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Online Disinformation and Its Implications on COVID-19 Vaccine Acceptance in Taraba State, Nigeria

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Abstract

The outbreak of the COVID-19 pandemic was accompanied by a surge of disinformation circulating on online platforms. Among the prevailing conspiracy theories were claims that the COVID-19 vaccine was hazardous and specifically designed to eradicate the Black race. This study investigates the implications of online disinformation on COVID-19 vaccine acceptance among residents of Jalingo metropolis in Taraba State, Nigeria. Adopting a qualitative research approach, data were collected through focus group discussions and in-depth interviews, which were conducted until thematic saturation was achieved. The findings reveal a widespread presence of disinformation about the COVID-19 vaccine on online platforms, particularly social media. This disinformation significantly undermined vaccine acceptance among the local population. The study concludes that online disinformation poses a serious threat to public health efforts, especially in the context of vaccine uptake. It recommends the strategic and continuous dissemination of credible information to counteract false narratives during outbreaks of novel diseases such as COVID-19.

Keywords: Disinformation; COVID-19; Vaccine; Online; Taraba State

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INTRODUCTION

Medical misinformation has the potential to harm individuals. During a public health crisis, such as the COVID-19 pandemic, misinformation regarding the virus's propagation, symptoms of infection, testing options, the vaccine, and preventative strategies can lead to incorrect assessments of the danger, maladaptive coping behaviours, and a variety of disastrous outcomes (Lee, Sun, Jang, 2022). Suffice it to say that misinformation during outbreaks of diseases is worse than the diseases themselves due to its effect on society.

The outbreak of the COVID-19 pandemic was accompanied by an avalanche of misinformation that abounds on different online platforms such as blogs and social networking sites like Facebook, Twitter, WhatsApp, etc. Faddoul, Chaslot, and Farid (2020) corroborated that since the outbreak of the COVID-19 virus, fake news and conspiracy theories have continued to be nurtured on social media, raising fears that such content is promoting the spread of disinformation. Rampersad et al. (2019) confirm that social media is a vehicle for the rapid spread of false information and fake news as a result. Similarly, Gambo and Shem (2021) observed that there is a flood of false information on the COVID-19 pandemic spreading on various social media sites.

According to Mejova and Kalimeri (2020), the COVID-19 outbreak has caused an "infordemic", which means an abundance of inaccurate information about a problem that spreads quickly on websites and social media, as described by the World Health Organisation (WHO). Several recent studies (Mejova and Kalimeri, 2020; Faddoul, Chaslot, & Farid, 2017) also supported the existence of an internet-wide deluge of rumours and conspiracy theories. It has become challenging to distinguish between publications whose validity shouldn't be questioned and fake news (Zhou et al., 2020). In light of the aforementioned, it is apposite to infer that the prevalence of COVID-19 misinformation has the potency to affect people's acceptability of the COVID-19 vaccine. Therefore, the study seeks to find out whether there is a relationship between online misinformation and people's decision to accept the COVID-19 Vaccine in the Jalingo metropolis, Taraba State.

Statement of the problem

Amidst the wealth of misinformation that abounds on social media platforms, separating important and genuine information from misleading and twisted disinformation regarding COVID-19 vaccinations is challenging. Broniatowski et al (2020) corroborate that one key barrier to acquiring trustworthy, accurate COVID-19 vaccination information is the

prevalence of unsolicited, questionable pseudo-news items distributed over the internet and social media platforms by various sorts of players. The aforementioned situation has the potency to affect people's decisions in accepting or rejecting the COVID-19 vaccine. In light of the above, the study seeks to find out whether there is a relationship between online misinformation and people's decision to accept the COVID-19 Vaccine in the Jalingo metropolis, Taraba State.

The objective of the study

This study aims to explore the implications of disinformation on COVID-19 vaccine acceptance in Taraba State, Nigeria. The specific objectives of the study are: To find out if netizens in Taraba State are exposed to misinformation on the COVID-19 vaccine online. To determine the extent to which netizens in Taraba State are exposed COVID-19 vaccine online. To know whether there is a relationship between COVID-19 vaccine misinformation and netizens' decision to be vaccinated.

Research Questions

i. Are netizens in Taraba State exposed to misinformation on the COVID-19 vaccine online?
ii. To what extent are netizens in Taraba State exposed COVID-19 vaccine online?
iii. Is there a relationship between COVID-19 vaccine misinformation and netizens' decision to be vaccinated?

Literature review

Othman, Alsuwaidi, Aseel, et *al.* (2022) conducted a cross-sectional study to assess the relationship between social media use and the public approval of the COVID-19 vaccination in Saudi Arabia. Between June 17 and June 19, 2021, 504 members of Saudi Arabia's general population participated in the cross-sectional study. Three parts of an online questionnaire were used to gather the data (sociodemographic characteristics, medical and vaccination history, and pattern of social media use). The findings of the above study revealed that out of the 504 respondents who participated in the study, 477 agreed to accept the vaccine, while 27 disagreed. 335 people had already had the vaccine, 142 were open to receiving it, and 27 were against it. 130 interviewees said they have not used social media to follow COVID-19 news. The above study concludes that there was no significant independent relationship between social media usage and people's willingness to receive a COVID-19 vaccination. The above findings negate the findings of Wilson and

Wiysonge (2020), who found that the perception that vaccinations are harmful grows as more offline action is organised using social media, hence concluding that there is a considerable connection between social media engagement and public scepticism about COVID-19 vaccine safety and hesitancy. The findings of Gambo and Shem (2021) also corroborate that since the COVID-19 pandemic's onset, conspiracy theories in the form of disinformation have become commonplace and have taken over social media. Additionally, Gambo and Shem (2021 also noted that several potential factors, including lack of censorship, religious fanaticism, ignorance, and a lack of adequate counter information on social media platforms, may have contributed to the spread of COVID-19 conspiracy theories among Nigerian social media users.

Adult Nigerians' readiness to accept the COVID-19 vaccination was evaluated by Ajibola, Samuel, Oluseyi, and Femi (2022), who also explained the variables influencing such decisions. 400 respondents were recruited for the study, and a cross-sectional design was adopted. Multistage random sampling was conducted among residents of Ilorin, Kwara State, Nigeria. The results of the aforementioned study showed that every responder was aware of COVID-19, with more than 75% of them having a strong understanding of the disease and mass media serving as the primary information source. However, some of the responders remained convinced that COVID-19 was brought on by divine retribution or radiation from 5G masts. Others believed that the disease exclusively afflicted the wealthy and Caucasians and that the hot climate of Nigeria could not support the disease's expansion. Additionally, the findings of the above study revealed that many of the research respondents claimed that COVID-19 is a deliberate scheme by politicians to rob the Nigerian purse and did not even believe that the number of cases being reported by the NCDC each day was accurate. Based on the aforementioned findings, there may be current false information that could prevent Nigerians from receiving the COVID-19 vaccination.

Skafle, Nordahl-Hansen, Quintana, Wynn, and Gabarron (2022) conducted a systematic review. They looked through PubMed, PsycINFO, ERIC, EMBASE, the Cochrane Library, and the Cochrane COVID-19 Study Register with the sole intention of putting together the body of knowledge regarding the spread of false information about COVID-19 vaccines on social media platforms and its consequences. The study's conclusions showed that social media disinformation hurt vaccine hesitancy and uptake. The aforementioned findings contradict that of Ennab et al. (2022), who discovered that social media misinformation had a significant impact on the spread of false COVID-19-related

vaccine narratives in Africa and that this wave of anti-vaccination campaigns had since sparked several apprehensive reactions to vaccine confidence.

Ijioma and Nze (2022) carried out a survey study that yielded quantitative data from 300 participants utilising the multi-stage sampling technique, with the questionnaire serving as the instrument to elicit data on how social media influenced participants' decisions to get vaccinated. According to research, Nigeria has a high level of hesitation. The study also found that misinformation concerning the COVID-19 vaccine is being distributed more easily via social media. The study also revealed that Social media was the top information source (at 45%) that helped respondents decide whether or not to receive the COVID-19 vaccine, therefore, Ijioma and Nze (2022) concluded that reluctance was caused by it. The above study urges governments, the NCDC, the NPHCDA, the health sector, and the media to use social media in addition to traditional media to promote vaccine campaigns and counteract anti-vaccine sentiment.

Olu-Abiodun, Abiodun, and Okafor (2022) in their study claim that propaganda, worries about side effects, and conspiracy theories were to blame for the COVID-19 vaccine's lack of acceptability. Olu-Abiodun et al. (2022) add that developing interventions at the national, community, and individual levels are necessary to raise the nation's acceptance rate for the COVID-19 vaccination. Greater efforts could be made to solve the problems that are preventing people from receiving the COVID-19 vaccine. Additionally, as the epidemic spreads, new evidence must be updated and synthesised.

The above findings show an inconsistency in the literature concerning the implication of online misinformation and COVID-19 vaccine acceptance. Therefore, the above situation calls for more research to be carried out on the subject to ascertain whether there is a nexus between online disinformation and COVID-19 acceptance in Nigeria. Furthermore, it was observed that most of the extant studies reviewed on the subject matter were quantitatively inclined; hence, this study took a different approach (qualitative approach) to investigate the subject to interact with netizens on the subject matter and retrieve in-depth information.

Theoretical Underpinning

The Uses and Gratification Theory (UGT) was found suitable for this research study. The Uses and Gratification Theory was developed by Katz, Blumler, & Gurevitch in 1974 (Wimmer & Dominick, 2011). The Uses and Gratifications theory focused on how and

why the audience uses the media (Klapper, 1963). Commenting on the uses and gratification theory, McQuail (2010) stated that the central question posed by the uses and gratification theory is "why do people use media, and what do they use them for?" Simply put, the uses and gratification theory is built on the premise that people use the media not just for using sake but as a result of the satisfaction they obtain from the media (Pwashikai, & Shem, 2019). In their view, Baran and Davis (2009) opined that the audiences select the medium and even what content is most suitable to their desires.

When the uses and gratification theory was propounded, it was used to study audiences for traditional media (Pwashikai & Shem, 2019), but today, it is relevant in the study of issues relating to social media forms. The veracity of the above is linked to the fact that social media users these days also select which platform gratifies them.

The uses and gratifications theory finds strength in its ability to describe how media audiences seek out information and make use of the same to satisfy their personal goals. In light of the above, Baran and Davis (2009) state that the uses and gratification theory acknowledged the intellectuality of the audience and their ability to consume only what is needed for them.

From the above, it is obvious that there is a nexus between the uses and gratifications theory and this current research study, despite the existing differences between new media and traditional media. This theory finds relevance in this current study because of its interactive processes. This can be further buttressed by the new wave in research on communication and media studies focuses on how audiences interact with and tend to be influenced by the type of media they choose. Suffice it to say that the applicability of the uses and gratifications to this current becomes palpable because most of the initiators of misinformation used social media platforms to satisfy their gratification. Furthermore, the misinformation concerning COVID-19 spreads like wildfire as a result of the gratification that other users may find in sharing it with family and friends.

MATERIALS AND METHODS

This study used qualitative research approaches (in-depth interviews and focus groups), and the population of the study was Taraba State's online media users. The justification for using the aforementioned research methods comes from their capacity to foster intimate engagement with the research respondents. Additionally, in-depth interviews and focus

group discussions are appropriate for getting extensive information from individuals who have great knowledge and experience on a subject matter; as a result, they were quite beneficial for this study.

In-depth interviews and focus group discussions are suitable for this study due to the aforementioned advantages, but they do have several limitations, such as the use of a small sample size that does not support generalisation and the presence of researcher bias. These limitations make the methods difficult to use in research and always force those intending to use them to devise mitigation strategies to successfully get around them and carry out their research as planned. One of the mitigating measures used in this study was the use of a reasonable number of participants in both the focus group discussion and in-depth interviews. Secondly, the researchers carried out collecting voluminous until the data collected had reached a point of saturation.

The researchers adopted purposive sampling. The rationale behind this decision was based on the fact that purposive sampling enables studies of this kind to focus on subjects based on specific characteristics or qualities and eliminates those who fail to meet these criteria. This enabled the study to intentionally concentrate on social media users in Taraba State.

A total of fifteen (15) persons were interviewed, and three (3) focus group sessions were conducted with six participants present in each of the sessions. The data obtained from both the in-depth interviews and Focus group discussions were analysed thematically in tandem with the research objectives. In other words, the data retrieved for this study were analysed qualitatively.

RESULTS

This section presents a thorough discussion based on the data gathered from an in-depth interview and focus group discussions. To the objectives of the research, the discussions are divided into themes. In other words, each theme deals with a specific research objective.

Netizens (Taraba) exposure to Misinformation on COVID-19 Vaccine in Taraba State

This theme aimed at finding out whether Tarabans are exposed to misinformation on COVID-19 on online platforms, especially social networking sites. The data obtained from

both the in-depth interviews and Focus Group Discussions revealed that all the participants have been exposed to misinformation on online media platforms. The majority of the participants revealed that they got exposed to misinformation on the COVID-19 vaccine on social media platforms, especially Facebook and WhatsApp. Additionally, the participants from both the in-depth interview and focus group discussions revealed that the misinformation on the vaccine comes in different forms, such as text, video clips and images with text. One of the participants revealed that:

> Yes, I have heard a variety of horrifying messages about the COVID-19 vaccine. To be completely honest with you, the facts I learned about the vaccine deterred me from getting it. According to the information I have, the vaccine container is deadly and is intended to kill Africans. **[Participant 1]**

Another participant who subscribed to the above opinion also said:

> I have seen a lot of information on the COVID-19 vaccine on social media platforms. Most of the information I was exposed to is that the vaccine has negative effects, which have resulted in the deaths of many people who have been vaccinated **[Participant 5]**.

Another participant also revealed that:

> Previously, I have been seeing a lot of posts on Facebook and WhatsApp about the COVID-19 vaccine. I can say that the information as of 2021 is frequent, but lately, I no longer see such messages or information again. As of January 2021, I saw information like the vaccine is toxic and that it will negatively affect whoever agrees to be vaccinated. **[Participant 9]**.

The above findings imply that there is extant misinformation on the COVID-19 vaccine that abounds on social media platforms. The above findings are in tandem with those of Gambo and Shem (2021), who found that there is false information spreading on social media platforms during the COVID-19 pandemic. Similarly, Ijioma and Nze (2022) also found that their misinformation concerning the COVID-19 vaccine is being distributed more easily via social media. The above implies that the new media platforms, especially social networking sites, are a fertile ground for nurturing and sustaining misinformation about health-related subjects.

The extent to which participants were exposed to misinformation on the COVID-19 Vaccine

Based on the data retrieved from the interview and FGD sessions, it was found that most of the participants were, to a large extent, exposed to misinformation on COVID-19 on social media platforms. Furthermore, most of the participants attest to the fact majority of the misinformation they obtained online is from social media platforms, especially Facebook. However, a reasonable number of the participants also revealed that lately, the rate of misinformation on the COVID-19 vaccine on social media platforms has reduced drastically. In her words, one of the participants revealed that:

> On a serious note, I will say that I have been exposed to misinformation on the COVID-19 vaccine online to a large extent because, as of 2021, I do read a lot of discouraging content on the adverse effects of the vaccine almost every day **[Participant 13]**.

Another participant who subscribed to a similar revealed that:

> Yes, I have seen a lot of misleading information on social media platforms regarding the COVID-19 vaccine. I got to know that some of the information was mere misinformation after some of my neighbours were vaccinated, and nothing negative happened to them. ….The most recurring content that initially discouraged me from being vaccinated is that the vaccine is deadly. However, I notice that these days, the information concerning the vaccine is gradually disappearing from social media **[Participant 15]**

Another participant also concurred that:

> Yes, I have on different occasions watched videos, read articles and short texts in the form of images online that reveal that the COVID-19 vaccine is toxic. I still have some of the video clips on my phone. **[Participant 3]**

The above data imply that the participants were, to a large extent, exposed to misinformation on the COVID-19 vaccine online and mostly via social media platforms.

Relationship between COVID-19 vaccine misinformation and People's Decision to be vaccinated

The above theme seeks to find out whether there is a nexus between online COVID-19 disinformation and the participants' decision whether to receive the COVID-19 vaccine. The data collected revealed that there is a relationship between the COVID-19 vaccine misinformation and the participants' decision to receive the vaccine. However, an insignificant number of the participants maintained that the misinformation on the vaccine has not affected their decision whether to be vaccinated or not.

One of the participants revealed that the misinformation on social media platforms, especially Facebook, makes him hesitant to receive the vaccine. However, he was later convinced to be vaccinated when he was exposed to messages on television that the vaccine is harmless.

Another participant who shared a similar but different opinion revealed that:

> Yes, the information I got from the internet affected my decision to get vaccinated. I have not been vaccinated up to now, and I'm still not too sure about the vaccine. Look, no one has been able to convince me that the information on social media concerning the vaccine is wrong, because I have seen people falling sick after taking the vaccine.

The above revelation implies that the nature and spread of misinformation on the internet have affected the participants' decision to be vaccinated. Therefore, it is apposite to infer that online misinformation is a factor that increases the rate of hesitation to be vaccinated among Taraba State residents, especially those who are active social media users.

DISCUSSION

The findings of this study revealed that online users in Jalingo metropolis are exposed to misinformation on the COVID-19 vaccine on social media platforms. The above findings are in tandem with those of Gambo and Shem (2021), who found in their study that since the beginning of the COVID-19 pandemic, there has been an increase in the rate of misinformation and conspiracy theories on the virus on social media. Similarly, Ijioma and Nze (2022) also found in their study that misinformation concerning the COVID-19

vaccine is being distributed more easily via social media. The above revelations confirm the existence of misinformation on the COVID-19 vaccine on social media platforms.

The second objective of this study is to find out the extent to which social media users are exposed to misinformation on the COVID-19 vaccine online. In that regard, findings of the study revealed that the participants of the study were, to a large extent, exposed to misinformation on the COVID-19 vaccine online. According to the majority of the participants, precisely in 2021 and up to the second quarter of 2022, they were exposed to misinformation on the COVID-19 vaccine recurrently.

This study also found that there is a relationship between COVID-19 online misinformation and the participants' decision to be vaccinated. The majority of the participants revealed that the misinformation earlier on the COVID-19 vaccine frightened and discouraged them from being vaccinated. The above findings corroborate the findings of Ennab et al. (2022), who discovered that social media misinformation had a significant impact on the spread of false COVID-19-related vaccine narratives in Africa and that this wave of anti-vaccination campaigns had since sparked several apprehensive reactions to vaccine confidence. The above revelations are a clarion call on the government and stakeholders, such as religious and traditional leaders, to intensify efforts to create awareness on the COVID-19 vaccine.

CONCLUSION

This study has established a significant need for sustained and widespread awareness campaigns on the COVID-19 vaccine within Jalingo Metropolis, Taraba State. Findings indicate that misinformation remains a critical barrier to vaccine acceptance, necessitating targeted interventions by relevant authorities.

The research contributes to the understanding of how digital and community-based communication channels can be leveraged to mitigate vaccine hesitancy. It emphasizes the strategic role of institutions such as the Nigerian Centre for Disease Control and the National Orientation Agency in utilizing social media platforms to counter misinformation. Additionally, it underscores the shared responsibility of social media companies and individual users in curbing the spread of disinformation. The involvement of traditional and religious leaders is also crucial, as their influence can be instrumental in promoting accurate information and encouraging vaccine uptake within local communities.

Although the study provides practical insights into combating vaccine misinformation, it is limited by its qualitative design, narrow geographic scope, and small sample size. Future research should adopt a mixed-methods approach and expand the sample size to enhance the reliability and generalizability of the findings across broader populations.

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