

Vulnerability to Coronaphobia during the COVID-19 Pandemic: A Gender study in Ibadan, Nigeria

D.O. Adeyanju

Department of Peace Studies and Conflict Resolution, Faculty of the Social Sciences, National Open University of Nigeria, Ibadan Study Centre, Nigeria

Author's E-mail: iretide2017@gmail.com Tel.: +2349067916594

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Abstract— The contagious nature of coronavirus and the rapidly upsurge death tolls from the COVID-19 pandemic, coupled with the restriction measures and infodemic, had significantly heightened fear, anxiety, worry and depression (referred to as *coronaphobia*) among the people. This study assessed gender vulnerability to coronaphobia during the COVID-19 pandemic in Ibadan, the capital city of Oyo State of Nigeria. The study made use of structured questionnaires to elicit data from 400 accidentally sampled respondents, which comprises of 200 males and 200 females. The statistical techniques employed for data analysis includes percentage mean score, and two-tailed t-test was employed to test the hypotheses at 0.05 level of significance. Results revealed that both genders are vulnerable to coronaphobia, with females exhibiting higher severity of the menace (t-calculated = 5.957; t-tabulated = 2.179). Recommendations made to manage coronaphobia include attitudinal and behavioural change, concerted re-orientation and awareness, prevention of infodemic, and engagement of psychologists who specialises in anxiety.

Keywords— Vulnerability, Coronaphobia, COVID-19, Fear, Gender, Ibadan Nigeria.

I. INTRODUCTION

Apart from the global health, economic and social challenges which COVID-19 pandemic had brought about, a very significant phenomenon that has recently gained attention is the psychological and mental health consequences of the pandemic. According to Tandon (2020), fear, anxiety, and worries have been the major psychological consequences of COVID-19 pandemic [1]. Some aspects of COVID-19 that have led to increased feeling of fear among the population includes uncertainty about how it is spread, its evolution, the level of immunity of patients who have been infected, and the absence of a vaccine to counter the disease (Rodriguez-Rey, et al, 2020) [2].

People are afraid of contracting the virus; and many are worried about the rapidly increasing number of deaths resulting from the virus on daily basis. Daily statistics being made public are creating fear in the people. Fake news and other untrue information being spread through the socio media and other channels are creating fear and anxiety in the people. Many are worried about the socio-economic disruption being brought about by the restriction orders embarked upon by various national governments to contain the spread of the virus – they are afraid of losing their jobs because many businesses are closing down, while some are reducing the number of their staff through

downsizing. All these and other factors are causes of fear, anxiety, worry, and depression (coronaphobia) in people.

The goal of this paper is to assess the impact of COVID-19 as a causal factor of coronaphobia in the inhabitants of Ibadan metropolis; and also examines the severity of the menace on the basis of gender vulnerability. Section I of the paper therefore contains the introduction to the background of the study. Review of related work on the subject of coronaphobia is dealt with in Section II, while Section III contains the methodology adopted in the study. The survey results and discussion are presented in Section IV, while the conclusion and future scope is contained in Section V.

II. RELATED WORK

COVID-19 broke out in Wuhan, a city in the Hubei province of China in December 2019. On the advice of the International Health Regulation Emergency Committee, the World Health Organization declared the outbreak of the coronavirus as a Public Health Emergency of International Concern (PHEIC) on 30 January 2020, and later characterized it as a pandemic on 11 March, 2020 (WHO, 2020) [3].

According to Alyami, et al (2020), the uncertainties about the consequences of the COVID-19 pandemic had been

reported in the global research circle^[4]. The pandemic had led to a worldwide economic slowdown as more people practiced social distancing and movement restrictions. There had been unemployment and loss of jobs, resulting in economic stress. The global economic growth had been negatively affected by the pandemic. According to Jackson, et al. (2021), the virus had reduced the global economic growth in 2020 to an annualized rate of around -3.2%, while the global trade was estimated to have fallen by 5.3% in that year^[5]. In the same vein, the International Monetary Fund (2020) made a forecast that the global economy would contract by about 49% in 2020, and that the contraction would be of far greater magnitude than that of the 2008-2009 Global Financial Crisis. Reasons adduced to this were the stiffer and persistence restriction measures which various governments had enforced, and which had brought about fall in industrial productivity^[6].

While evaluating the psychological effect of the pandemic on the population, Saladino, et al. (2020) pointed out that the prolonged stress could involve anxiety, depression, and the inability to manage traumatic and negative emotions; and continued fear of contagion can affect daily life and leads to social isolation and modification of human relations^[7]. Also, Li and Wang (2020) explained that certain elements that related to the pandemic and which affect the people are the fears of separation from loved ones, loss of freedom, uncertainty about the advancement of the disease, and the feeling of helplessness [8].

The pandemic had prompted widespread closure of schools, worship centers and commercial centers. Sexual violence and other crimes had increased as a result of the lockdown measures to contain the spread of the disease, which had increased the staying-together periods of perpetrators and victims at home (Adeyanju, 2021)^[9]. The psychological effects of COVID-19 are intensified and persistent fears of contracting the virus – this is referred to as *Coronaphobia*. (Mohamed, et al (2021)^[10].

Coronaphobia had been defined as an excessive triggered response of fear of contracting the virus causing COVID-19, leading to accompanied excessive concern over physiological symptoms, significant stress about personal and occupational loss, increased reassurance and safety seeking behaviors, and avoidance of public places and situations, causing marked impairment in daily functioning. Arora, et al (2020)^[11]. In another way, *coronaphobia* can be said to refer to abnormal and obsessive fear, anxiety, worries, and depression which are brought about by the phenomenon of coronavirus and, which leads to excessive state of psychological and mental distress.

Duan and Zhua (2020) pointed out that the coronavirus' potential for easy transmission, the lack of treatment and higher levels of virus related to deaths is expected to bring about increased psycho-pathological problems^[12]. In the same vein, Lee (2020) concluded that coronaphobia has been shown to be strongly associated with elevated

depression, generalized anxiety, hopelessness, suicidal ideation, and financial impairments^[13].

According to Arora, et al, (op. cit.), fear is a common psychological outcome during pandemics, but COVID-19 pandemic is a continuously evolving disease outbreak and has unique risk factors. Therefore, fear related to COVID-19 might manifest in not only fear and anxiety related to disease contraction and dying, but also associated socio-occupational stress. They thereafter identified factors of coronaphobia to include unforeseen reality, unending uncertainties, need of acquiring new practices and avoidance of behavior, loss of faith in health infrastructure, contraction of COVID-19 by head of states, cautionary statements from international bodies, and infomedia. Furthermore, Karaasian, et al (2020) stated that the risk factors associated with coronaphobia are gender (with female exhibiting higher level), marital status, presence of chronic disease, staying home, and sleep disturbances^[14].

In a study of the factors associated with coronaphobia among physicians during the COVID-19 outbreak in Egypt, Mohamed et al (op. cit.) concluded that female gender, receiving insufficient training related to pandemic, dissatisfied with the hospital personnel protective equipment measures, and having a colleague affected with COVID-19 infection were significant risk factors for coronaphobia among physicians.

In order to personally manage coronaphobia, Newby and Werner-Seidler (2020) suggested seven ways, and these are: reassuring oneself, changing one's information diet, thinking logically about the risk, reducing the focus on one's body, taking things slowly at one's own pace, channeling anxiety into action, and getting help from professionals^[15]. Also, Yadav et al (2021) concluded that the psychological needs of older adults should be given priority during unprecedented times such as the current pandemic because they are more prone to coronaphobia during the COVID-19 pandemic^[16].

III. METHODOLOGY

THE STUDY AREA

Ibadan metropolis, which is the study area where this research was conducted, is the capital and most populous city of Oyo State of Nigeria, and presently the third largest city in Nigeria after Lagos and Kano. The population census conducted in 2006 by the National Population Commission, has it that the population of Ibadan metropolis is 2,559,853; comprising of 1,264,610 males and 1,295,243 females (National Population Commission, 2010)^[17]. However, by the United Nations projection, Ibadan metropolis's population is estimated to be 3,649,000 by this year 2021. This means that there had been continuous increase in the city's population since 1950 when its population was just 450,000 (UN, 2021)^[18].

The Ibadan metropolitan area covers a total land area of 3,113.571 square kilometres. At present, Ibadan

metropolis is comprised of eleven local governments, five of which are urban, and the remaining six being sub-urban.

STUDY POPULATION

A total of 400 respondents were selected as the population for this study. These include both 200 males and 200 females who were willing to respond in completing the questionnaire. 23.0% of these respondents were within the age 20 and 40 years; 64.0% were between the age range of 41 to 60 years, while the remaining 13.0% were >60 years of age.

SAMPLING AND SAMPLE SIZE

The primary data used for this study was collected through the administration of structured questionnaires. The Yamane (1967) ^[19] formula was used to calculate the sample size for the study; and this is presented below:

$$n = \frac{N}{1 + N(e)^2}$$

where n = the sample size
 N = population size. This is 3,649,000 according to the UN (2021) population projection for Ibadan by this year 2021

e = level of precision (0.05)

The sample size gotten when this formula was applied is 400; and having determined this, the multi-stage sampling technique was adopted in the selection of 400 respondents for the study (200 males and 200 females). The first stage involves identification of local governments in Ibadan metropolitan area as geographical clusters. This means that eleven clusters were identified. Then using purposive sampling technique, two (2) urban local government areas were selected for the study. The selected local government areas are Ibadan North Local Government with headquarters at Agodi-Gate; and Ibadan North-West Local Government with headquarters at Dugbe/Onireke.

Finally, accidental sampling technique was used to select 400 respondents (200 males and 200 females) from each of the two local government areas. Through this method, the researcher constitutes the sample by just taking any unit that is available and willing to respond. Therefore, a total of 400 respondents (200 males and 200 females) were accidentally sampled as respondents upon which questionnaires were administered for the study.

TECHNIQUES OF DATA ANALYSIS

Both the descriptive and inferential statistical techniques were employed in the analysis of data collected through the administration of questionnaires. Percentage mean score was used to describe the data, while two-tailed t-test was used to test the hypotheses at 0.05 level of significance.

IV. RESULTS AND DISCUSSION

BACKGROUND OF THE SAMPLED RESPONDENTS

Majority of the sampled population were within the working class ages. That is 23% and 64% were in the age ranges of 20-40 and 41-60 years respectively. This means that only 13% of the respondents were aged above 60 years. Having many respondents still in their active years implied that the psychological consequences of COVID-19 as it relates to coronaphobia will be greatly determined when it comes to variables like economic and social disruption. Gender-wise, equal number of males and females had been selected – 200 each.

Out of the 400 respondents for this study, 248 (amounting to 62%) had tertiary education; while 116 respondents (29%) and 36 respondents (09%) attained secondary and primary levels of education respectively.

As regards the occupation of the respondents, majority of them – 264 (66%) - are self-employed. 108 respondents (totaling 27%) are working in government establishments, while 28 respondents (07%) are unemployed. These are presented in table 1 below.

Table 1: Background of the sampled Respondents

VARIABLES	CHARACTERISTICS	FREQUENCY	PERCENTAGE
Age	20-40 years	92	23.0
	41-60 years	256	64.0
	>60 years	52	13.0
Gender	Male	200	50.0
	Female	200	50.0
Level of Education	Primary	36	09.0
	Secondary	116	29.0
	Tertiary	248	62.0
Occupation	Government employed	108	27.0
	Self-employed	264	66.0
	Unemployed	28	07.0

Source: Author's field survey, June 2021

RESPONSES TO THE CONSIDERED FORMS OF CORONAPHOBIA

Seven forms of coronaphobia had been identified and focused in the questionnaires administered on the respondents. These are: fear of contracting COVID-19; fear of death from COVID-19; fear of death of loved ones from COVID-19; fear of misinformation or false information, known as **infodemic**; fear of job loss; fear of economic disruption; and fear of social disruption.

According to the responses of the male respondents as contained in table 2 below, many of them are not afraid of contracting COVID-19. Only 36% of the men are afraid, while 64% are not worried of contracting the virus. However, 134 male respondents (amounting to 67%) are

afraid of death from COVID-19, while only 66 males (33%) are not bothered of death from the virus. Furthermore, majority of the male respondents, 56% and 70% respectively, are not afraid of death of relatives and job loss due to COVID-19 pandemic. Only 44% of them are afraid of death of loved ones which may be caused by the disease, and 30% are afraid of job loss due to the restriction order imposed by the government to curb the spread of the virus. Majority of the male respondents (144, amounting to 72%) are, however gripped with infodemic, as a result of misinformation and lack of genuine and correct information available to them on the pandemic. Also, majority of them (94% and 81%) are afraid of economic and social disruption respectively.

Table 2: Male responses to various forms of coronaphobia

S/N	FORM OF CORONAPHOBIA	RESPONSE	FREQUENCY	PERCENTAGE
1.	Fear of contracting COVID-19	Afraid	72	36.0
		Not afraid	128	64.0
		TOTAL	200	100.0
2.	Fear of death from COVID-19	Afraid	134	67.0
		Not afraid	66	33.0
		TOTAL	200	100.0
3.	Fear of death of loved ones from COVID-19	Afraid	88	44.0
		Not afraid	112	56.0
		TOTAL	200	100.0
4.	Fear of job loss	Afraid	60	30.0
		Not afraid	140	70.0
		TOTAL	200	100.0
5.	Fear if Infodemic	Afraid	144	72.0
		Not afraid	56	28.0
		TOTAL	200	100.0
6.	Fear of economic disruption	Afraid	188	94.0
		Not Afraid	12	06.0
		TOTAL	200	100.0
7.	Fear of social disruption	Afraid	162	81.0
		Not Afraid	38	19.0
		TOTAL	200	100.0

Source: Author's field survey, June 2021.

The study revealed that female respondents exhibited high levels of coronaphobia in six out of the seven forms of coronaphobia considered.

Table 3: Female responses to various forms of coronaphobia

S/N	FORM OF CORONAPHOBIA	RESPONSE	FREQUENCY	PERCENTAGE
1.	Fear of contracting COVID-19	Afraid	192	96.0
		Not afraid	08	04.0
		TOTAL	200	100.0
2.	Fear of death from COVID-19	Afraid	178	89.0
		Not afraid	22	11.0
		TOTAL	200	100.0
3.	Fear of death of loved ones from COVID-19	Afraid	126	63.0
		Not afraid	74	37.0
		TOTAL	200	100.0
4.	Fear of job loss	Afraid	98	49.0
		Not afraid	102	51.0
		TOTAL	200	100.0

5.	Fear if Infodemic	Afraid	136	68.0
		Not afraid	64	32.0
		TOTAL	200	100.0
6.	Fear of economic disruption	Afraid	160	80.0
		Not Afraid	40	20.0
		TOTAL	200	100.0
7.	Fear of social disruption	Afraid	150	75.0
		Not Afraid	50	25.0
		TOTAL	200	100.0

Source: Author’s field survey, June 2021.

According to table 3, majority of the female respondents (96%) are afraid of contracting COVID-19; 89% are afraid of death as a result of the disease. Also, many of them (126 female respondents, amounting to 63%) are afraid of death of relatives which may be caused by the virus; while 68% are worried because of misinformation or false information (infodemic) which they get concerning the disease. Majority of the female gender - 80% and 75% respectively, are worried and depressed because of the economic and social disruption which the pandemic is causing. It is only the issue of job loss that does not cause fear and depression to majority of the female respondents. Concerning this, only 49% are afraid of losing their jobs, while 51% of them are not afraid of job loss which may likely be the result of the COVID-19 containment measures ordered by the government.

TEST OF HYPOTHESES

For the purpose of determining whether or not there is a significant difference between the male and female genders’ vulnerability to the various forms of coronaphobia in Ibadan metropolis, the following null (H₀) and alternative (H₁) hypotheses were set, to be tested with the two-tailed t-test analytical technique:

H₀= There is no significant difference in vulnerability to coronaphobia between male and female genders in Ibadan metropolis.

H₁= There is significant difference in vulnerability to coronaphobia between male and female genders in Ibadan metropolis.

The 2-sample t-test is presented with the following formula:

$$t = \frac{|\bar{X}_a - \bar{X}_b|}{\sqrt{\frac{\delta_a^2}{n_a} + \frac{\delta_b^2}{n_b}}}$$

The test was carried out at 0.05 level of significance, and the degree of freedom was n_a + n_b = 7+7-2 = 12

The t(calculated) value = 5.957

The t(tabulated) value = 2.179

Thus, since the calculated value of 5.957 is greater than the tabulated value of 2.179 at 0.05 level of significance, the result is therefore significant. This implied that there is significant difference between the gender vulnerability to coronaphobia in Ibadan metropolis. Furthermore, since the mean for female responses (74.3) is greater than the mean for male responses (60.6), the null hypothesis (H₀) is therefore rejected and the alternative hypothesis (H₁) is accepted, that females are severely vulnerable to coronaphobia than males as far as the seven forms of coronaphobia identified in this study is concerned.

DISCUSSION

After separate analysis of the responses of both the male and female respondents against the seven forms of coronaphobia considered in this study, it was discovered that both genders are vulnerable to the psychological and mental trauma being inflicted by the menace of coronavirus pandemic. However, while a few number of men are afraid of contracting COVID-19, majority of the women are worried about this.

Majority of both genders are afraid of death from the disease, while many women are afraid of death of their loved ones. Both genders are highly worried by infodemic, and the economic and social disruption which might be caused by the pandemic situation. However, many of the respondents from both genders were not afraid of job loss, and this was a result of the fact that most of them are self-employed.

While this study had shown that both genders are vulnerable to coronaphobia during COVID-19 pandemic in Ibadan metropolis, it had been revealed that female gender exhibit a high level of this menace when compared with the male gender.

V. CONCLUSION AND FUTURE SCOPE

This study had revealed that coronaphobia is one of the major consequences of COVID-19 pandemic, which must be tackled. The following recommendations are therefore presented to manage the menace in Ibadan metropolis and elsewhere:

There is the need for attitudinal and behavioural change of the people towards the disease. It is unequivocal that the COVID-19 pandemic had necessitated certain changes in our ways of life – restrictions are ordered by the

government to contain the spread of the disease, and it is important to be taking certain steps that will enhance our mental health and well-being – it is important to sleep well, to engage in fun and relaxing activities, to exercise well, and to willfully adhere to all the protocols ordered by the government, including the use of nose mask, social distancing and regular hand-washing. There is also the need for individual reassurance that things will get better and the challenge will soon be over.

Furthermore, concerted re-orientation and awareness about the pandemic and its features needs to be undertaken. The mass media should take active role in enlightening the general public about everything that needs to be known concerning the disease, including the necessary practices, to tackle the menace. All hands must be on deck to tackle infodemic, which usually manifests in the form of misinformation, false information and fake news, because these can certainly heighten fear about the virus. Individuals should spend more time reading and listening to interesting entertaining and educative information, which can relax tension and take the mind away from fear and anxiety, rather than reading and listening to alarming tales of horrors of COVID-19 which will certainly heightens fear and worries.

Government should engage psychologists who specialises in anxiety, and they should be available for consultation by individuals who are passing through psychological and mental disturbance as a result of the consequences of COVID-19. These specialist psychologists should be compassionate, non-threatening, friendly, and be ready to attend to, and help those struggling with coronaphobia, to facilitate quick recovery from the trauma.

Finally, when coronaphobia is removed from the people and they are psychologically and mentally upright, they will be able to carry out their day-to-day activities and contribute positively to community development.

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AUTHOR PROFILE

Mr. D.O. Adeyanju pursued Full Professional Diploma in Urban and Regional Planning from The Polytechnic, Ibadan, Nigeria and Master of Urban and Regional Planning from the University of Ibadan, Nigeria in 1997 and 2005. He is a member of the Nigerian Institute of Town Planners (NITP) and a Registered Town Planner in Osun State Local Government Service Commission in Nigeria. His interest in conflict resolution prompted him to pursue another degree in Peace Studies and Conflict Resolution at the National Open University of Nigeria, where he carried out this research study.