International Journal of Innovative Research in Medical Science (IJIRMS)
Volume 05, Issue 11, November 2020,
https://doi.org/10.23958/ijirms/vol05-i11/991

Original article

Perceived Vulnerability to COVID-19 Infection and Psychosocial Well-Being of Nigerian Residents

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Received: 22 October 2020; Accepted: 14 November 2020; Published: 21 November 2020

Abstract

The outbreak of the novel (SARS-CoV-2), known as COVID-19, has sparked global severe physical and mental health concerns in many spheres. Part of the identified mental health factors affecting people's psychosocial well-being is an increased level of health worries due to perception of vulnerability, which has been raised by excessive exposure to news, information on rising cases, mortality, and many others. This study focuses on the predictive influence of perceived vulnerability to COVID-19 infection among Nigeria residents during the COVID-19 outbreak. A total of 355 Nigerians, 175 (49.3%) males, 180 (50.7%) females aged between 18 years and 42 years (M = 27.24, SD =7.05) participated in the study through an online snowball method. Data was collected using the Perceived Vulnerability to Disease Questionnaire (PVDQ) and Mental Health Continuum Scale- Short Form (MHC-SF). Analysis of results reveals a high prevalence of low psychosocial well-being. That perceived vulnerability to COVID-19 infection significantly predicts psychosocial wellbeing (F (1,353) = 71.8, adj. R2 =.165, p <.01) among respondents. No significant sex influence was observed on psychosocial well-being; educational qualifications and marital status were found to influence the psychosocial well-being of Nigerian during COVID-19 Pandemic significantly. The authors conclude that perceived vulnerability to COVID-19 infection predicts the psychosocial well-being of Nigeria residents during the COVID-19 Pandemic outbreak.

Keywords: ***Vulnerability, COVID-19, psychosocial well-being, Nigeria***

Introduction

The sudden incidence of the novel Severe Acute Respiratory Syndrome (SARS-CoV-2), known as COVID-19, has raised severe global health concerns as a highly contagious infection with high-level morbidity and mortality (Jungmann & Witthöft, 2020; Naji, 2020). COVID-19 first emerged in December 2019 in the Chinese Province of Wuhan. The first confirmed case of COVID-19 in Nigeria was in February 2020. By June 2020, Nigeria had a record of more than twenty thousand confirmed cases, with 5349 discharged and 424 COVID-19 related deaths (Nigerian Center for Disease Control (NCDC), 2020, Jonathan, Edward, Dominic, Thomas, Philip, Paolo, Michael, Glyn & Anthony, 2020).

Common signs of COVID-19 infection are respiratory symptoms, cough, shortness of breath, fever, and difficulty breathing. In severe cases, the infection can lead to severe acute respiratory syndrome, pneumonia, kidney failure, and even death (WHO, 2020. Naji, 2020). The Pandemic presents a grave risk for physical and social gatherings as it is transmitted through contact with respiratory droplets from one person to others (González-Olmo, Ortega-Martínez, Delgado-Ramos, Romero-Maroto, Carrillo-Diaz, 2020).

The COVID-19 Pandemic is having catastrophic effects on the psychosocial well-being of people globally. Recent studies have reported high-stress levels, anxiety, depression, substance abuse, and other mental health challenges in societies (González-Olmo, Ortega-Martínez, Delgado-Ramos, Romero-Maroto, Carrillo-Diaz, 2020; Lin, Hu, Alias and Wong, 2020). The outbreak of infectious diseases like Ebola, MERS, and SARS elicited associated physical and psychological distress in the past (de Zwart, Veldhuijzen, Elam, Aro, Abraham, Bishop, Voeten, Richardus & Brug, 2009). Many people that were examined during the past epidemics reported high levels of anxiety due to the perceived threat posed by the infectious (Sprang and Silman, 2013; Lau, Griffiths, Choi & Tsui, 2010). Jeong, Yim, Song, Ki, Min, Cho & Jeong-Ho Chae (2016) found an association between anxiety symptoms, anger, and isolation during the Middle East Respiratory Syndrome (MERS) epidemic. The effect of the outbreak of the COVID-19 Pandemic on the mental health of people is gradually unfolding (UNDP, 2020). There is scanty literature on the psychosocial effect of the COVID-19 Pandemic on the Nigerian population. Still, some studies across Europe and Asia have highlighted an intense association between maladaptive perception of the current Pandemic on the mental health well-being of the general populace.

The restrictions placed on several activities and the stay at home order to citizens across many countries has undoubtedly infused a level of despair in people, some of the worries are bordering around meeting financial obligations, food shortages, being in quarantine/isolation and experiencing lockdown

(Gonzáliez-Olmo, Ortega-Martínez, Delgado-Ramos, Romero-Maroto, Carrillo-Diaz, 2020), fear of uncertainties and perceived vulnerability was also identified to provoke anxious preoccupation, health worries and anxiety (Bakioğlu, Korkmaz, & Ercan, 2020, Jungmann and Witthöft 2020), constant exposure to news on rising cases and death has also being viewed to have both negative (contributing to anxious preoccupation about personal safety and health worries) and positive effects (a buffering factors for safety precautions/behaviour) on the people (Gonzáliez-Olmo, et.al, 2020) as well as job loss has been associated with increasing psychological distress among people (UNDP, 2020, Castro-de-Araujo & Machado, 2020). In Turkey, being female, living in urban areas, having a chronic disease, and having a previous history of psychiatric illness are risk factors for COVID-19 related anxiety and depression (Selçuk Özdin and Şükriye Bayrak Özdin, 2020). Among the Spanish population, Gonzáliez-Olmo et al. (2020) reported a negative correlation between the perception of being informed about the COVID-19 Pandemic and the anxiety about the virus.

From the foregoing, as well as the uncertainty regarding the COVID_19 Pandemic (UNDP, 2020), it is suggestive that the psychosocial well-being of people has been negatively impacted by the according to Duncan, Schaller, & Park (2009), Perceived vulnerability to disease engenders constant worries and has implications for a wide range of mental health outcomes. According to Wang, Michalak, and Ackerman (2018), perceived vulnerability to COVID-19 Pandemic is described as one's self-assessed likelihood of becoming infected with the virus based on persistent symptoms analysis, knowledge and risk behaviour, emotional discomfort in the presence of potential disease transmission involving chronic sensitivities to involving detection and aversion of infectious disease cues as well as beliefs about the relevancy of these cues to the individual.

Behavioural responses to infectious diseases have been highlighted as a complementary defense mechanism against infectious diseases with the already best-known physiological immune system (Schaller & Duncan, 2007; Schaller & Neuberg, 2012; Wang et al. 2018).

Perceived vulnerability to infectious disease may provoke certain psychological responses to minimize exposure to exotic pathogens and amplify safety behaviour aimed at reducing the probability of initial Infection (Neuberg, Kenrick, & Schaller, 2011; Schaller, 2015; Schaller, Murray, & Bangerter, 2015 cited from Wang, Michalak & Ackerman, 2018). There is a link between perceived risk of infectability, precautionary behaviours, and strict adherence to safety measures by the general population (Funk, Gilad, Watkins & Jansen, 2009; Floyd, Prentice-Dunn & Rogers, 2000). Furthermore, perceived vulnerability to disease infections is essential determinants of the willingness of people to cooperate and adopt health-protective behaviours during pandemics (Harper, Satchell, Fido & Latzman, 2020; Dryhurst, Schneider, Kerr, Freeman, Recchia, van der Bles, Spiegelhalter & van der Linden 2020).

Information on the media on the means of covid -19 transmission and worries about uncertainties surrounding the virus may activate anxiety and deplete the psychological health of people (Lau, Griffiths, Choi & Tsui, 2010). It also increases stress, health worries, fear of uncertainty, depressive symptoms, sleep disturbances, denial, anger, frustration, and mistrust in the general public (Mukhtar, 2020). Excessive exposure to news media and Internet searches for information on the pandemic either with the hope of gaining information and relief have been suggested to result in a wealth of (often ambiguous) information and increased level of anxiety in the general population (Jungmann & Witthöft 2020, Otu, Charles, & Yaya, 2020).

However, data on the influence of perceived vulnerability to coronavirus on the psychosocial well-being of Nigerians are scanty in literature. To this end, our study aims to ascertain the predictive influence of perceived vulnerability to COVID-19 infection on the psychosocial well-being of the Nigerian population.

Research Objectives

1. To examine the patterns of psychosocial well-being and perceived vulnerability to COVID-19 among Nigeria residents during the COVID-19 Pandemic
2. To examine sex differences in the psychosocial well-being of Nigeria residents during the COVID-19 Pandemic
3. To determine the extent to which perceived vulnerability to COVID-19 infection significantly predict psychosocial well-being among Nigeria residents during the COVID-19 Pandemic
4. To examine the influence of germs aversion and perceived infectability on the psychosocial well-being of residents of Nigeria during the COVID-19 outbreak
5. To examine whether socio-demographic variables (academic qualification and marital status) will significantly predict psychosocial well-being among Nigeria residents during the COVID-19 Pandemic

Hypotheses

1. There will be a significant sex difference in the psychosocial well-being of Nigerians
2. Perceived vulnerability to COVID-19 infection will independently significantly predict the psychosocial well-being of participants.
3. Germs aversion and perceived infectability will significantly influence the psychosocial well-being of residents of Nigeria during COVID-19 outbreak
4. Socio-demographic variables (academic qualification and marital status) will significantly predict the psychosocial well-being of the participants.

Materials and methods

Design

This study adopted a cross-sectional descriptive survey research design. The Snowball sampling method was used for this study. The research instruments were entered into Google Form and circulated via an online link to the participants using social media platforms (Facebook, WhatsApp, Instagram, Email, and Twitter) to maintain the social distancing protocol. Data collection took place between 15th May to 30th June 2020. The participants were also requested to send out the online survey link to people in their contact who may be willing to participate in the research.

Participants

Three hundred and fifty-five (355) Nigerians aged between 18 years and 42 years (M = 27.24, SD = 7.05) participated in the study. The participants comprised 175 (49.3%) males, 180 (50.7%) Females. Most of the participants, 238 (67%), were single, while 117 (33%) were married. 76.9% of the participants were from Southern Nigeria, 13% were from the Northern part of the country, and 10.1% from the Middlebelt in Nigeria. Data on the highest

level of education shows that 107 (30.1%) of the participants had completed secondary school and below. Also, 142 (40%) of the participant had completed tertiary education, while 106 (29.9%) completed postgraduate education.

Research Instruments

Data were collected using two standardized scales. The Perceived Vulnerability to Disease Questionnaire (PVDQ) by Duncan, Schaller, and Park (2009) to assess individual differences in persistent concerns about susceptibility to infectious disease). PVSI is a 15-item scale with two sus-scales (perceived infectability and germ aversion), measured on a seven-point Likert scale ranging from "1 = strongly agree to 7 = strongly disagree". Higher scores in PVDQ indicate a higher perceived vulnerability to Disease/Infection. The internal consistency (Cronbach's alpha) of the subscales was 0.78 for perceived infectivity and 0.72 for germ aversion (Gonzáliez-Olmo, Ortega-Martínez, Delgado-Ramos, Romero-Maroto, & Carrillo-Diaz, 2020).

To measure psychosocial well-being, we used the Mental Health Continuum Short form (MHC-SF) developed by Keyes et al. (2009) to assess positive mental health). MHC-SF is a 14-item scale with three factors measuring Social Well-Being (SWB), Emotional Well-Being (EWB and Psychological Well-Being (EWB). The respondent rates the frequency of every feeling on a 6-point Likert scale ranging from 0 = (never) to 5 = (every day). The MHC-SF has a reliability value (Cronbach's alpha) of .89, .74 for the social well-being scale. 83 for the emotional and psychological well-being scale). MHC-SF has acceptable psychometric properties for Nigerian samples (Akinnawo, Akpunne & Olajide, 2020).

Data Analysis

The collected data was analyzed using the Statistical Package for Social Sciences (SPSS) package version 25. We used descriptive statistics (frequency count and percentages) and inferential statistics (independent sample t-Test, one-way ANOVA, and linear regression analysis) to test the hypotheses.

Results

Patterns of psychosocial well-being

Table 1 summarizes the patterns of Psychosocial Well-being (PsW) of Nigeria residents during the COVID-19 outbreak. It was revealed emotional well-being range from 21.4% (very low level) to 19.4% (very high level); social well-being range from 16.1% (very low level) to 16.9% (very high level); Psychological well-being range from 18% (very low level) to 11.8% (very high level) and a Psychosocial well-being range from 20% (very low lessvel) to 15.2% (very high level). Based on this result, it could be concluded that the psychosocial well-being of residents of Nigeria during the COVID-19 outbreak was very low and unstable.

Table 1: Patterns of Psychosocial Well-being of the participants.

Patterns	Very Low (%)	Low (%)	High (%)	Very High (%)
Emotional wellbeing	21.4	24.0	35.2	19.4
Social wellbeing	16.1	36.3	30.7	16.9
Psychological wellbeing	18.0	23.7	46.5	11.8
Psychosocial wellbeing	20.0	22.1	43.7	15.2

The pattern of perceived vulnerability to COVID-19 infection among Nigeria residents during the COVID-19 outbreak is summarized in Table 2. Scores on the perceived infectability varied from 12.1% (low), 71% (moderate), 16.9% high, and scores on germ aversion shows that 15.2% were low, 66.5% moderate level, and 18.3% high during the COVID-19 Pandemic. Finally, perceived vulnerability to COVID-19 infection ranged from 11.5% (low), 73.8% (moderate), 14.6% (high). Based on the result, we concluded that there was a high level of perception of vulnerability to COVID-19 among Nigeria residents.

Table 2: Patterns of Perceived Vulnerability to COVID-19 infection among the participant.

Patterns of Perceived vulnerability to COVID- 19 infection	Low (%)	Moderate (%)	High (%)
Perceived Infectability	12.1	71.0	16.9
Germ Aversion	15.2	66.5	18.3
Perceived Vulnerability to COVID-19 infection	11.5	73.8	14.6

Hypothesis 1: There will be significant sex differences in the psychosocial well-being of young Nigerian adults amid COVID-19 Pandemic.

As shown in Table 3, an independent samples t-test was conducted to determine the influence of sex on the domains and total psychosocial well-being of residents of Nigeria during COVID-19 pandemic. The t-test scores revealed that there were 175 were male while, and 180 were females. The mean (± SD) on male and female revealed emotional well-being scores 9.51 ± 4.39; and 9.37 ± 4.77; Social Wellbeing (SWB) scores 6.43 ± 6.43 and 11.07± 6.86; PWB 18.61 ± 7.84 and 17.72 ± 7.94 and Psychosocial Wellbeing (PsW) 40.73 ± 16.71 and 38.15 ± 18.14.

The t-test reveals no statistically significant difference between the means of the two groups and total psychosocial well-being t (353) = 1.39, p = .164, and emotional well-being and psychological well-being p <.001, but differences existed in the social well-being p= .029 and sex. We conclude that sex does influence the social well-being of participants but does not influence PSW and EWB and the total psychosocial well-being score of residents of Nigeria during COVID-19 Pandemic.

Table 3: Independent sample t-test of sex on domains and total psychosocial well-being.

	Sex	N	Mean	SD	T	p
Emotional Well-being	Male	175	9.51	4.39	.29	.771
	Female	180	9.37	4.77		
Social Wellbeing	Male	175	12.62	6.43	2.2	.029
	Female	180	11.07	6.86		

Psychological Well-being	Male	175	18.61	7.84	.06	.289
	Female	180	17.72	7.94		
Psychosocial Well-being	Male	175	40.73	16.71	1.39	.164
	Female	180	38.15	18.14		

Hypothesis 2: Perceived vulnerability to COVID-19 infection will significantly predict psychosocial well-being among Nigeria young adult amid COVID-19 Pandemic.

A simple linear regression was calculated to predict psychosocial well-being based on perceived vulnerability to disease, b = -.409, (1, 353) = 18.97, p = .000. A significant regression was found (F (1,353) = 71.8, p = .000, with an R2 of .165. The adjusted R2 value (.165) indicated that PVD accounted for only 16.5% of the observed variation in psychosocial well-being among the selected Nigerian young adult amid COVID-19 Pandemic (see Table 4).

Table 4: Results of the Regression Analyses by PVD

Variable	*T*	*p*	*B*	*F*	*df*	*p*	*adj.R^2*
PVD	18.97	.000	-.409	71.1	1,353	.000	.165

Hypothesis 3: Germs aversion and perceived infectability will significantly influence psychosocial well-being of residents of Nigeria during COVID-19 outbreak

A 2X2 between-subjects ANOVA was carried out to analyze the influence of germs aversion and perceived infectability on psychosocial well-being of Nigeria residents during COVID-19 outbreak. The results summarized in Tables 5.1 and 5.2 revealed that there was a statically significant influence of perceived vulnerability to COVID-19 on psychosocial well-being of Nigeria residents during the outbreak of COVID-19 Pandemic. The relative contribution of the factors of Perceived Vulnerability to Diseases (PVD) revealed that perceived infectability [F (1,351) = 19.43, p <.01] weighing more than germ aversion [F (1,351) = .956, >.05]. There was, however, an interaction between germs aversion and perceived infectability [F (1,351) = 16.587, <.01]; however, participants who reported a high level of germs aversion and perceived infectability showed less psychosocial well-being compared with those that reported high perceived infectability and low germs aversion.

Table 5.1: Mean and SD showing the difference in the levels of perceived vulnerability to disease on psychosocial well-being of participants.

Germs Aversion	Perceived Infectability	Mean	SD	N
Low	Low	40.8772	14.47435	114
	High	40.2727	14.91055	66
	Total	40.6556	14.59713	180
High	Low	46.4625	14.58883	80
	High	31.1579	21.25344	95
	Total	38.1543	19.97798	175
Total	Low	43.1804	14.74387	194
	High	34.8944	19.38866	161
	Total	39.4225	17.47820	355

Table 5.2: 2X2 ANOVA showing the Influence of Germs Aversion and Perceived Infectability on Psychosocial Wellbeing of Residents of Nigeria during COVID-19 outbreak.

Source	SS	df	MS	F	P
Germs Aversion	265.338	1	265.338	.956	>.05
Perceived Infectability	5390.838	1	5390.838	19.427	<.01
Germs Aversion * Perceived Infectability	4602.667	1	4602.667	16.587	<.01
Error	97399.891	351	277.493		
Total	108142.620	354			

Hypothesis 4: Socio-demographic factors (academic qualification and marital status) will significantly influence psychosocial well-being among young Nigerian adults amid COVID-19 Pandemic.

A one-way between-subjects ANOVA was carried out with academic qualification as the independent variable and psychosocial well-being as the dependent variable. The ANOVA summarized in Table 6.1 showed a statistically significant influence of academic qualification on psychosocial well-being; (F (3, 351) = 21.86, P <.000. A LSD post hoc test (see Table 6.2) revealed that participants that completed secondary school education and below (M = 31.06, SD = 16.88) has significantly lower psychosocial wellbeing score compared to those that completed either tertiary education (M = 41.11, SD = 17.48) and postgraduate education (M = 45.60, SD = 14.79). There is a statistically significant mean difference between the score on psychosocial well-being during COVID-19 outbreak among Nigeria residents that attended/completed postgraduates' education and those that completed secondary school and below as well as with those that attended/completed tertiary education.

Table 6: Mean and Standard Deviation showing the difference in the Academic Qualification on psychosocial well-being.

	N	Mean	Standard Deviation
Secondary School and below	107	31.06	16.88
Tertiary Education	142	41.11	17.48
Postgraduate Education	106	45.60	14.79
Total	355	39.42	17.48

Table 6.1: Summary of One-way ANOVA showing the influence of academic qualification on psychosocial well-being of residents of Nigeria during COVID-19 outbreak

	SS	df	MS	F	Sig.
Between Groups	11945.400	2	5972.700		
Within Groups	96197.219	352	273.288	21.85	.000
Total	108142.620	354			

Table 6.2: Post-Hoc Test of difference in psychosocial well-being score of Nigeria residents during COVID-19 Pandemic based on academic qualification. Dependent Variable: Psychosocial Well-being

(I) Academic Qualification	(J) Academic Qualification	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Secondary School and below	Tertiary Education	-10.057*	2.116	.000	-14.22*	-5.89
	Postgraduate Education	-14.548*	2.265	.000	-19.00*	-10.09
Tertiary Education	Secondary School and below	10.057*	2.116	.000	5.89*	14.22
	Postgraduate Education	-4.491*	2.122	.035	-8.66*	-.32
Postgraduate Education	Secondary School and below	14.548*	2.265	.000	10.09*	19.00
	Tertiary Education	4.491*	2.122	.035	.32*	8.66

** The mean difference is significant at the 0.05 level.*

Summarized in Table 7 is an independent samples t-test conducted to determine the influence of marital status on the psychosocial well-being of Nigeria residents during COVID-19 Pandemic. The t-test scores showed that there was a statistically significant difference between being single (M = 37.56, SD = 16.72) and married (M = 43.21, SD = 18.43) on total Psychosocial Wellbeing [t (353) = -2.89, p =.004]. There was a statistically significant difference between being single (M = 9.05, SD = 4.61) and married (M = 10.23, SD = 4.46) on the Emotional Well-being and the Social Well-being of single 10.78 ± 6.50; and married 13.97 ± 6.59. The means of these implies that variance in the EWB, SWB, and psychosocial well-being of the respondents was influenced by their marital status.

Table 7: Independent sample t-test of Marital Status on domains and total psychosocial well-being

	Marital Status	N	Mean	SD	T	P
Psychosocial Well-being	Single	238	37.56	16.719	-2.895	.004
	Married	117	43.21	18.426		
Emotional Well-being	Single	238	9.05	4.609	-2.300	.022
	Married	117	10.23	4.463		
Psychological Well-being	Single	238	17.74	7.526	-1.431	.153
	Married	117	19.01	8.564		
Social Wellbeing	Single	238	10.78	6.501	-4.336	.000
	Married	117	13.97	6.590		

Discussions

The outbreak of infectious disease brings considerable heightened stress due to isolation and the long quarantine period (Duncan, Schaller & Park, 2009). Many citizens of the world are overwhelmed by the unusual new normal of physical and social distancing issued by the WHO as a precaution against the spread of the disease. However, despite this, it has continued to spread like wildfire. Nigerians are not left out from experiencing the significant adverse effects of the novel COVID-19 pandemic on psychosocial well-being. The overall psychosocial well-being is low among the people. This may be due to the increasing stress encountered by people due to the unaccounted adjustment to the new normal of a continued shutdown and financial constraints. This is consistent with other findings that the psychosocial well-being of the general population is depleting at an alarming rate (Lee, 2020; Lin, Hu, Alias & Wong, 2020; WHO, 2020) as a result of the continued shutdown of socio-economics activities as well as a perceived sense of uncertainty. The escalating cases of the COVID -19 Pandemic and the fact that people are finding it uneasy to meet their daily needs due to financial constraints have also led to psychological distress. In a related study, Selçuk Özdin and Şükriye Bayrak Özdin (2020) reported a 23.6 and 45.1 scores above the depression and anxiety cut-points in a study on the Levels and predictors of anxiety depression and health anxiety during COVID-19 Pandemic in Turkish society. Other studies have reported related psychosocial stressors such as increased in stress level, isolation, loss of jobs, blocking of streams of income due to the extended lockdown, having a history of mental illness as factors contributing to the depletion of psychosocial/mental well-being of the people (Lin, Hu, Alias and Wong, 2020; Dryhurst, Schneider, Kerr, Freeman, Recchia, van der Bles, Spiegelhalter & van der Linden, 2020). In Nigeria, for example, many of the citizens depend on daily wages and are considered poor, with over

60% of the population living below the poverty line of US$1.25 (UNICEF 2012 cited in Akinnawo, Akpunne and Olajide, 2020). Based on the established link between poverty and poor mental well-being, (World Bank, 2001) and considering the burden of meeting with personal and family social and emotional responsibilities, the mental health burden may be exacerbated by lockdowns. Nigerian studies have also shown links between family poverty and activities that result in poor psychosocial health among children (Abdulmalik, Omigbodun, Beida & Adedokun 2009; Atilola 2012).

This study also found no significant difference between the factors and total score of psychosocial well-being by gender, except for social well-being. In other words, there are no apparent differences between the psychosocial well-being of male and female participants in this study. This finding is consistent with the findings of Matud, López-Curbelo & Fortes (2019), who reported no apparent differences between the factors of psychological differences between male and female participants on psychological well-being. Be that as it may, in a related health study, Salgado, Andrés-Villas, Domínguez-Salas, Díaz-Milanés, and Ruiz-Frutos (2020) reported a high level of psychological distress among Spanish women. Jahanshahi, Dinani, Madavani, Li, Zhang (2020) also reported an increased level of heightened stress due to the current pandemic among women than in men. Some literature shows that the role of gender on psychosocial well-being is mixed (Khumalo, Temane & Wissing, 2012).

Our finding confirmed the predictive influence of perceived vulnerability to COVID-19 on psychosocial well-being of the people. Participants in this study with higher scores on both germs aversion and perceived infectability showed lesser psychosocial well-being scores. This finding implies that having high perception in one of the factors of PVDQ and low perception in the other could reduce the impact of the scale on health status, as compared with people that manifest high in the two subscales. It has early been affirmed that the outbreak of infectious diseases has severe implications on human's mental health well-being (Duncan, Schaller & Park, 2009). Researchers have also recently raised an alarm of the need for global effort to combat the scourge of the COVID-19 pandemic on the psychosocial health of the general populace (WHO, 2020). Some researchers reported the association between the perceived severity of COVID-19 and mental health problems among the Chinese public (Li, Yang, Dou, & Cheung, 2020). About 38.2% of Europeans have also been reported to be suffering from psychological distress associated with the COVID-19 pandemic (Wittchen, Jacobi, Rehm, Gustavsson, Svensson, Jönsson, Olesen, Allgulander, Alonso, Faravelli, et al., 2020). The presence of some symptoms similar to that of COVID-19 can be considered a factor associated with increased psychological morbidity and associated with higher levels of stress, anxiety, and depression during this period (Gonzáliez-Olmo, et al., 2020).

This study found a statistically significant difference between the score on psychosocial well-being and educational qualification of the participants. This finding is contrary to some recent studies which linked having higher education with great risk perception. For instance, Al-Hanawi, Mwale, Alshareef, Qattan, Angawi, Almubark, and Alsharq (2020), in a study on the psychological distress amongst health workers and the general public during the COVID-19 Pandemic in Saudi Arabia, reported that participants with postgraduate qualifications manifested significantly higher severities level of pschosocial distress than others with less education. However, our finding is similar to the studies conducted before and concerning a pandemic/epidemic state (Bjelland et al., 2008; Hawryluck et al., 2004; Sagar et al., 2020; Wang et al., 2020a). Qiu, Shen, Zhao, Wang, Xie, and Xu (2020) reported an inverse relationship between educational qualification and psychological distress during this period. Our finding implies that a higher level of education is related to lower vulnerability to anxiety, depression, and health worries. Those with higher educational qualifications (post-secondary education) are less likely to show psychopathological symptoms when compared to those who had less education.

Research studies on marital status have reported that being married is a protective factor for psychosocial well-being (Adamczyk & Segrin, 2015). Uecker (2012) highlighted the positive roles of being married as providing succor against stress faced in young adulthood and promoting mental well-being. The role of being married during this pandemic creates an avenue to ameliorate the sudden creation of restriction for a social gathering where people can interact. Married people can engage themselves in social activities while staying at home. However, singles staying alone may suffer from loneliness and boredom during the extended lockdown, thereby contributing to poor psychosocial well-being (Otu, Charles, & Yaya, 2020).

Conclusions and recommendations

The findings of the present study revealed that a high percentage of the participants fall within low and very low levels of psychosocial well-being. Furthermore, perceived vulnerability to COVID-19 infection significantly predicted variance in psychosocial well-being among Nigeria residents during the outbreak of the virus, with participants scoring high on the perceived infectability than the germs aversion. There was no gender difference in the levels of psychosocial well-being and perceived vulnerability. Thus, it can be concluded that perceived vulnerability to COVID-19 infection is a factor of psychosocial well-being. We suggest further studies on this phenomenon, using larger samples, and focused on more variables like personality, socio-economics factors within Nigeria.

Conflicts of Interest:

None is declared.

List of Acronyms

PsW = Psychosocial Wellbeing

EWB= Emotional Wellbeing

SWB = Social Wellbeing

PSW = Psychological Wellbeing

PVD = Perceived Vulnerability to Disease

PVDQ = Perceived Vulnerability to Disease Questionnaire

Funding Statement

This research did not receive any external funding. It was funded solely by the authors

Authors' contributions

This work was carried out in collaboration with all authors. JOO and EOA designed the study, wrote the first draft, and was a major contributor in writing the manuscript. BCA managed the statistical analysis of the study; JOO and JOA managed the literature search and full editing of the manuscript. All authors read and approved the final manuscript.

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