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Covid- 19 Vaccines Apathy in Rural Nigerian Communities

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Abstract: The emergence of Covid -19 in Wuhan China, and its declaration as a global pandemic by the World Health Organization (WHO) raises series of concerns across different nations of the world. The discovery and massive production of vaccines to curb the scourge of the virus brought health sanity and relief to the world. Unfortunately, in a country like Nigeria with poor health infrastructure, and a poor doctor-patient ratio, the level of apathy towards Covid-19 vaccines remains high. This study examined apathy towards Covid-19 vaccines in rural Nigerian communities. The study employed the positivist approach of research design in which a survey was used to generate data. The findings indicate that family, friends, and acquaintances constituted the major source of information about Covid-19 vaccines, as only a few percent of the respondents received information on Covid-19 vaccines from health professionals. The data analyzed also shows that fear of side effects, the asymptomatic status of individuals, and perceived ineffectiveness of Covid-19 vaccines were the main reasons for apathy towards Covid-19 vaccines. The findings of the study also indicate the suitability of the Health Believe Model in understanding the health-seeking behavior of people in light of a global pandemic and worldwide vaccination intervention.

Keywords: Vaccine; Covid-19; Apathy; Health-seeking behavior; Medical Education

1. Introduction

Mistrust and misinformation endanger a good response to Covid -19 vaccine in Nigeria, especially in rural and semi-urban areas where strong beliefs in customs and traditions, as well as religion, co-exist. The World Health Organization (WHO) declared Covid-19 a global pandemic on the eleventh day of March 2020 after the

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initial outbreak of the coronavirus disease in Wuhan, China on December 19, 2019. The first reported case of the coronavirus in Nigeria was in Lagos on February 27, 2020. Kwara State has recorded 4,691 confirmed COVID-19 cases, and 64 COVID-19-related deaths as of November 07, 2022 (Nigeria Center for Disease Control 2022). Fortunately for Nigeria, reported cases were not as high and severe as cases in the United States of America, Asia, and Europe (Skrip et al. 2020).

The first set of Covid -19 vaccines delivered to the Federal Government of Nigeria in March 2021 was four million doses of the Oxford-AstraZeneca vaccine. This vaccine got to Nigeria one year after the World Health Organization (WHO) declared Covid -19 a global pandemic. Kwara State received 55,790 doses of the vaccine in March which was grossly inadequate for its 3.6 million population and might have a negligible effect in curbing the spread of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the state (UNICEF 2021; Vanguard Nigeria 2021).

The subsequent arrival of other batches of the COVID-19 vaccines (4 million doses of Moderna COVID-19 vaccine and 177,000 doses of the Johnson and Johnson COVID-19 vaccine among other interventions and the attendant apathy displayed by people necessitated this study. For instance, some people in Nigeria believe that Covid-19 is a plot to implant a microchip that represents the mark of anti-Christ in people's body, other persons assumed that Covid–19 is a scam and at best a propaganda of government and international health organizations to generate money and market pharmaceutical products. Some people also believed that the vaccine has a sort of electromagnetic effect on the body such that the hands of individuals that collected the vaccine were said to be capable of magnetizing coins and as well supply power to electric bulbs. These engendered a sort of apathy towards the covid-19 vaccine in the mind of people. Odeigah et al. (2022) noted that fear of vaccine adverse events and safety concerns are some of the reasons for vaccine refusal. Equally, the fact that individuals who were vaccinated during the first wave of the pandemic became symptomatic, and were hospitalized during the second wave of Covid-19 pandemic dissuaded many people from taking the vaccine. Buchan et al. (2022) in a study of estimated effectiveness of Covid-19 vaccines against Omicron or Delta symptomatic infection and severe outcomes in Ontario, Canada, between December 6 and 26, 2021 found the estimated effectiveness of two doses of the vaccines against symptomatic infection to be substantially lower for Omicron than for the Delta variant of the virus. Moreover, the estimated vaccine effectiveness against symptomatic Omicron infection was minimal starting at 60 days after a second dose, and there was no significant protection beyond 180 days. However, the

estimated vaccine effectiveness against symptomatic Omicron infection was 61% at 7 or more days following a third dose. To guard against severe outcomes, including hospitalization and death.

The resistance and hesitance to take the Covid–19 vaccines partly explain the colossal waste of several doses of the vaccine (1,066,214 doses) that expired and were destroyed on December 22, 2021, as a result of the low vaccination rate coupled with other factors (Euronews 2021; Punch 2021). Ajayi et al. (2020) in a study of awareness, perception, and attitude of major tribes in Nigeria toward Covid -19 observed a significant level of awareness of the incidence of the Covid-19 pandemic in Nigeria. However, the study recorded the poor attitude of people toward the preventive measures recommended to curb the spread of the virus.

The vulnerability of Nigeria and other African countries to a high incidence of the Covid-19 pandemic due to the age-long systemic healthcare challenges epitomized by poor funding of the health sector, health infrastructure decay, and brain drain cannot be overemphasized. In addition, poor response and preparedness capacity as well as poor health data collection and management system in Nigeria calls for concern in relation to unreported health issues and undetected transmission of contagious diseases (Skrip et al. 2020). A study indicated that officials relied on an estimation of the incidence of transmission of Covid-19 through time-varying reproduction numbers for about one and a half months of the outbreak of covid – 19 in Nigeria (Adegboye et al. 2020).

Apathy to Covid –19 vaccine poses a great danger to the fight against the pandemic in Nigeria and in the world. The world population would be free of the virus if the vaccine acceptance rate and collection rate is high. In view of this, a study of Covid-19 vaccines apathy in rural and semi-urban Nigerian communities is apt and timely.

The significance of this study is hinged on the fact that the Covid-19 is a novel pandemic that must be tackled headlong to avoid another wave of a worldwide catastrophe. In light of this, individuals, health professionals, government, and non-governmental organizations across the globe are taking preventive, reactive and curative steps to curb the spread of the disease through various strategies.

Ajayi et al. (2020) noted that governments at all levels in Nigeria are making concerted efforts to create awareness of the Covid-19 pandemic to keep citizens informed and protected from the scourge of the virus. Equally, Efe (2020) observed that the government of Nigeria is creating awareness of covid-19 vaccines across the nooks and crannies of the country. Hence, it is a surprise that a high level of apathy

still exists with respect to covid-19 vaccine in spite of the fact that the vaccine jab is administered free of charge. The findings of this study will help the government and non –governmental organizations to understand the mindset of the people and formulate policies to improve covid-19 vaccines acceptance and collection rate in Nigeria. Furthermore, this study will enable public health officials to adopt effective and efficient health communication strategies that would increase the acceptance of the COVID-19 vaccines and other vaccines by the public.

This study provides answers to the following research questions that constitute the motivation for the study;

1. What are the sources of information on the Covid-19 pandemic and Covid-19 vaccine in Jokolu- Oyun community Nigeria?
2. What are the reasons for apathy towards covid-19 vaccines?

2. Review of Literature

Several studies have assessed the potential acceptance of the Covid-19 vaccines (Malik et al. 2020; Kreps et al. 2020; Shekhar et al. 2021; Lazarus et al. 2021) however, there is a dearth of information on whether the potential acceptance rates translated into a collection of Covid-19 vaccine jabs, especially in Nigeria. A study of the socio-demographic characteristics of covid-19 vaccine recipients in kwara state conducted by Al-Mustapha et al. (2022) revealed that 74% of the vaccine recipients were older than 40 years and most of the vaccine recipients (64%) are educated with tertiary education degrees. Only 15% of the recipients had no formal education. In addition, almost half of the recipients (47%) were government employees, and 28% out of the 47% who were employees of the government had health-related backgrounds. This data is worrisome, and it shows a great deal of apathy toward the vaccine, especially among individuals without formal education that constitute the majority in rural and semi-urban areas.

The preparedness and readiness of people for vaccination are key to successful vaccination exercises. An efficient and successful vaccination can also be linked to the level of awareness and the amount of information available to members of the public. DeRoo, et al (2020) observed that a globally implemented, safe vaccination program that engenders wide clinical, social, and economic benefits is the long-term solution to the Covid-19 pandemic. Al- Mustapha et al. (2022) equally noted that the world needed vaccines to protect lives, restore the economy, and return to the "new

normal". They further observed that Covid-19 vaccines are safe and effective in boosting the immunity of people before contact with the novel virus.

In line with the notion of DeRoo et al. (2020), careful planning and dissemination of information on the benefits of the vaccine are essential, as lots of contradictory information exist on the consequences of collecting the Covid -19 jab. Aondover et al. (2022) noted that in Kano, Nigeria, some people believed that a person would run mad after taking the Covid-19 vaccine. Some persons also believed that the vaccine is a strategy employed by the government to reduce the human population and to render men sterile among others. Contradictory opinions on the Covid-19 vaccine created a huge knowledge lacuna that this study set out to fill.

Cochrane (2020) posited that there are so many sources of information and that it is difficult to ascertain health information sources that are worthy of trust or mistrust in society. In a study of health information needs, sources, and barriers of primary health care patients, Clarke et al., (2016) submitted that information on alternative medicine, illness, nutrition, and new experimental treatment was the most common need of people seeking health information.

A study of the challenges bedeviling rural dwellers in getting access to information on health in a district in Ghana by Sokey and Adisah-Atta (2017) indicated that the largest percentage of respondents preferred health information from family members, healthcare providers, the internet, and friends. The fact that they believed in health information from family members more than health information from healthcare providers is worrisome. Aondover et al. (2022) see social media as the major source of health information in fagge local government area of Kano.

Owhonda et al. (2022) in a study of awareness, perception and the practice of Covid-19 prevention among residents of a state in the South-South region of Nigeria submitted that the most common sources of information about Covid-19 were radio jingles and television adverts. The study equally observed that 53% of the respondents were aware of the scourge of the Covid-19 pandemic while 47% of the respondents had poor knowledge of the Covid-19 pandemic. Similarly, Agyemang-Duah et al. (2020) in a study of health information-seeking behavior among the elderly with very low incomes in Ghana revealed inadequate knowledge about the benefits of seeking health information because of the perceived poor attitude of health workers. In an evaluation of the sources of health information among rural women in Western Kentucky, it was observed that the majority of the respondents preferred interpersonal information sources for general and mental health (Simmons

et al. 2015). This partly explains why people are sometimes misinformed when it comes to health information because such information tends to come from individuals that know little or nothing about healthcare.

According to Vanderslott (2020) friends, family members and medical practitioners can spread fake news about the Covid-19 vaccine making it difficult for people to ascertain authentic or fake information. Dardas, et al (2020) revealed that adolescents are more susceptible to engaging in dangerous health practices related to Covid-19. Therefore, their compliance with infection control measures such as Covid-19 vaccination is key to mitigating the spread of the disease.

The literature reviewed no doubt throws more light on the subject matter of this study.

3. Theoretical Framework

The Health Belief Model (HBM) is the theoretical framework adopted for this study. The model has been one of the most widely used theoretical frameworks in health and other behavioral research. The Health Belief Model (HBM) was developed in the early 1950s by social scientists at the U.S. Public Health Service in order to understand the failure of people to adopt disease prevention strategies or screening tests for the early detection of disease. This was corroborated by Champion and Skinner (2008). The HBM also explains the change and maintenance of health-related behaviors as well as the study of health behavior interventions. Contemporary uses of HBM were for the response of patients to symptoms and compliance with medical treatments. The Health Belief Model posited that an individual's belief in a personal threat of a disease or illness coupled with a person's belief in the efficacy or potency of the recommended health behavior will determine the likelihood that such a person will adopt the behavior.

The applicability of this theory to the current study lies in the fact that a person’s personal belief in the potential threat of Covid-19 together with the belief in the effectiveness of the Covid-19 vaccine will predict whether such a person will take the vaccine or not. This simply means that individuals who are not so keen on the dangers posed by the virus and the efficacy of the Covid -19 vaccine might not accept or collect jabs of the vaccine due to their health beliefs. In addition, individuals that believed rumors and fake news peddled to discourage people from taking the vaccine might end up exhibiting apathy towards the Covid-19 vaccines.

The Health Belief Model takes its root in behavioral and psychological theory with the notion that the major constituents of health-related behavior are:

(a) the yearning to avoid illness, or contrarily get well if one is already ill.

(b) the belief that a specific health action will prevent, or cure, illness.

Therefore, the course of action of a person in relation to health-seeking behavior is dependent largely on the perceptions of the advantages and disadvantages of such health-related behavior. The key constructs of the Heath Belief Model revolve around the perceived susceptibility of acquiring an illness or disease, and the perceived severity of the illness or disease. These constructs also include the perceived benefits or efficacy of actions recommended to reduce the scourge of the disease or illness, the perceived barriers or obstacles to health action recommended, cue to action epitomized by the stimulus needed in the decision-making process and lastly, self-efficacy that represent a person's confidence to successfully perform the health behavior recommended.

Champion and Skinner (2008) reviewed the fundamental components of the HBM and examined other psychosocial constructs that explain relationships within the model. The application of the model is in the explanation of these behaviors and also as a basis for interventions. The HBM is applicable to Covid -19 vaccine apathy epitomized by the resistance displayed by some people and the hesitance to take the Covid -19 vaccine.

4. Materials and Methods

4.1. Research Design

This study is purely a descriptive survey that adopted the positivist approach in the collection of data. The Positivist approach holds that causes determine the effects or outcomes (cause- effect relationship). A quantitative survey method was employed using a cross-sectional design to study the opinions, attitudes, beliefs, and behavior of respondents towards the Covid-19 vaccine, especially in relation to Covid -19 vaccines apathy in Jokolu-Oyun, Kwara State Nigeria. Considering the population of this study, the quantitative survey was the appropriate method.

The study population consists of the adults of Jokolu-Oyun that are 18 years old and those that are more than 18 years old. Minors under Nigerian law who are less than 18 years of age were not considered for this study. A simple random sampling technique was used to select the sample elements of the study. Everyone has an equal

chance of being selected in line with the position of Wimmer and Dominick (2014). A table of random numbers was used to select 600 respondents. A self-administered questionnaire designed with a 3-point Likert scale that includes agree, disagree, and neutral was used to elicit information from the respondents. The Likert scale is a very popular rating scale for measuring ordinal data in social science research (Bhattacherjee, 2012). The questions were a combination of open and close-ended questions. Informed consent was sought from respondents before the administration of the research instrument. Data collected were analyzed with the use of bar charts, pie chart, and line graph. A total of 594 copies of the questionnaire were found to be well-filled and were thus analyzed.

5. Results and Discussion

The sources of information on the Covid-19 pandemic and Covid-19 vaccine in Jokolu- Oyun

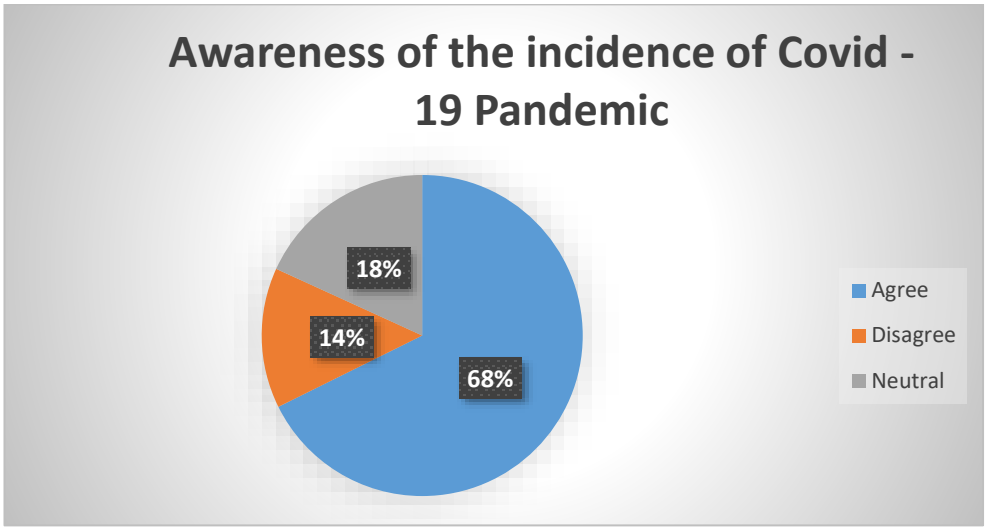

Figure 1. Awareness of the incidence of Covid -19 Pandemic

Figure 1 shows a high level of awareness of the incidence of Covid -19 among the residents of the Jokolu - Oyun community. 68% of the respondents agreed that they are aware of the incidence of the Covid-19 pandemic. A small percentage of the respondents (14%) disagreed, while 18% of the respondents were neutral. This really shows that there is a significant level of awareness of the incidence of the Covid-19 pandemic. This result further confirms the position of Ajayi et al. (2020) that there

is a good level of awareness of the incidence of the Covid-19 pandemic in Nigeria. It also corroborated the findings of Owhonda et al. (2022) that a majority of people are aware of the incidence of Covid–19 in Nigeria.

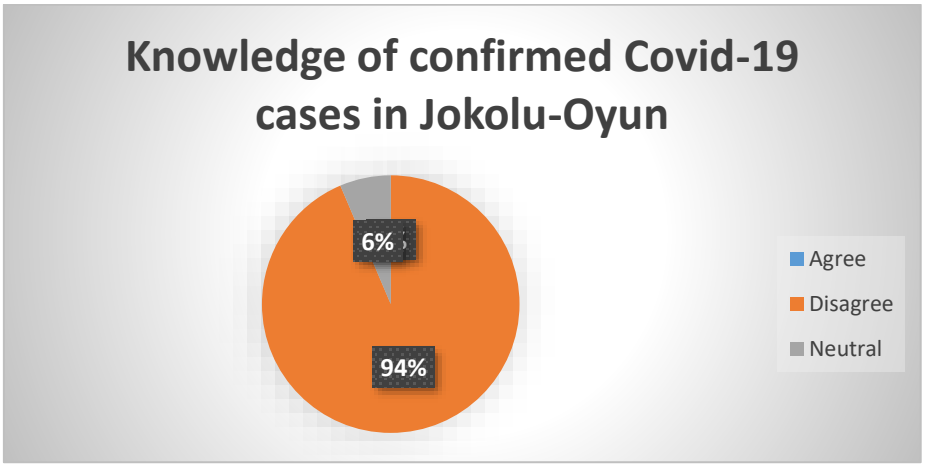

Figure 2. The knowledge of any confirmed case of Covid -19 in Jokolu-Oyun

Figure 2 shows the opinion of respondents on the knowledge of any confirmed case of Covid-19 in Jokolu-Oyun. The majority of the respondents (94%) had no knowledge of any confirmed case of Covid-19 in Jokolu-Oyun. A negligible percentage of the respondents (6%) were neutral largely because they relocated to the community after the second wave of the pandemic, and they know nothing about what transpired in the community before their arrival. This result really indicates that the community maintained a good health record free of confirmed cases of Covid-19, and this partly explains the apathy displayed toward the vaccine.

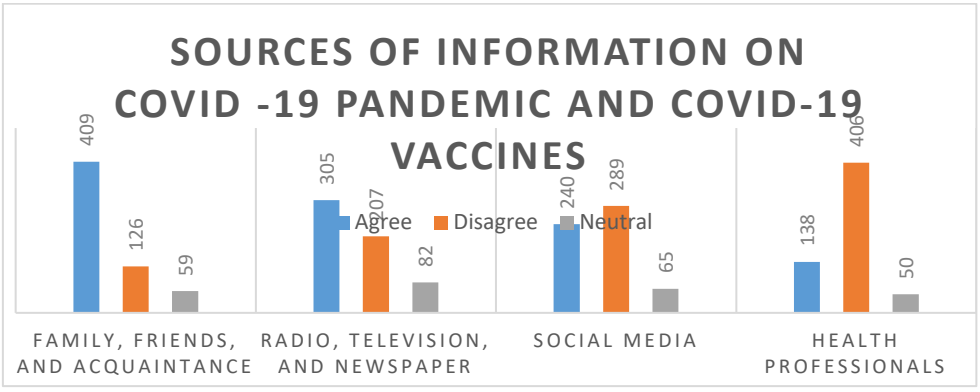

Figure 3. Sources of Information on Covid – 19 Pandemic and Covid-19 Vaccines

Data presented in figure 3 indicated that family, friends and acquaintances constituted the major source of information on the Covid-19 pandemic and Covid-19 vaccines as the largest percentage of the respondents (68.9%) noted that they obtained information about the pandemic and its vaccines from family, friends, and acquaintances. A few percentages of respondents (21.2%) disagreed because they obtained the information from other sources, and the lowest percentage of the respondents (9.9%) were neutral. This result supported Sokey and Adisah-Atta (2017) that a large percentage of people receive and prefers health information from family and friends. Furthermore, it confirms the position of Simmons et al. (2015) that individuals prefer health information from interpersonal sources.

In addition, the data displayed in figure 3 equally shows that a large number of respondents also got information on the Covid-19 pandemic and the vaccines from the traditional media represented by radio, television, and newspaper. This corroborated the position of Owhonda et al. (2022) that identified radio jingles and television adverts as veritable sources of health information in Nigeria. Moreover, 40.4% of the respondent agreed that they obtained information about Covid-19 vaccines from social media, while 48.6% of the respondent disagreed about obtaining such information from social media. The contrast between this result and the position of Aondover et al. (2022) that social media is the major source of information on Covid-19 vaccines in Fagge LGA can be attributed to the rural status of the community, and the fact that a significant number of respondents were not exposed to social media and its gadgets. Unfortunately, 406 respondents (68%) did not obtain Covid-19 pandemic and Covid-19 vaccines information from health professionals. This shows many gaps between the healthcare givers and the populace, especially in rural areas in Nigeria.

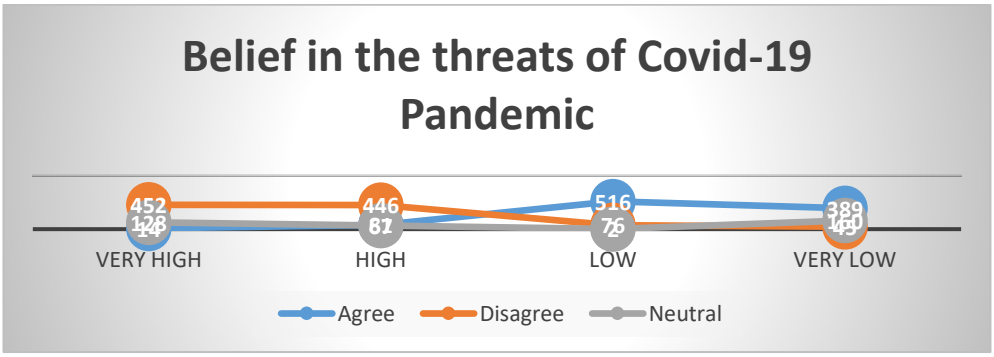

Figure 4. Belief in the Threats of Covid -19 Pandemic

Figure 4 shows respondents' level of belief in the threats of the Covid-19 pandemic. The results displayed indicate that a significant number of the respondents do not believe in the threats of the Covid-19 pandemic. This is because people in the community knew of no confirmed case of Covid-19. Hence, it is easier to understand the high level of apathy displayed toward the Covid-19 vaccines. In the light of the health belief model, the level of perceived threats or severity of a disease or illness will determine the health behavior of people.

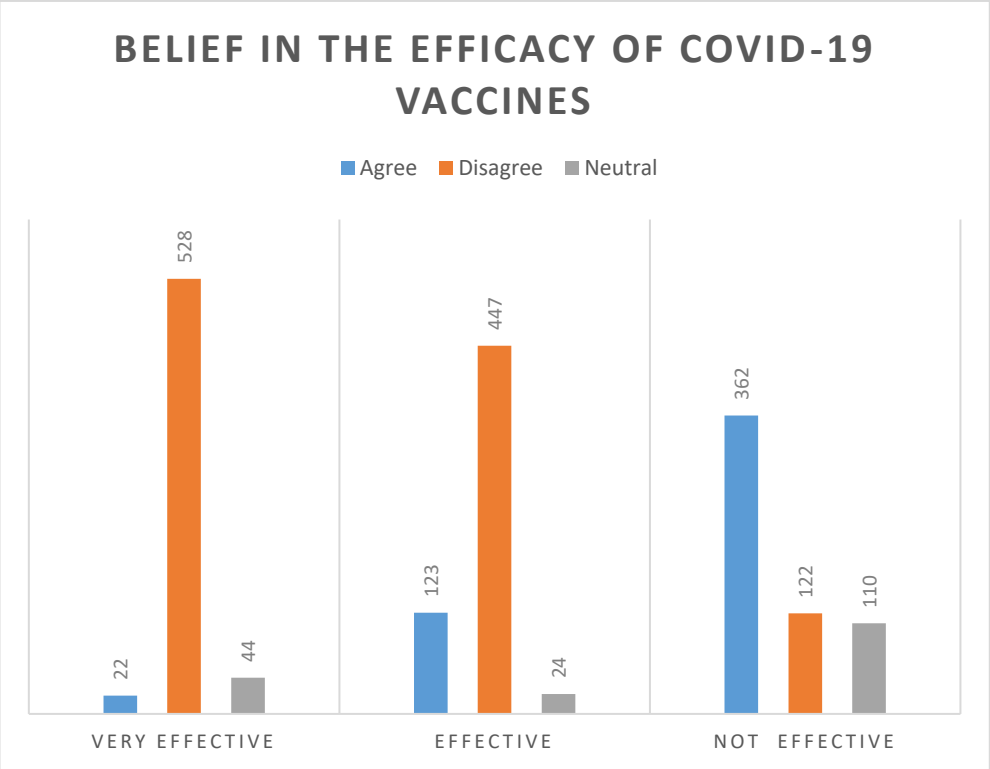

Figure 5. Belief in the Efficacy of Covid -19 Vaccine

Figure 5 presents respondents' level of belief in the efficacy of Covid-19 vaccines. The data recorded shows that a significant number of respondents do not believe in the efficacy of covid-19 vaccines. 528 respondents (88.8%) disagreed with the fact that the vaccines are very effective. In addition, 447 respondents (75.3%) disagreed with the fact that the vaccines are effective. The level of mistrust and disbelief in the efficacy of the Covid-19 vaccines shown by respondents in Figure 5 can be linked to the fact that some persons who were fully vaccinated during and after the first

wave of the pandemic were infected during the second wave of the pandemic as reported in the study of Buchan et al. (2022).

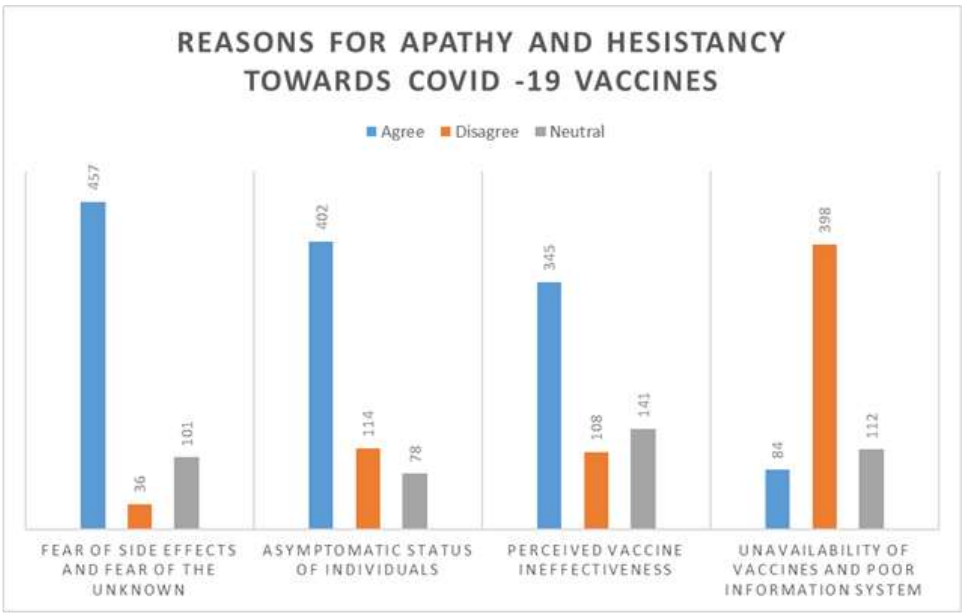

Figure 6. Reasons for the Apathy and Hesitancy towards the Covid-19 vaccine

Figure 6 presents different reasons for apathy and hesitancy toward Covid-19 vaccines. The majority of respondents noted that the fear of side effects, the asymptomatic status of individuals, and the perceived ineffectiveness of Covid-19 vaccines were responsible for apathy toward the vaccines. The largest percentage of respondents (67%) submitted that the unavailability of vaccines and poor information system is not the major reason for apathy and hesitancy toward the Covid-19 vaccine. The responses elicited from respondents here supported the studies of Odeigah et al. (2022), and Buchan et al. (2022).

6. Conclusion

This study was conceived with the objective of investigating reasons for Covid-19 vaccines apathy in ruaral and semi-urban Nigerian communities, especially in the Jokolu Oyun community. In addition, the study examined the sources of information on the Covid-19 pandemic and the Covid-19 vaccine in Jokolu- Oyun. The result of the study indicated that mistrust about the authenticity of the pandemic due to the asymptomatic status of the people of the community, and disbelief in the

effectiveness and efficacy of Covid-19 vaccines were the major reasons for apathy and hesitancy shown by the populace toward the vaccines. The sources of information on the pandemic and its vaccines include family, friends and acquaintances, radio, television and newspapers, social media, as well as health professionals. The study corroborated the importance of the health belief model in the determination of health-seeking behavior in human societies. As much as the study fills an existing gap in the literature that deals with Covid -19 vaccines apathy and hesitancy in rural communities, it also created a need for further research in order to apprehend the basis for the health status of rural dwellers in Nigeria in the face of a worldwide pandemic.

6.1. Suggestion for Further Study

The significant asymptomatic status of inhabitants of rural communities such as the study area adopted in this research calls for further study. This is with a view to understanding the factors responsible for the well-being of rural dwellers that took little or no preventive measures against the Covid-19 pandemic.

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