Perception of Threat of COVID-19 Among Residents of Yenagoa Local Government Area, Bayelsa State

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Abstract- ***Perception of threat is a key component of a population's response to an epidemic. COVID-19 had increased level of threat to the health of population, huge losses to the economy of the country as well increased level of fear and rumour surrounding it. The aim of the study was to investigated the perception of threat of COVID-19 among residents of Yenagoa local government area, Bayelsa state. A descriptive cross-sectional survey design was adopted with a study population which consisted of 543,536 residents in Yenagoa. A sample size of 440 was selected using a convenient sampling technique. Data was collected using a structured questionnaire with a reliability coefficient of 0.71 and analyzed using percentage, mean, standard deviation, and chi-square. The result of the study showed a negative perception of susceptibility to COVID-19 (2.18±1.02), and positive perception of severity of COVID-19 (3.03±0.77). The result further showed that there was a low extent of adherence to COVID-19 preventive measures (1.71±1.28). The tested hypotheses showed that there was a statistically significant relationship between adherence to COVID-19 preventive measures and both perception of susceptibility (X2-value = 116.36, df = 1, p<0.05) and perception of severity of COVID-19 (X2-value = 78.88, df = 1, p<0.05). It was concluded that, the residents of Yenagoa had a negative perception of susceptibility to COVID-19 and positive perception of severity of COVID-19 however, the extent of adopted of preventive measures was low. It was recommended that, the ministry of health should strengthen their communication systems to ensure timely dissemination of COVID-19 related information.***

Indexed Terms- ***COVID-19, Perceived severity, Perceived severity, Yenagoa.***

I. INTRODUCTION

Coronavirus Disease -19 (COVID-19) is a ravaging infectious viral disease that is caused by severe acute respiratory syndrome coronavirus 2 (SAR-COV-2), it is a single-stranded RNA virus belonging to the Coronaviridae family (Hassan *et al.*, 2020). Iorfa *et al.*, (2020) noted that due to the rapidly increasing contagious nature of the Coronavirus, which is overwhelming critical care and frontline health care staff and the possibility of transmission by asymptomatic carriers, government around the world closed the borders, announced total or partial lockdown, restricted movements, initiated social distancing and facemask regulations as preventive measures to limit or prevent the spread of the Coronavirus within their population during the early stage of the start of the epidemics.

The total number of infected persons in Nigeria as at February 7, 2021 has laboratory confirmed cases at 139, 242 with 25,038 active cases and 1,647 deaths (NCDCa). Bayelsa state recorded her index case on April 26, 2020 according to The Guardian Newspaper (2020). As at February 7, 2021 Bayelsa state had laboratory confirmed cases at 695 with 35 active cases and 24 deaths according to the Nigeria Center for Disease Control (NCDCa, 2021). The population in recent time could be said to be generally at risk of infection as it now said that there is community transmission of the virus, thus individual at the community may play pivotal role in the transmission of the virus. According to DeZwart et al. (2009), the behaviour of the general population or specific risk group can play an important role in both the spread and control of infectious diseases. They stated that the effectiveness of new emerging infectious diseases would largely be dependent on the behaviour of the population and their willingness to adhere to the recommended preventive measures like social

distancing, use of face mask, hand washing, covering of the mouth and nose when sneezing or coughing, and staying at home as stipulated by the World Health Organization. COVID-19 is an infectious disease that has a little information on how its threat is perceived, i.e. its perceived susceptibility which is, the perception of the risk the individual has that he/she will contract the disease, and its perceived severity which is defined as the belief of the individual in how serious contracting the illness would be for him/herself, as a new form of infectious disease (Brewer *et al.*, 2007).

Perception of threat is a key component of a population's response to an epidemic. COVID-19 has led to increased level of threat to the health of population, huge losses to the economy of the country as well increased level of fear and rumour surrounding it. Zhang *et al.* (2020), noted that physical distancing, use of face mask, hand washing, covering of the mouth and nose when sneezing or coughing, and staying at home are among the behaviours proposed by the World Health Organization to reduce the spread of COVID-19. Since the beginning of the epidemic, it is critical to adopt these behaviours which has been shown to reduce the risk of spread in several countries. However, it is currently not well understood how the perception of susceptibility and perception of severity of COVID-19 influences the adoption of preventive measures. The lack of knowledge about the COVID-19 disease would be a mediating element in the increase of cases infected by the virus. In a similar case, it was found that during the isolation stage to prevent contagion by the Ebola virus, the poor understanding of the disease and its airborne infection process contributed to the increase in case rates. Knowledge of the infection process and its precautions may be linked to the determination of citizens to follow government guidelines regarding quarantine measures. This same perspective is supported by numerous analyses, where it is reported that the level of knowledge directly affects the perception of susceptibility to disease (Zhou et al., 2020). Olapegba *et al.,* (2020) noted that there is relatively high knowledge of COVID-19 among Nigerians, however, there is the possibility that the misunderstandings as well as misconceptions may be downplaying precautionary behaviour among Nigerians.

COVID-19 had also impacted the lives of people in Yenagoa and as part of strategies in the prevention and control of the infection, the State government in the earlier stage implemented preventive strategies to curb the spread of the diseases by putting in place lock down measures and curfews, enforcing the use of face mask and the restriction of large gathering. Just after all these stringent measure and the ease of movement, observation showed that fewer people could be seen complying with these preventive measure. This study thus investigated the perception of threat to COVID 19 and adoption of preventive measures among residents of Yenagoa, Bayelsa State. The study provided answers to the following research questions:

1 What is the perception of susceptibility to COVID-19 among residents of Yenagoa local government area, Bayelsa State?
2 What is the perception of severity of COVID-19 among residents of Yenagoa local government area, Bayelsa State?
3 What is the relationship between the perception of susceptibility and extent of adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State?
4 What is the relationship between the perception of severity and extent of adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State?

Hypotheses

The following hypotheses were raised to guide the study and were tested at 0.05 level of significance:

1 There is no relationship between the perception of susceptibility to COVID-19 and adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State.
2 There is no significant relationship between the perception of severity of COVID-19 and adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State.

II. METHODOLOGY

A community based descriptive cross-sectional survey design was adopted. The population of the study consisted of all 542,536 adult residents in Yenagoa metropolis, Yenagoa Local Government Area of Bayelsa State. The sample size was determined using

the Taro Yamane formula: $n = N / 1+N(e)^2$. where, n = Sample size, N = Population size, α = level of significance, which was 0.05. Adding 10% of the calculated sample size to compensate for non-compliance. The sample size was 440. A convenient sampling technique was used to selected the respondents for the study.

The instrument used for collection of data in this study was a structured questionnaire adapted from a previous work done on Covid-19. The instrument was validated by three experts, and reliability tested using Pearson Product Moment Correlation (PPMC) to determine the reliability coefficient of 071. The administration of the instrument was a face-to-face delivery to the participants. Data collected were analyzed using Statistical Package for Social Sciences (SPSS) version 23.0 and data presented using mean, standard deviation and chi-square test at 0.05 level of significance.

III. RESULTS

The results of the study are shown below:

Table 1: Perception of susceptibility to COVID-19 among residents of Yenagoa

SN	Items	Mean	S.D.	Decision
1	Can't acquire Covid-19	2.64	1.00	Positive
2	Covid-19 is a disease for the rich	2.07	1.03	Negative
3	Have not travelled abroad so can't get Covid-19	1.89	1.02	Negative
4	Likely to get the disease	1.97	.85	Negative
5	Don't care about the disease and so don't adhere to preventive measures	2.37	1.16	Negative
	Grand mean	2.18	1.02	Negative

Criterion mean =2.50

Table 1 showed the perception of susceptibility to COVID-19 among residents of Yenagoa. The result showed a negative perception as the grand mean of 2.18±1.02 was lesser than the criterion mean of 2.50. Thus, residents of Yenagoa had negative perception of susceptibility to COVID-19.

Table 2: Perception of severity of COVID-19 among residents of Yenagoa

SN	Items	Mean	S.D.	Decision
1	Covid-19 has killed many people	2.96	.99	Positive
2	Covid-19 is a dangerous disease	3.06	.66	Positive
3	The transmission rate is very high	3.08	.65	Positive
	Grand mean	3.03	0.77	Positive

Criterion mean = 2.50

Table 2 showed the perception of severity of COVID-19 among residents of Yenagoa. The result showed a positive perception as the grand mean of 3.03±0.77 was greater than the criterion mean of 2.50. Thus, residents of Yenagoa had positive perception of severity of COVID-19.

Table 3: Relationship between the perception of susceptibility and extent of adherence to COVID-19 preventive measures among residents of Yenagoa

Perception of susceptibility	Extent of adherence High Low	Total	r-value	Decision

	F(%) F(%)				
Positive	0(0.0)	148(100)	148(100)	-0.52	Moderate negative relationship
Negative	144(52.0)	133(48.0)	277(100)		
Total	144(33.9)	281(66.1)	425(100)		

Table 3 showed the relationship between the perception of susceptibility and extent of adherence to COVID-19 preventive measures among residents of Yenagoa. The result showed a moderate negative relationship between perception of susceptibility and extent of adherence to COVID-19 preventive measures (r = -0.52). Thus, there was a moderate negative relationship between perception of susceptibility and extent of adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State.

Table 4: Relationship between the perception of severity and extent of adoption of preventive measures among residents of Yenagoa

Perception of severity	Extent of adherence High Low F(%) F(%)		Total	r-value	Decision
Positive	144(46.2)	168(53.8)	312(100)	0.43	Moderate positive relationship
Negative	0(0.0)	113(100)	113(100)		
Total	144(33.9)	281(66.1)	425(100)		

Table 4 showed the relationship between the perception of severity and extent of adherence to COVID-19 preventive measures among residents of Yenagoa. The result showed a moderate positive relationship between perception of severity and extent of adherence to COVID-19 preventive measures (r = 0.43). Thus, there was a moderate positive relationship between perception of severity and extent of adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State.

Table 5: Chi-square test showing relationship between the perception of susceptibility and extent of adherence to COVID-19 preventive measures among residents of Yenagoa

Perception of susceptibility	Extent of adherence High Low F(%) F(%)		Total	df	X^2-value	p-value	Decision
Positive	0(0.0)	148(100)	148(100)	1	116.36	0.00*	Rejected
Negative	144(52.0)	133(48.0)	277(100)				
Total	144(33.9)	281(66.1)	425(100)				

*Significant

Table 5 showed the chi-square test of relationship between the perception of susceptibility and extent of adherence to COVID-19 preventive measures among residents of Yenagoa. The result showed that there was a significant relationship between perception of susceptibility and extent of adherence to COVID-19 preventive measures (X^2-value = 116.36, df = 1, $p<0.05$). Thus the null hypothesis which stated that, there is no significant relationship between the perception of susceptibility and extent of adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State was rejected.

Table 6: Chi-square test showing relationship between the perception of severity and extent of adoption of preventive measures among residents of Yenagoa

Perception of severity	Extent of adherence High F(%)	Low F(%)	Total	Df	X^2-value	p-value	Decision
Positive	144(46.2)	168(53.8)	312(100)	1	78.88	0.00	Rejected
Negative	0(0.0)	113(100)	113(100)				
Total	144(33.9)	281(66.1)	425(100)				

*Significant

Table 6 showed the chi-square test of relationship between the perception of severity and extent of adherence to COVID-19 preventive measures among residents of Yenagoa. The result showed that there was a significant relationship between perception of severity and extent of adherence to COVID-19 preventive measures (X^2-value = 78.88, df = 1, $p<0.05$). Thus the null hypothesis which stated that, there is no significant relationship between the perception of severity and extent of adherence to COVID-19 preventive measures among residents of Yenagoa local government area, Bayelsa State was rejected.

IV. DISCUSSION OF FINDINGS

The findings of the study were discussed below:

The result showed a negative perception of susceptibility to COVID-19 among the respondents. The finding of this study is surprising because the high prevalent rate of COVID-19 is scaring, however, negative perception of susceptibility was found probably due to the fact that none of the respondents had ever seen or personally witnessed the damaging effect of the disease on anybody around them or in their neighborhood, hence, they felt they are not susceptible. The finding of this study is similar to that of Gbonegun et al. (2020) whose study on the perceptions towards Covid-19 and adoption of preventive measures among adult public in Saudi Arabia revealed a significant relationship between perceived susceptibility and COVID-19 prevention. The similarity in the study designs used in both studies could be implicated for the similarities found between both studies.

The result showed a positive perception of severity of COVID-19 among the respondents. The finding of this study was expected because the damaging effect of COVID-19 reported daily are devastating and this positive perception of severity found could be attributed to the different reports given by the social media with evidence from around the world. The finding of this study is similar to that of Al-Qerem and Jarab (2021) whose study in the Middle Eastern population showed a significant relationship between perceived severity and COVID-19 prevention. The finding of this study is similar to that of Jian et al, (2020) whose study on Chinese public's perceived controllability of Covid-19 and precautionary behaviour revealed a significant relationship between perceived severity and COVID-19 prevention. The finding of this study is similar to that of Hills and Eraso (2021) whose study on the perceptions towards Covid-19 and adoption of preventive measures among adult public in Saudi Arabia revealed a significant relationship between perceived severity and COVID-19 prevention. The similarity in the study designs used in both studies could be implicated for the similarities found between both studies.

The result showed that there was a significant relationship between perception of susceptibility and extent of adherence to COVID-19 preventive measures (X^2-value = 116.36, df = 1, $p<0.05$). This finding could be due to the fact that perception towards a thing is a strong force in ensuring its adoption. The finding of this study in consonance with that of Ezeokoli et al. (2020) whose study on the perceptions towards Covid-19 and adoption of preventive measures among the public in Saudi Arabia showed that there was a significant association between perception of susceptibility to COVID-19 and adopted of COVID-19 preventive measures. This similarity found between the previous study and the present one might be attributed to the similarity in the study designs adopted.

The finding of this study showed that there was a significant relationship between perception of severity and extent of adherence to COVID-19 preventive measures (X^2-value = 78.88, df = 1, $p<0.05$). This finding could also be due to the fact that perception towards a thing is a strong force in ensuring its adoption. The finding of this study in consonance with that of Alara et al. (2021) whose study on the perceptions towards Covid-19 and adoption of preventive measures among the public in Saudi Arabia showed that there was a significant association between perception of susceptibility to COVID-19 and adopted of COVID-19 preventive measures. This similarity found between the previous study and the present one might be attributed to the similarity in the study designs adopted.

CONCLUSION

Based on the findings of the study, it was concluded that, the residents of Yenagoa had a negative perception of susceptibility to COVID-19 and positive perception of severity of COVID-19.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. The ministry of health should also strengthen their communication systems to ensure timely dissemination of COVID-19 related information to sustain the positive perception of severity found.
2. The social media and non-governmental organizations should work in collaboration to ensure every information about COVID-19 is at the disposal of the populace, this will help to change the negative perception of susceptibility found.
3. The ministry of health should make materials such as disposable nose masks and hand sanitizers readily available for residence, this will also encourage the adoption of preventive measures.
4. The individuals should also make conscious effort to ensure the adhere to the COVID-19 preventive measures, knowing that it is for their good.

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