

Community Engagement: Perceptions and Responses to COVID-19 Risk Communication among Rural Dwellers in Enugu State

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Abstract: This study investigates the perceptions and responses to Covid-19 risk communication among rural dwellers in Enugu State. In conducting this study, survey research method was used to generate quantitative and qualitative data from rural residents in select communities in Enugu State through the instrumentality of questionnaire and Key Informant Interview. A sample size of 384 was drawn from the population using Wimmer and Dominick online sample calculator. Analysis of data generated revealed that the most reliable source of health messages on Covid-19 for rural residents during the pandemic was the radio. More so, majority (52 percent) of the sampled respondents were of the view that they had a moderate knowledge about Covid-19 controlling and preventive measures and majority of the respondents practiced Covid-19 preventive measures to a moderate extent. Religious and cultural norms were found to be major barriers to Covid-19 messages targeted at rural people. Based on the findings, it was recommended that health messages targeted at rural residents should take into account some factors that are peculiar to rural environment such as religious and cultural issues, poverty, level of education and access to adequate information.

Keywords: Perceptions. Covid-19. Risk Communication. Rural Dwellers. Cultural Barriers

I. INTRODUCTION

The coronavirus pandemic remains one of the major health concerns the world has witnessed in many decades. Unarguably, the pandemic stretched the health systems of many nations and put the world in serious public health emergency. The complications of Covid-19 arose from the fact that it was a novel virus without cure or vaccine as at the time of the outbreak (Cifrc, 2021).

Nigeria recorded her index case on 27th of February, 2020 in Lagos State. The figure continued to rise across the states in the country in spite of the messages on the preventive protocols from various sources and channels. Presently, National Centre for Disease Control (NCDC) records show 164,207 confirmed cases of Covid-19, 154,325 discharged and 2,061 deaths in Nigeria.

Coronavirus code named Covid-19 by World Health Organization is a viral respiratory infection reported first in Wuhan, China in late 2019. The virus is primarily transmitted from person to person through droplet from an infected person. While some people tend to recover from the illness without specialized treatment, others especially the elderly

and those with certain medical conditions such as cancer, chronic respiratory infection, diabetes and cardiovascular diseases are more likely to die from Covid-19 related illness. Shortness of breath, dry cough and fever are the most common symptoms of Covid-19 while SARS Cov2 is its primary causative agent (Idachaba, 2021).

Given the severity of the disease as at 2020 and the absence of known cure or vaccine, governments around the world had to pay more attention to prevention by non-pharmaceutical procedures. Consequently, Nigerian government embarked on an intensive risk communication as one of the non-pharmaceutical measures to contain the spread of coronavirus (Covid-19) which has no cure and killed many people across the globe (Ferguson, Laydon, NedjatiGilani, Imai, Ainslie, Baguelin, Bhatia, Boonyasiri, Cucunuba Perez, Cuomo-Dannenburg, Dighe, Dorigatti, Fu, Gaythorpe, Green, Hamlet, Hinsley, Okell, Van Elsland, and & Ghani, 2020).

Ferguson, et.al. (2020) explain that the last time the world responded to a global emerging disease epidemic of the scale of the current Covid-19 pandemic with no access to vaccines was the 1918-19 H1N1 influenza pandemic. In that pandemic, some communities, notably in the United States (US), responded with a variety of non-pharmaceutical interventions (NPIs) - measures intended to reduce transmission by reducing contact rates in the general population. Examples of the measures adopted during this time included closing schools, churches, bars and other social venues. Cities in which these interventions were implemented early in the epidemic were successful at reducing case numbers while the interventions remained in place and experienced lower mortality overall (Ferguson, et.al., 2020). Since the virus is not easy to prevent and control, reducing chances of exposure to the virus was considered the most veritable means of control and prevention.

It was evident that a number of citizens did not comply with the preventive measures except under strict enforcement measures in public places such as banks, hospitals, supermarkets, churches. Omaka-Amari et. al (2020) noted that in some states, the compliance level was zero as most people were going about their normal duties in breach of lockdown directives and without facemask, washing or sanitizing hands or observing social distancing. Some opinion leaders were also found guilty of flouting these preventive and control

measures. A well-known actress chosen by NCDC for sensitizing the masses posted in the social media a birthday party she organized for her husband in her house with a large crowd in attendance including well respected public officials. The burial of some prominent persons in the country also witnessed a large crowd such as the burial of the former Chief of Staff to President Buhari, Abba Kyari. The burial attracted a lot of criticisms for violating Covid-19 protocols. *Thisday Newspaper* in an Editorial on 26th March, 2020 condemned the behaviour of some public officials who refused to submit to the mandatory airport screening or isolation at home as recommended on their return from countries that have become epicentre of the coronavirus pandemic. The index case in Kano state who tested positive on 11th April, 2020 was said to have attended Jumat prayer in Kano after returning from United Kingdom. Some religious leaders opposed the message as some continued to gather for worship especially in sub-urban and rural areas which are far from the eyes of law enforcement agents. *Leadership Newspaper* in its December 21, 2020 editorial notes as follows:

"This newspaper has observed with dismay that while the response rate in religious centres are actually below expectation, the adherence level in most of these centres stands at zero. They demonstrate nonchalant attitude with total lack of commitment to preventive guidelines issued by government authorities. In the last 48 hours, there has been a rapid increase in the number of Covid-19 cases across the country. As at December 21, 2020 for instance, a total of 78,790 cases and 1,227 deaths were recorded nationwide. The recorded increase is as a result of a convergence of circumstances which include increased local and international travels, business and religious activities with minimal compliance with Covid-19 safety measures by the members of the public".

Noncompliance with these measures in several instances led to confrontation between the citizens and law enforcement agents. The news of the death of some prominent persons in the country and the testimonies of some survivors did not change people's attitude as many still failed to observe social distance; people still gathered in groups for social events such as wedding and burials in excess of the number stipulated in the Covid-19 protocols. There were also many theories around the reality and spread of the virus in Nigeria. For some religious leaders, they saw it as one of the signs of end time, to some others it was a hoax by government to attract funds from international donor agencies. To some others, it is a disease of the wealthy who travel outside the country and does not exist in rural areas. There were also some that saw it as China's attempt to become a World power and a way of reducing the world's population. Covid-19 was enmeshed in a lot of myths and misconceptions from various sources and channels of communication (Teng, Jiang & Khong, 2022).

Given the above scenario, it is considered pertinent to find out the responses to Covid-19 messages among rural dwellers that constitute a significant chunk of the nation's population and

the knowledge gap that exists between the rural and urban dwellers due to a number of factors. These factors include: urban centered nature of the media, predominantly illiterate population in the rural areas, high level of poverty in the rural areas, lack of social amenities such as electricity in the rural areas and safe water supply. Zhu, Peng, and Li, (2021) observe that rural residents have been shown to have limited access to reliable health information and therefore may be at higher risks for the adverse health effects of the Covid-19.

In fact, what was partly responsible for the quick spread of Covid-19 was the lack of knowledge of rural residents on the disease. Zhu, Peng, and Li, (2021) explain that Wuhan Municipal Health Commission declared the outbreak of a newly discovered coronavirus disease (Covid-19) at the end of 2019, during which a large amount of migrant workers returned to their home in villages to celebrate the Chinese Lunar New Year without realizing that the Covid-19 had spread fast and widely among them, bringing substantial risks to people living in rural areas where health services are less accessible and of poor quality. Zhu, Peng, and Li, (2021) believe that during a pandemic, quality information is essential to keep the rural residents calm and informed on the correct steps to take. Traditionally, media such as television and newspapers, which carry information from authorized sources, played a central role in transmitting reliable health information. This may have been the case with rural residents in Nigeria and Enugu State in particular. This is what this study sought to achieve.

Statement Of Problem

Covid-19 virus has no known treatment. The acceptance of the vaccine is still a contentious issue, months after its discovery. The disease is enmeshed in myths and misconceptions to the extent that the preventive and control measures were not observed by most people. This is in spite of the rising number of Covid-19 related deaths across the globe. Communication was seen as one the non-pharmaceutical means of controlling and preventing the spread of the disease. However, it appears the intensive risk communication did not yield the expected results as most people did not observe the recommended safety measures and the disease continued to spread across the states in Nigeria. It is considered pertinent to find out the rural dwellers' sources of information on Covid-19 in Enugu State, their level of knowledge, attitude to messages from different sources and the actions they took as a result of the messages they received.

Research Questions

1. What is the most reliable source of health messages on Covid-19 among the rural dwellers in Enugu State?
2. What is rural dwellers' level of knowledge about Covid-19 controlling and preventive measures?
3. To what extent were Covid 19 preventive measures practiced by rural dwellers?

4. What are the barriers to Covid-19 messages among the rural dwellers?
5. What is the community leaders' level of involvement in Covid-19 messaging?

II. LITERATURE REVIEW

The outbreak of Covid-19 has shown the habitants of the world that virus and human have come to coexist dangerously. No doubt, the world continues to witness the outbreak of deadly diseases that herald severe health problems across the globe. There are so many health problems ravaging many parts of the world. Some of them are Malaria, Cancer, Tuberculosis, Leprosy, HIV/AIDS, Ebola Virus and recently Covid 19. These health challenges have continued to deform and handicap lots of people while many have died via the contraction of the diseases. Hence, the need to adequately combat these health challenges is inevitable (Agbim, 2015).

One very cardinal step in the process of combating the various health problems across the globe is the transmission of relevant health messages to the public. The mass media is very expedient in this regard. Okorie (2014, para. 7) aptly notes that;

The mass media are generally regarded as channels of communication that are capable of reaching heterogeneous audiences simultaneously with uniform messages. They (mass media) regularly cover all sorts of issues such as health, music, fine art, crime, sports, and political events.

The mass media transmit ideas and new information to target audience in the society. Tosanwumi (1994) cited in Agbim, (2015) observes that the mass media educate, inform, and entertain. Beyond these functions, they also persuade and catalyse social mobilization. In other words, the mass media can be regarded as powerful sources of information because they have the capability to penetrate every segment of the society. They have the ability to disseminate messages about issues, ideas and products. Furthermore, the mass media have the capacity to create awareness and knowledge about issues of national interest.

As earlier highlighted, the mass media perform many functions that are very fundamental to the existence of the society. One of such fundamental functions is the transmission of health messages. In performing their various duties, the mass media, are among others required to transmit relevant health messages to engender a healthy society. In this regard, Moyer, (1995, p.147) cited in Diedong (2013, p.46) asserts that “The media can play a central role in promoting the knowledge of people on issues of health as well as shaping our understanding of medicine and science in general. Research has shown that media’s dissemination of health information is important in shaping public beliefs and possibly behaviour”. In our society that relies on effective and efficient communication, the media play a major role in informing multiple aspects of individuals’ lives, including their access to health information. Traditionally, public health

organizations have used print and radio media and social marketing frameworks to disseminate important health messages to the public. In the past few decades, electronic media have stepped to the forefront of communication, and public health communication has evolved to reflect this (Newbold and Campos, 2011, p.5).

It is well recognized that the media play an enormously influential role in public responses to health issues. The mass media - print, television, radio and internet – has an unparalleled reach as a communication mechanism (Gunther, 1998 cited in Agbim, (2015). Public health professionals have always been sensitive to the persuasive power of the mass media (Leask, Hooker, King, 2010, p.1).

As the information gateway to the public, the mass media in particular has an important role to play in combating the spread of the viruses and mitigating both the health and social impact of the viruses. Different sectors of the media are in a position to stem the tide of the disease as they (mass media) can reach different segments of the population (Olujimi and Adekunle, 2010, p.229). The media have unparalleled ability to save millions of lives by providing them supportive environment for social change. Findings have shown that communities with high media penetration show strong signs of behavioural change (UNAIDS, 2004) cited in (Olujimi and Adekunle, 2010, p.229).

There is widespread use of mass media campaigns to inform the general public about health messages; ranging from discouraging smoking in young people to the promotion of sun protection. A recent survey found 75% of respondents rely on media coverage when making health care decisions. Few other options exist apart from the use of mass media with potential to alter and influence social attitudes and norms, although altering awareness and beliefs within the population may not automatically lead to changes in health care behaviour. A systematic review concluded that mass media interventions have an important role in influencing the use of health care services and in providing health care information to the public (Barker, Lowe, and Reid, 2006, p.7).

In 2009, Mabiane, Byarugaba and Schwabenbauer carried out a study on “The Influence of awareness campaigns regarding prevention of Highly Pathogenic Avian Influenza in Poultry in three Districts of Uganda”. The study was a product of the contract given by The Food and Agriculture Organization of the United Nations (FAO) to the Uganda Media Development Foundation (UMDF) in June 2009 to conduct a knowledge, attitudes and practices (KAP) study regarding the prevention of highly pathogenic avian influenza (HPAI) in poultry in the three districts of Kampala, Lira and Kanungu. The study was in response to the global avian influenza (AI) epidemic that killed millions of domestic and wild birds in 2004, putting the world on high alert. The methodology adopted both qualitative and quantitative methods involving in-depth interviews, Focus Group Discussions (FGDs), document review and media content analysis. The target audience for the KAP study includes poultry farmers, breeders and traders,

health workers, district-level local government officials, local council authorities, the mass media, the general public, teachers and school children (Mabiane, Byarugaba and Schwabenbauer, 2009, p.3).

Over the past few decades, media campaigns have been used in an attempt to affect various health behaviours in mass populations. Such campaigns have most notably been aimed at tobacco use and heart-disease prevention, but have also addressed alcohol and illicit drug use, cancer screening and prevention, sex-related behaviours, child survival, and many other health-related issues. Typical campaigns have placed messages in media that reach large audiences, most frequently via television or radio, but also outdoor media, such as billboards and posters, and print media, such as magazines and newspapers (Wakefield, Loken, Hornik, 2010, p.1261). The major aim of such mass media messages was to create the needed health awareness as well as knowledge (Shang, 2014, p.8) cited in Agbim, (2015).

The health promoting effect of mass media can be transmitted through increased awareness and knowledge (Asp, Pettersson, Sandberg, Kabakyenga, and Agardh, 2014, p.2). Traditional media campaigns are used widely in public health for a wide variety of objectives and have shown positive outcomes in terms of reach and public awareness (Newbold and Campos, 2011, p.4). Mass media provide information among people at large so that there is acceptance of any idea to create interest. Mass media displays information about health and make people aware so as to prevent the spread of various diseases. There are various types of mass media (magazines, television, internet, newspapers, etc.). The media have the power to direct our attention towards certain issues (Gupta and Sinha, 2010, p.19).

The responsibilities of the media are, amongst others, to disseminate health information and to frequently cover health-related topics and, as such, the media are the leading source of information about important health issues for many individuals. Media coverage of health-related events has become so important that several surveillance systems now rely on active trolling of news media to detect emerging disease threats. It is a relatively inexpensive way of exposing the population to information regarding their health and has the potential to reach a large proportion of the population, particularly groups that may be difficult to access through more traditional approaches. For instance, mass media campaigns based on communication for behavioural impact and social change have been shown to be an effective intervention for smoking cessation in adults. In the case of a vaccine preventable disease, people may opt to vaccinate more, and, promptly, when the perceived risk from the disease is high, and little (and later) otherwise. Thus, communication and mass media are central to slowing the course of an epidemic and have the potential to modify the knowledge of a large proportion of the community simultaneously (Tchuenche and Bauch, 2012, p.1-2). The failure of the influenza pandemic to spread may be attributable to massive

news reporting, especially with regard to prevention, as the amount of media coverage garnered by the 2003 severe acute respiratory syndrome (SARS) and the recent 2009 H1N1 influenza epidemic was colossal (Sun, Yang, Arino, and Khan, 2011) cited in (Tchuenche and Bauch, 2012, p.2). It has been reported that timing and annual receipt of influenza vaccination appear to be influenced by media coverage, particularly by headlines and specific reports on shortage/delay (Anderson and May, 1992) cited in (Tchuenche and Bauch, 2012, p.2).

Awareness and knowledge are considered to be some of the most critical determinants of health. It is particularly important for the health issues which are closely related to the behaviours of people. The knowledge and awareness provides inputs for changing health behaviours of the people, by removing misconceptions, providing new information, motivating for adopting new behaviours and stopping the harmful practices. The role of knowledge and awareness in decision-making is well established. For instance, reproductive health and sexual behaviours and safe practices for preventing HIV/AIDS require adequate and timely information and knowledge to influence the behaviours. Government and other non-government organization throughout the country are making serious efforts to create awareness and knowledge deploying the mass media channels (Singh, 2014, p.95; Agbim, 2015).

However, while it is established in several studies the impact of health messages on urban population, not much attention has been paid to rural populace. Public health literature has shown that diseases break in urban areas but spread gradually to rural areas where a lot of health protocols are not properly understood and adhered to. The first cases of Covid-19 in Africa were imported from other continents, and urban areas being the entry points, as international travellers were affected first. However, in a relatively short time span of the disease entry, the disease found its way to rural Africa because of delayed testing and poor contact tracing. These areas are the backbone of the continent's agricultural outputs and where the larger percentage of the continents' populations dwell. Key strategies were implemented to mitigate community spread in rural Africa. For instance, in Nigeria, physical distancing protocols characterized by restriction of movement were enacted. In Uganda, complete lockdowns and restriction of movement were enforced, and in Kenya, there was a complete ban on non-essential gatherings (not more than 15 people) for community events such as burials. Personal hygiene was also a key measure involving the use of hand sanitizers and hand washing areas (Okereke, Ukor, Ngaruiya, Mwansa, Alhaj, Ogunkola, Jaber, Isa, Ekpenyong, and Lucero-Prisno III, 2021). This approach witnessed the innovation and involvement of healthcare providers such as pharmacists in the production of sanitizers in Africa. Common areas of mass gatherings such as marketplaces and hospitals were required to be cleaned and fumigated at regular intervals to eliminate residual pathogens. Local leaders who are the moral compass and guides of the community were instrumental in capacity

building and spreading awareness on the existence and disease control in rural settings. Although media outlets especially those broadcasting in local languages were used to spread information on the mode of transmission, prevention, and myths associated with the virus, these proactive efforts did not come without challenges. Interventions and strategies to prevent widespread transmission of Covid-19 in African countries were based on evidence-based methods (hand washing, social distancing, testing, contact tracing, and lockdowns) adapted from areas first hit: Asian and European countries. Also used was the context from past pandemics and epidemics such as SARS and Ebola.

In the early days of the pandemic, it was predicted that Africa will be severely hit. Although the number of infections in Africa remains comparatively lower than that in most other parts of the world, this assertion remains debatable. It is believed that low testing capacity and poor reporting foreshadow the reality of a wider spread. The proactive approach of government and health agencies in Africa to tackle Covid-19 in rural Africa has been met with a number of challenges that can be linked to misinformation or a lack of accurate health information. Factors such as poor living conditions, poor health literacy, ease of access to unambiguous information, influence of culture and religion, demography, and political instability greatly weigh in on the probability of prevention strategies to stay effective (Zhu, Peng, and Li, Shaohui 2021).

RHIhub (2020) observes that in rural communities, many factors influence health. Rural communities experience a higher prevalence of chronic conditions than their urban counterparts. Examples of chronic conditions include heart disease, cancer, chronic respiratory disease, stroke, and diabetes. Rural communities also experience higher rates of mortality and disability than urban communities. Limited access to health promotion and disease prevention programmes and healthcare services contribute to these health challenges.

Examples of social determinants that are barriers for rural communities in accessing healthcare according to RHIhub (2020) include:

- Higher poverty rates, which can make it difficult for participants to pay for services or programs
- Cultural and social norms surrounding health behaviours
- Low health literacy levels and incomplete perceptions of health
- Linguistic and educational disparities
- Limited affordable, reliable, or public transportation options
- Unpredictable work hours or unemployment
- Lower population densities for program economies of scale coverage
- Availability of resources to support personnel, use of facilities, and effective program operation

- Lack of access to healthy foods and physical activity options

Ekwe, Cole, Friday, Egbeyon, and Okafor, (2021) conducted a survey to determine the knowledge and behaviour of undergraduates in Samuel Adegboyega University, Ogwa Edo State (SAU) on Nigerian Centre for Disease Control (NCDC) coronavirus SMS campaigns. The key objective of the study was to find out whether the Nigeria Centre for Disease Control Covid-19 SMS campaigns actually influenced the knowledge and behaviour of the undergraduates in the University which is situated in a rural area. Health belief model and theory of reasoned action were used as theoretical framework. This study adopted the survey research design and questionnaire was used as the instrument for data collection. The findings showed that the SMS sent by NCDC moderately increased the knowledge level of the respondents and influenced their behaviour towards Covid-19 preventive messages. It was recommended that NCDC should not stop sending Covid-19 preventive messages to citizens of Nigeria even after the pandemic. This will help sustain good behaviour in the event of another health crisis.

Theoretical Framework

The study will be anchored on Health belief model and Diffusion of innovation theories.

Health Belief Model (HBM)

Health Belief Model is one of commonly used framework in health behaviour research, since it was developed in 1950s. The Health Belief Model (HBM) identifies two factors as primary determinants of someone's performance of a health protective behaviour – first, the individual feels threatened by, or susceptible to a disease or an unhealthy behaviour with negative consequences; second, the individual believes that benefits of taking the preventive action outweigh the barriers to or cost of taking that action (Rosenstock, Strecher and Becker, 1994).

The relevance of this model to this study is that it helps everyone to understand the likely motivation for rural people to take Covid-19 messages seriously. It also explains the believe by rural residents that there are consequences for not adhering to health messages. It is believed that if the severity of Covid-19 is explained to rural residents in clear terms, they are likely to keep to the safety protocols.

Diffusion of Innovation

In this regard, Roger (1962) cited in Agbim, (2015) proposed the theory of "Diffusion of Innovation (DOI)" to illustrate the spread of an idea in a society with time. Through this theory the behaviour changes were delineated from what people used to do earlier. Like the change from cloth to sanitary napkin use by the females. The main concern is that people should accept and realize that innovative idea is beneficial for them. Greater the idea is perceived beneficial, the expeditious is the diffusion rate.

The theory explains how the Covid-19 messages penetrated the communities and how they were engaged during the pandemic through risk communication and why some persons refused to accept the Covid-19 messages.

III. METHODOLOGY

Survey method is considered apt in this study owing to the nature of the study which aims at collecting original data on respondent’s knowledge, attitudes and behaviour toward the variables under study. Osuala (2005, p.181) notes that survey research method focuses on people and their beliefs, attitude, and behaviour toward a phenomenon. Since the present study borders on perceptions and responses to Covid-19 Risk Communication among Rural Dwellers in Enugu State, survey method was considered most appropriate.

Questionnaire and Key Informant Interview served as instruments for data collection. Key Informant Interview was used to gather data from opinion leaders in the communities and it gave the researchers the opportunity to have a more in-depth discussion.

The population of the study consists of all the residents of Enugu state. The population of Enugu State based on 2006 census is 3,267,837 (National Population Commission, 2006). However, considering the fact that 2006 is too far a time, the researchers aligned themselves with Owuamalam (2012) and did a projection of 8 years using an annual growth rate 3.2 percent (UNDP). With this projection, the population of Enugu state now stands at 4104403. The population of this study, therefore, is 4104403.

From the above population, a basic sample of 384 was drawn using online sample size calculator advanced by Wimmer and Dominick (2013) with confidence level of 95% and confidence interval of 5.0%.

The 384 respondents were drawn randomly from the three Senatorial Zones in the State - Enugu West, Enugu East and Enugu North. Two local governments in each senatorial zone were studied which gives a total of six local governments out of the seventeen local governments in the state. The breakdown of the LGAs to be selected are:

Table 3.1: Selected LGAs in the Senatorial Zones

S/N	Senatorial Zones	Selected LGAs
1	Enugu West Zone	Awgu, Udi
2	Enugu East Zone	Nkanu East and Enugu South
3	Enugu North Zone	Udenu and Igbo Etiti

Two communities were studied in each local government. This gives a total of twelve communities in the state. Respondents for the survey were randomly selected while the key informants for the interview were purposively selected. Informants selected were political leaders, religious leaders, and community health workers. In each community, two informants were studied. In all, twenty four persons were used for the Key Informant Interview. Statistical Package for

Social Sciences (SPSS) software was used for data coding and analysis.

IV. DATA ANALYSIS, PRESENTATION AND RESULT

In this chapter, quantitative and qualitative data generated through questionnaire, and key informant interview were analysed. They were thereafter presented in frequency tables and all data were presented in line with the research questions. Out of the 384 copies administered, 379 were valid.

4.1: Data Presentation

Research Question One: What is the most reliable sources of health messages on Covid-19 among the rural dwellers in Enugu State?

Under research question one, attempt was made to clearly understand respondents’ most reliable sources of health messages on Covid-19.

Table 4.1: The most reliable source of health messages on Covid-19 for rural residents

Source of health messages on Covid-19	Frequency	Percent
Radio	124	32.7
TV	34	9.0
Health Workers	57	15.0
Billboard	12	3.2
Flyers/handbills	19	5.0
Newspapers/Magazines	10	2.6
Social Media	67	17.7
Friends/Family	32	8.4
Other sources	9	2.4
Can’t Say	15	4.0
Total	379	100.0

Authors’ Field survey 2022

The Table revealed that the most reliable source of health messages on Covid-19 for rural residents during the pandemic was the radio which represents 32 percent. This establish the fact that radio as a medium are mostly used by rural dwellers in their settings because of it easy usage and flexibility. Also rural dwellers seem to understand the style of radio programming and they find it easier to carry along anywhere they are going.

Research Question Two: What is rural dwellers' level of knowledge about Covid-19 controlling and preventive measures?

Under research question two, quantitative data generated from questionnaire and qualitative data generated from Key informant interview were analysed.

Table 4.2: Respondents' level of knowledge about Covid-19 controlling and preventive measures

Level of knowledge about COVID-19 controlling and preventive measures		Frequency	Percent
	Very High Knowledge	22	5.8
	High Knowledge	57	15.0
	Moderate Knowledge	197	52.0
	Low Knowledge	57	15.0
	Very low knowledge	30	7.9
	Can't say	16	4.2
	Total	379	100.0

Authors' Field survey 2022

The table above explains the knowledge level of rural residents in Enugu State. From the table, majority (52 percent) of the sampled respondents were of the view that they had a moderate knowledge about Covid-19 controlling and preventive measures. Note that this was arrived at after series of ratings. From the ratings, it was discovered that some respondents had high knowledge but most of them only had moderate knowledge on the pandemic.

Key Informant Interview for Research Question Two

Twenty four community leaders were interviewed on their knowledge level about Covid-19 controlling and preventive measures. From the interview, majority of the informants were of the view that the knowledge level of rural residents was moderate. For instance, one of the community leaders interviewed maintained that “yes, there may be attempts to argue that the knowledge level of rural residents was high, but let me be very frank with you, we only had moderate knowledge about the disease”. Religious leader in one of the communities in Udi added that “you know we stay here in the rural area and most of the information we got was through the radio. We didn't have much information like some of you that came from the cities. So I can say that my knowledge level was just moderate”.

Research Question Three: To what extent were Covid-19 preventive measures practiced by rural dwellers?

In research question three, quantitative data generated from questionnaire and qualitative data generated from Key informant interview were analysed.

Table 4.3: Extent to which Covid-19 preventive measures were practiced by the respondents?

Extent to which Covid-19 preventive measures were practiced		Frequency	Percent
	Very large extent	32	8.4
	Large extent	78	20.6
	Moderate extent	154	40.6
	Low extent	59	15.6
	Very low extent	38	10.0

	Can't say	18	4.7
	Total	379	100.0

Authors' Field survey 2022

The table above showed the extent the select respondents practiced preventive measures of Covid-19. The result should that majority of the respondents (40 %) practiced Covid-19 practiced preventive measures to a moderate extent. This implies that the knowledge was not low; it was moderate.

Key Informant Interview

Twenty four community leaders were interviewed on how rural residents practiced Covid-19 preventive measures. From the interview, majority of the informants agreed that they obeyed Covid-19 protocols as communicated to them during the first phase of the pandemic. However, they also observed that their level of practice could be seen as moderate. According to most of them, there were some factors that hindered full implementation of the protocols. One of the informants in Nkanu East LGA explained that they practiced “social distancing and other protocols but could not keep to all the rules for some obvious reasons”. Another informant from Udenu LGA insisted that the rate they practiced the protocol was not high but rather moderate.

Research Question Four: What are the barriers to Covid-19 messages among the rural dwellers?

In research question four, quantitative data generated from questionnaire and qualitative data generated from Key informant interview were analysed.

Table 4.4: Barriers to COVID-19 messages among respondents

Barriers to COVID-19 messages		Frequency	Percent
Valid	Religious and Cultural norms	126	33.2
	Communal living/social norms	78	20.6
	Conspiracy	45	11.9
	Inadequate health information at the rural level	43	11.3
	Social-economic status	41	10.8
	Level of education	20	5.3
	Others	9	2.4
	Can't say	17	4.5
	Total	379	100.0

Authors' Field survey 2022

The table above revealed that 33.2% respondent's accepted that their religious and cultural norms served as barriers to Covid-19 messages they got exposed to. This showed that the Covid-19 radio campaign aired actually was against the belief and practice of 33.2% of the rural dwellers. Some of these norms include religious activities that are against social – distancing. Cultural ceremonies like burial and some traditional rites are also against social distancing.

Key Informant Interview

Twenty four community leaders were interviewed on the barriers to Covid-19 messages acceptance among rural residents in select communities. Most community leaders interviewed mentioned religious and cultural norms, level of education, gender, communal living/social norms, conspiracy theory, Inadequate health information at the rural level, poverty and other factors as responsible. Of all the factors, religious and cultural barriers came topmost. According to most of the interviewees, their religion and other cultural activities do not allow them to practice social distancing. One of the community leaders insisted that he could not stay at home as directed because they had to bury a family member that died during the period. Some others mentioned that some of the safety protocols could not be observed because of poverty; families had to source for money to feed.

Research Question Five: What is the community leaders' level of involvement in Covid-19 messaging?

In research question four, quantitative data generated from questionnaire were analysed.

Table 4.5: Community leaders' level of involvement in Covid-19 messaging

Community leaders' level of involvement in Covid-19 messaging		Frequency	Percent
	Very High	55	14.5
	High	98	25.9
	Moderate	143	37.7
	Low	42	11.1
	Very low	26	6.9
	Can't say	15	4.0
	Total	379	100.0

Authors' Field survey 2022

The table above explains community leaders' level of involvement in Covid-19 messaging. The table showed that majority of the community leaders were moderately involved. This is because their knowledge level on the disease is also moderate. Expectedly, the community leaders were involved based their level of knowledge and this may explain why their involvement is moderate.

V. DISCUSSION OF FINDINGS

In research question one, the researchers sought to find out the most reliable sources of health messages on Covid-19 among the rural dwellers in Enugu State. The result revealed that the most reliable source of health messages on Covid-19 for rural residents during the pandemic was the radio which represents 32 percent. Although there were other sources of information during the pandemic like TV, flyer and others, majority of the rural residents in Enugu State insisted that radio was their major source of information. Expectedly, the radio medium is mostly used by rural dwellers in their settings because of its

easy usage and flexibility. Also, rural dwellers seem to understand the style of radio programming and they find it easier to carry it along anywhere they are going. This agrees with a the findings made by Mabiane, Byarugaba and Schwabenbauer (2009), which revealed that information on Avian Influenza was mostly transmitted through the radio among rural residents.

Under research question two, the knowledge level of rural dwellers about Covid-19 controlling and preventive measures was investigated. Quantitative and qualitative data generated through questionnaire and Key Informant Interview revealed that majority of the sampled respondents were of the view that they had a moderate knowledge about Covid-19 controlling and preventive measures. This implied that their knowledge on some of the Covid-19 protocols was not high. A lot of factors could account for the moderate level of knowledge. These include limited access to information and other factors such as level of education and socio-economic status. This result is in consonant with a similar finding made by Ekwe, Cole, Friday, Egbeyon, and Okafor, (2021). They found that NCDC Covid-19 SMS moderately increased the knowledge level of the sampled respondents within the rural university setting.

More so, since the knowledge level of the rural residents was found to be moderate, it was only logical that their practices of the preventive measures would be moderate or low. Data generated from questionnaire and interview revealed that majority of the rural residents in Enugu State practiced Covid 19 preventive measures to a moderate extent. Of course, the extent of practice can't be far from their level of knowledge on the disease. The result obtained from a study conducted by Zhu, Peng, and Li, Shaohui (2021) supports this finding.

As observed under research question two, some factors were responsible for the moderate level of knowledge on Covid-19 among rural residents. These explained why the researchers sought to identify these factors under research question four. The findings showed that religious and cultural norms mostly served as barriers to Covid-19 messages the rural residents got exposed to. Some of these norms include religious activities that are against social distancing, cultural ceremonies like burial and some traditional rites which hindered the complete observance of some health protocols. The socio-economic status of the rural dwellers was also responsible for the moderate nature in which they practiced the preventive measures of Covid-19. RHIhub (2020) listed the factors that prevent rural residents from taking health measures expected of them. These factors include religious and cultural norms, poverty, level of education and others. This may also explain why the community leaders' involvement was found to be moderate. These leaders are the custodians of these culture and traditions. It is only expected that their behaviour towards Covid-19 messages would be mediated by their belief systems and other factors

VI. SUMMARY OF FINDINGS

After the analysis, the results showed that:

1. the most reliable source of health messages on Covid-19 for rural residents during the pandemic was the radio.
2. majority (52 percent) of the sampled respondents were of the view that they had a moderate knowledge about Covid-19 controlling and preventive measures.
3. majority of the respondents practiced Covid-19 preventive measures to a moderate extend.
4. religious and cultural norms served as barriers to Covid-19 messages targeted at rural people.
5. majority of the community leaders were moderately involved in Covid-19 messaging

VII. RECOMMENDATIONS

Based on the findings reached in this study, the researchers recommended that health messages targeted at rural residents should take into account some factors that are peculiar to rural environment such as religious and cultural issues, poverty, level of education and access to adequate information. If these factors are accounted for when planning a health campaign for rural areas, specific messages would be used to address these peculiarities.

More so, community leaders and other interest groups in the rural communities should be given adequate attention during health campaigns planning and execution. This is because they are opinion leaders in their rights and could greatly influence those who look up to them.

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