity of the western world who champion the provision of the vaccine	198 (53.5)	172 (56.5)
I will love to be vaccinated but don't have access to the vaccine	29 (7.8)	341 (92.2)

Source: Field Survey, 2022

Table 4 above presents data regarding the factors that causes the high rate of vaccine rejection or lack of acceptance (hesitancy) among the respondents. Accordingly, 59.2% opined that rumours about the actual truth regarding the existence of the virus discourage vaccine intake, 78.1% indicate perceived side effect of the vaccine as a predictor of hesitancy while 48.6% were concerned about rumours regarding depopulation and infertility associated with the vaccine. Also, 54.3% associated the hesitancy with government insincerity, 23% shown concern based on the speed in the manufacturing of the vaccine while 53.5% associated hesitancy with the sincerity of the western world who are key players in promoting COVID 19 vaccine. Also, only 7.8% associated the hesitancy to lack of access to the vaccine. The implication is that there are diverse factors that led to rejection of COVID 19 vaccine in Taraba State. The major factors include fear of perceived side effects, rumours and conspiracy surrounding the virus and pandemic as well as the insincerity of government.

Interview Responses on the Application of Strategic Communication to Overcome Covid 19

Vaccine hesitancy

The data were collected from 6 participants. The participants are all teachers of communication in different Universities as well as specialists in Strategic Communication with evidence of research studies and practical projects.

Table 5: The profile of the Interviewees

Description	Sex	Age	Qualification	Rank	Years of Experience
Participant 1	Male	52	PhD.	Senior Lect.	10
Participant 2	Male	60	PhD.	Reader	13
Participant 3	Male	59	PhD.	Reader	15
Participant 4	Male	64	PhD.	Professor	30
Participant 5	Female	55	PhD.	Senior Lect.	11
Participant 6	Female	51	PhD.	Senior Lect.	10

The interview was conducted with each of the participant basically on how strategic communication can be employed to support COVID 19 vaccination programme in Nigeria and specifically to overcome vaccine hesitancy observed. The result of the interview yielded the four (4) themes. The data for each theme are presented below wherein the interviewees were coded as PTs.

Table 5: Experts opinion about the use of strategic communication to overcome Hesitancy

s/n	Themes	Remarks
1.	Audience segmentation	All the participants believed that to encourage the intake of COVID 19 vaccine. The public need to be adequately informed and persuaded and that such can only be achieved when they audience are well understood and divided into groups based on different demographics such as age, language, beliefs, literacy level etc before messages will be directed to them. PT 1 said. *"We can't treat the public the same if we want to persuade them to take the vaccine"* PT2 added, *"We most identify the public and group them before we can communicate in a manner that the goal of the vaccination programme can be actualized"*. PT 3 opined that *"Government disseminates general information about the vaccine yet they expect the general public to respond by going out to take the vaccine, this is not possible. For the vaccine to be accepted we need to understand the biases of each group…"* PT 4 concurs that, "*There are different groups in the society and for any health intervention including the COVID 19 mass vaccination campaign to succeed, the various groupings of the society need to be integrated into our communication plan…*"PT 5 adds that "*The first thing to do is to carry out audience analysis, understand each group…" Similarly PT 6 said, "stop disseminating information to people you don't know […] the vaccine campaigners most define their targets…"*
2.	Tailored messages	The participants believed that the current messages to the public regarding the promotion of COVID 19 vaccine is general rather than strategic, hence, the need to have tailored messages that will reach specific audience. PT 1 said, *"COVID 19 vaccine campaign messages must be designed for each group…"* Similarly PT 2 said, *"…because group differs in culture, the campaign messages must be design in such a manner that will appeal to every group […] Messages targeting young persons need to have some aural of young energy like pop music…*PT 3 adds that *"…after segmenting the audience messages that appeal to their time and sensitivity must be designed to attract their attention…* said PT 4; while PT 5 adds that *"…the major challenge with COVID 19 vaccine communication campaign is the fact that the messages don't attract attention and interest of the people. Government must take time to design same messages but in different manner based on the different category of people…"* In like manner PT 6 opined that, *"COVID 19 vaccine campaign messages need to be designed from the context and understanding of the cultural difference of each segment of the population rather than treating everyone as the same…*"
3.	Multi media	The participant also explained the need for the use of different media to reach the target audience. PT 1 said, *"too much dependence on radio and television to disseminate information about the need to be vaccinated against COVID 19 is inadequate….* PT 2 adds that *"…just as there are different audience in different places, different communication channels must be deployed to reach them…*PT 3 said *" many people don't access information from radio and television but Internet especially young people, so the campaigns will do well to integrate different channels of communication into their tool box…"* PT 3 also opined that, *"…to promote COVID vaccine acceptance, we need to convince the people and this can be done through effective strategic communication and key to that is our choice of communication channels...the best idea is to use different channels such as TV, radio, newspaper, billboard, Internet and all other forms of communication means"*. Similarly PT 4 said *"we need to match each group of target with its primary channel of communication, for example to reach youth we may need social media, entertainers or social media influencers, for old people it can be radio and for the working class it can be personalized mail or SMS messages…"*PT 5 is of the view that "*the notion that traditional media of TV and radio are enough is wrong, in fact in a pandemic situation like COVID 19 where so many misinformation flies,[…] government need to explore different channels of communication but leverage more on face to face communication…"* PT6 adds that *"…every channel of communication has strength*

		and weaknesses so in strategic communication we don't only define the audience but we study their media consumption behaviour which include media they use majorly to access contents. This knowledge determines the channel to be used to persuade people to accept the vaccine".
4	Oral media	The respondents also argued that oral media channel which is based on local culture can be leveraged on to promote COVID 19 vaccination campaign. PT 1 states that, "*The fact that you use official language such as English does not mean everybody is following, we need local languages in the campaign for COVID 19 vaccine."* PT 2 said, *"integrate local community leaders and religious leaders in the campaign…" PT 3 adds that, "…local talents like musicians in various community can be contracted and given content regarding the promotion of the vaccine to transmit through songs to their community…PT 4 concurs that "…local festivals in various communities can be leveraged on to promote the campaign…."* PT 5 adds that *"every locality is blessed with different systems such as age group, traditional union etc these can serve as avenue for promoting the vaccine".* PT 6 concludes that "…*people love their culture and we can only reach them adequately according to their cultural biases so government should study the various cultural beliefs militating against the campaign and design programmes of action that will bring behavioural change […] I believe local music, poems, market square are all channels that can help in fighting COVID 19 vaccine hesitancy in Nigeria…"*

Source: Participant Interview, 2022

Discussion of Findings

Perception of Nigerians Toward Covid 19 Vaccine:

Based on the data in Table 2, it was deduced that the respondents have a negative perception toward the Covid 19 vaccine, as 51.1% perceived that the vaccine is not safe and 61.4% are not even sure if the vaccine is necessary. Similarly, prior studies have revealed that more people disparage vaccination generally (Blume, 2006). For instance, people are skeptical about some vaccines and sometimes, because of that, hesitate to accept vaccination either for their children, relatives, or self (Dubé, Laberge, Guay, Bramadat, Roy, & Bettinger, 2013). In respect to COVID 19 vaccine, existing studies have conflicting findings. While others (e.g James, Ede, Aroh, Okoh, Kanokwan, Rasip & Enbeyle, 2022) suggest negative perception of COVID 19 among Nigerians, others (Oche, et al 2022) indicate that Nigerians have positive perception toward COVID 19 vaccine.

Level of Covid 19 vaccine hesitancy in Nigeria:

It was found from the data in Table 3 that there is high level of Covid 19 vaccine hesitancy among the respondents. Only 28.4% have ever received the vaccine and out of which only 21.9% and 18.6% took second and booster doses respectively. This finding supports several previous findings such as Uzochukwu et al (2021) which found hesitancy level of COVID 19 vaccine hesitancy among members of a university community in Nigeria. Also, Oguntayo, Olaseni & Ogundipe (2021) in their study on the prevalence, socioeconomic and cognitive barriers of coronavirus vaccinations in Nigeria established that most Nigerians are not willing to accept COVID 19 vaccine and that the rate of hesitancy in the country has reached 61.7%.

The predictors of Covid 19 vaccine hesitancy in Nigeria:

The result as inferred from data in Table 4 indicates that COVID 19 vaccine hesitancy among the respondents was predicted or caused by majorly perceived side effects (78.1%), rumours and conspiracies surrounding the existence of the vaccine (59.2%), insincerity of government (54.3%) and perceived insincerity of the western world. The finding here is in line with several outcome of prior studies. For instance Iliyasu et al (2021) revealed doubts about the existence of COVID-

19, mistrust for authorities, and rumours and conspiracy theories as contributory to COVID 19 hesitancy in Nigeria. Similarly, Chutiyami et al (2022) revealed that concern about the likely side effect of taking the vaccine content is a major factor contributing to poor acceptance of COVID 19 vaccine.

Use of strategic communication to overcome vaccine hesitancy in Nigeria:

It was deduced from the interview data in Table 5 that the principle of audience segmentation, provision of tailored messages, use of multi-media approach and oral media can significantly help to overcome COVID 19 hesitancy in Nigeria. The finding above concurs with suggestions and practice in different health interventions around the world. The world strategic Communication Framework for effective communication previously states that audience segmentation, tailored messages and use of diverse channels determine the effectiveness of any communication campaign. Also, Shadrach (2023) suggests that strategic communication is coordinated communication that requires well defined purpose, target audience, content of message and media selection. Gupta, Narain and Yadav (2021) established that the engagement of local people in development including health interventions like COVID 19 vaccine communication is necessary, this according to them, provides a two-way process in which communities could participate as key agents in their own development viz-a-viz encouraging the adoption of the vaccine in their locality.

Conclusion

Though COVID 19 virus seems to be a thing of the past, it is still with us as the World Health Organization is yet to declare its end. Despite the fact that huge resources have been channelled to provision of vaccine to help end the pandemic, it has been established that resistance to the vaccine is high among Nigerians due to fear of side effect, conspiracy theories and lack of trust in the government. These challenges can be overcome using effective strategic communication. Therefore, for the Nigeria government to succeed in the ongoing mass campaign for COVID 19 vaccination, the government and its relevant agencies need to improve their health communication strategies.

Recommendations

Based on the findings and conclusion above, the following are recommended:

i. The vaccine campaigners should engage in audience analysis or research to understand the various demographics targeted for the campaign as well as group them and reach out to them appropriately.
ii. The campaigners should stop dwelling on traditional media (radio and TV) rather employ different channels ranging from the traditional, new media, interpersonal channels and oral media channels in reaching the mass media with messages about COVID 19 vaccine.
iii. The Government through its relevant agencies should employ communication experts as part of the team for the COVID 19 mass vaccination. Programme.
iv. There should be strategic communication plan (document) for the COVID 19 vaccination programme.

References

Anorue, L.I, Ugwu, A.C, Ugboaja, S.U, Nwabunze, U.O, Ugwulor-Onyinyechi, C.C & Njoku C. (2021). Communicating COVID-19 Vaccine Safety: Knowledge and Attitude Among Residents of South East, Nigeria. *Infectious Drug Resistant*, 16; (14), 3785-3794.

Asemah, E.S., Nwammuo, A.N & Nkwam-Uwaoma, A. (2017). *Theories and Models of Communication*. Jos: Matkol.

Bartsch SM, O'Shea KJ, Ferguson MC, Bottazzi ME, Wedlock PT, Strych U, et al. (2020). Vaccine Efficacy Needed for a COVID-19 Coronavirus Vaccine to Prevent or Stop an Epidemic as the Sole Intervention. *Am J Prev Med*. 59:493-503.

Betsch, C., Böhm, R., & Chapman, G. B. (2015). Using Behavioral Insights to Increase Vaccination Policy Effectiveness. *Policy Insights from the Behavioral and Brain Sciences*, *2*(1), 61–73. https://doi.org/10.1177/2372732215600716

Chiakaan, G.J. & Oruonye, E.D. (2020). Towards overcoming challenges of risk Communication on Covid-19 pandemic in Nigeria, *Jalingo Journal of Social and Management Sciences*, 3 (1).

Chutiyami, M.; Bello, U.M.; Salihu, D.; Kolo, M.A.; Alsharari, A.F.; Sabo, H.; Bukar, M.; Shehu, U.; Adamu, H.; Alkali, H.I.; et al. (2022). Subjective Reasons for COVID-19 Vaccine Hesitancy and Socio-demographic Predictors of Vaccination in Nigeria: An Online Survey. *COVID 2022*, 2, 1329–1340. https://doi.org/10.3390/covid2100097

Iliyasu, Z., Umar, A.A., Abdullahi, H.M, Kwaku, A.A., Amole, T.G., Tsiga-Ahmed, F., Garba, R.M., Salihu, H.M., & Aliyu, M.H. (2021). They have produced a vaccine, but we doubt if COVID-19 exists: correlates of COVID-19 vaccine acceptability among adults in Kano, Nigeria, *Human Vaccines & Immuno therapeutics*, 324(20).

Lucas, J., Targeme, S., Jibril, A., Sambo, E., & Istifanus, B. (2020). Combating Covid 19 infodemic in Nigerian rural communities: The imperative of Traditional Communication Systems. *ASEAN Journal of Community Engagement*, 4 (2).

Maikomo, J. & Shadrach, I. (2021). Covid 19: Flattening the Curve Through Social Marketing. *International Journal of Social Science*, 1 (1).

Neumann-Böhme S, Varghese NE, Sabat I, Barros PP, Brouwer W, van Exel J, Schreyögg J, Stargardt T. (2020). Once we have it, will we use it? A European survey on willingness to be vaccinated against COVID-19. *Eur J Health Econ*;21(7):977-982. doi: 10.1007/s10198-020-01208-6.

Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C. (2020). The socio economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 1(78).

Obregon R, Chitnis K, Morry C, Feek W, Bates J, Galway M, et al. (2009). Achieving polio eradication: a review of health communication evidence and lessons learnedin India and Pakistan. *Bull World Health Organ*, 87 (8).

Oche, M., Adamu, H., Yahaya, M., Garba I, H., Danmadami, A. Ijapa, A. Wali, A., Yusuf, H. Muhammad, H. & Abba, A. (2022). Perception and willingness to accept COVID-19 Vaccines: A cross-sectional survey of the general population of Sokoto State, Nigeria. *PLOS ONE*, 17. e0278332. 10.1371/journal.pone.0278332.

Olawa B, Lawal A, Odoh I, Azikiwe J, Olawole A, Odusina E, Ayodele I, Ajayi O. (2023). Mistrust in government and COVID-19 vaccination acceptance in Nigeria: investigating the indirect roles of attitudes towards vaccination. *J Egypt Public Health Assoc*. 2023 Feb 6;98(1):1. doi: 10.1186/s42506-023-00129-5.

Olomofe, C.O., Soyemi, V.K., Udomah, B.F., Owolabi, A.O., Ajumuka, E.E., Igbokwe, C.M., Ashaolu, U.O., Adeyemi, A,O,, Aremu-Kasumu, Y.B., Dada, O.F. (2021). Predictors of uptake of a potential Covid-19 vaccine among Nigerian adults. *J Vaccines Vaccin*. 12:442

Oguntayo R., Olaseni, A. & Ogundipe, A. E. (2021). Hesitancy Prevalence and Sociocognitive Barriers to Coronavirus Vaccinations in Nigeria. *European Review of Applied Sociology, Sciendo*, 14 (23), 24-33.

WHO (May 23rd, 2023). *Coronavirus (Covid 19) Dashboard*. Available at: http//:www.covid19.who.int

Yusuf, K. (January 15, 2023). "How Nigerians States, regions fare in COVID-19 vaccination". Available at: https://www.premiumtimesng.com/news/headlines/575809-how-nigerian-states-regions-fare-in-covid-19-vaccination.html