

# Psychosocial impacts of COVID-19 on older adults and caregivers in Enugu-North Senatorial District, Enugu State of Nigeria

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## Abstract

The global spreads of the COVID-19 pandemic made people live under lockdown or quarantine, which was a disturbing psychosocial experience. Because of the international and nationwide lockdowns the pandemic brought, the psychosocial well-being of the people, especially the vulnerable groups (older adults), was negatively impacted. This negative psychosocial impact has been neglected with more attention being paid to safety and prevention, thereby leaving the empirical data on how the pandemic has affected caregivers sparse. This study was, therefore, carried out to ascertain the psychosocial impact of COVID-19, using a cross-sectional survey design. Purposive and snowball sampling techniques were used to select 250 respondents (150 older adults aged 60 years/above, and 100 caregivers aged 18years/above) in Enugu-North Senatorial District, Enugu State. A questionnaire instrument was used to collect data on socio-demography, anxiety, depression, loneliness, health condition, and caregiving activities. The data were analyzed using Chi-square statistics. This was used to assess the association between categorical variables, setting P values of significance at <0.05. The finding revealed that the majority of the older adults and caregivers presented with severe.

*impacts of COVID-19 on their psychosocial well-being. The older adults and caregivers' age, sex, education, and occupation influence the feeling of loneliness, depression, sleeplessness, increased anxiety, and fear of COVID-19 infection and death. Thus the study recommends the facilitation and development of psychosocial crisis prevention and intervention models by relevant authorities. These will assist the government at all levels to develop actionable policies and help clinical practitioners (e.g., social workers) provide timely services that promote the health and well-being of older adults and their caregivers during and after the COVID-19 pandemics.*

**Keywords:** Caregivers, COVID-19, impact, older adults, pandemic, psychosocial

## Introduction

The global outbreak of COVID-19 since its first recorded case in December 2019 in Wuhan, China, has affected the global public health system. On 30 January 2020, World Health Organization [WHO] declared COVID-19 a pandemic and an international public health emergency due to its continuous severe surge in Europe, America, Asia, and Africa (Lai, Shih, Ko, Tang, & Hsueh, 2020; WHO, 2020; Sohrabi, 2020). As of 9 July 2020, more than 11.8 million confirmed cases of COVID-19 had been reported with more than 544,000 lives lost across the globe, according to the official website of the World Health Organization (2020). The high infection and death of older adults due to the COVID-19 pandemic have left them desperate in the world without adequate care and support. The globally acceptable COVID-19 control

measures remain the international and nationwide lockdown, quarantine, social distancing, frequent washing of hands and avoidance of touching the nose, mouth and eyes (Adalja, Toner, & Inglesby, 2020; WHO, 2020b). Thus an estimated 2.6 billion people (one-third of the world's population) lived under lockdown or quarantine, which is a highly disturbing psychosocial experience for older adults and caregivers (Hoof, 2020; Rubin & Wessely, 2020). Although the lockdowns and quarantine helped in preventing the continuous spreading of COVID-19, it has turned out to have severe negative psychosocial consequences on the well-being of older adults, aged 60years and above, and their caregivers (LaFave & Szanton, 2020; Mills, Kaye & Mody, 2020; Mukhtar, 2020; Pfefferbaum & North, 2020). Studies by Adeleke, Adebowale and Oyinlola (2017)

and Williams (2020) also indicated that psychosocial health issues are associated with age, sex, education and occupation. Most of these older adults cannot cope with life in this period of COVID-19 based on these socio-demographic features. The unavoidable stress, fear and anxiety about COVID-19 can be profound among the higher-risk groups such as the older adults and caregivers (Dubey, Biswas, Ghosh, Chatterjee, Dubey, Chatterjee, Lahiri, & Lavie, 2020). Douglas, Katikireddi, Taulbut, McKee and McCartney (2020) reported the prolific nature of research on the psychological effects of the COVID-19 pandemic, but focused on the negative effects of enforced isolation and other restrictions. Previous studies on pandemic outbreaks across the world have reported that the psychological impact of quarantine and social isolation varies from depression, loneliness, insomnia, irritability, anger, confusion, frustration, denial, anxiety and despair to extremes of consequences such as suicide, fear of contracting and spreading the infection to family members (Liu, Kakade, Fuller, Fan, Fang, Kong, Guan, & Wu, 2012; Barbisch, 2015; Jeong, Yim, Song, Ki, Min, Cho, & Chae, 2016; Brooks, Webster, Smith, Woodland, Wessely, Greenberg, & Rubin, 2020).

Vasiliadis, Jackson, Christensen, and Francis (2013) posited that the feeling of depression is a result of lack of socialization and the ability to cope and cater for the needs for love, affection and a feeling of belongingness. After the declaration of the COVID-19 lockdown and social isolation, more negative emotions of depression and indignation, and less positive emotions (happiness) were reported among older adults (Li, Guan, Wu, Wang, Zhou..., & Feng, 2020). For Kontis, Theocharis and Tsalta (2013), older adults are very sensitive to many psychosocial problems such as loneliness, isolation and abandonment. They need people around them, especially family members. The way out of reducing depressive feelings and boredom is by encouraging constant visitations and assistance which they have been deprived of due to the COVID-19 pandemic lockdown.

Loneliness and social isolation are often overlooked, despite being vital public health concerns. Older adults experience feelings of loneliness, which are an independent risk factor for depression, anxiety disorders, and suicide (Gerst-Emerson & Jayawardhana, 2015; Li, Guan, Wu, Wang, Zhou, Tong, Ren, Leung, Lau,

Wong, Xing, Xiang, Wu, Chen, Li, Liu, Zhao, Liu, Tu, Feng, 2020). Loneliness is the major cause of psychosocial problems during lockdown or isolation. Dubey, Biswas, Ghosh, Chatterjee, Dubey, Chatterjee, Lahiri, and Lavie (2020) also posited that older adults with cognitive decline feel more anxious, agitated, and socially withdrawn. This creates considerable fear and an excessive feeling of stress or anger amongst older adults and their caregivers (Li et al., 2020; Mills, Kaye & Mody, 2020). In this era of the COVID-19 pandemic, therefore, older adults need a continuum of practical social and emotional support through informal networks like families as primary caregivers.

In Nigeria, family members play a significant role and provide up to 90% of home care for older adults (Animasahun & Chapman, 2017). Traditionally, not simply the emotional bonds of relationships emerging out of blood or marital relationships back up older adults' care, but a force of pervasive influence of traditional values, norms, and behaviour practised as a matter of responsibility (Okoye, 2013). It is a cultural norm in Nigeria that family members are the most natural and conducive social organization

with the responsibility to care for and support older adults. Although caring for a loved older adult can be very rewarding, the demands of caregiving can be exhausting and overwhelming, especially when the caregiver has little control over the situation.

The impact of COVID-19 on older adults has received attention globally, but empirical data on how the pandemic has affected caregivers are sparse. All over the world, adapting to the COVID-19 pandemic has become harder for caregivers as they have to work extra hard to protect the older adults under their care (Alexis Compassionate Care, 2020). COVID-19 has adversely impacted the well-being of caregivers ranging from infection risk and changes to limited available resources. In the view of Yang and Wang (2020), the feeling of fatigue, fear, withdrawal and guilt amongst caregivers negatively affect their health and well-being. Caregiver's stress is best described as a multidimensional problem and dynamic interplay of multiple stressors which vary considerably from one caregiver to the next and over time. Turner, Reese-Melancon and Harrington (2021) stated that caregivers' stress is positively associated with reports of

greater life change resulting from COVID-19 and a greater frequency of care recipients with depressive and disruptive behaviours. According to Beach, Schulz, Donovan and Rosland (2021), the COVID-19 pandemic also has the potential to exacerbate the stresses of family caregiving to older adults. In a cross-sectional online survey of 576 family caregivers and 2,933 non-caregivers, Beach et al (2021) stated that caregivers reported more COVID-related stressors and disruptions with more adverse outcomes.

Evident in the discourse above is that in all the studies that investigated the COVID-19 pandemic on older adults and caregivers across the globe, only a few examined and noted empirical results on the psychological impact of COVID-19, particularly in the Eastern part of Nigeria. Given the foregoing, there is indeed a need to explore the identified research dimension given the noted observations of the existence of COVID-19 infections and associated deaths in Enugu State. This will foster awareness and knowledge of the psychosocial impact of COVID-19 in the eastern region, especially in the Enugu-North senatorial zone, Nigeria. It meets the growing research concern in

this area as observed in other parts of the country and the global communities. Therefore, this research is timely, with a target to assess the existence of COVID-19 and its psychosocial impact, while highlighting the factors responsible for that. It also proposes policies and strategies for protecting and improving the lives of older adults and caregivers during the pandemic.

## Material and methods

### Study design

A cross-sectional study was conducted from June 1st to July 31st, 2020. The study aimed to ascertain the psychosocial impact of COVID-19 among older adults and caregivers in the Enugu-North Senatorial zone of the Enugu State of Nigeria. This choice of the researchers was based on the fact that the cross-sectional survey research design collects relevant data at a given point in time, as there is no time dimension involved, and mostly refers to the time at or around the time of the data collection (Kesmodel, 2018). Kesmodel (2018) posits that cross-sectional studies serve many purposes and are the most relevant design when assessing the knowledge, attitudes and impacts among respondents. In Kabir's (2016) view, a cross-sectional survey

allows researchers to observe and collect information from a cross-section of a population on a defined issue within a given period. Also, the cross-sectional study design facilitated the effort of the researchers to identify the proportion of older adults and caregivers in the study area which bears an important advantage of time-saving and cost-effectiveness.

### **Study area**

The study was conducted in Enugu North Senatorial Zone, Enugu State, located in the South-Eastern State of Nigeria. It comprises six local government areas dominated by Igbos who are referred to as Nsukka people. They have the same geographical and cultural characteristics made up of urban, semi-urban, and rural autonomous communities. They have a good number of older adult populations experiencing isolation, dejection, and lack of political and economic will which makes this a perfect population for the study.

### **Sample size and sampling procedure**

The study area population comprises a total of 696,468, out of which 5% are 60 years and above, according to National Population Commission (NPC) (2010). The Cochran (1963) formula was used to

determine the study sample size (250 respondents), assuming a 95% of confidence level, .05% margin of error and 50% proportion. A multistage sampling technique comprising both probability and non-probability sampling was adopted to select the representative sample from the study's large populations. The study made use of stratification techniques (the senatorial zone was stratified into LGAs), simple random sampling (to choose the LGAs, communities/villages and quarters studied), convenience (for participants nearest and available) and snowball sampling techniques (referrals by participants). These enabled the researchers to capture the key population characteristics in the sample that is proportional to the overall population. The researchers used convenience and snowball sampling methods to reach eligible respondents from households in the six quarters of each village.

### **Data collection and analysis**

This study employed a quantitative method of data collection using a self-administered questionnaire. Informed consent was obtained from the participants as part of the questionnaire after duly explaining the purpose of the

study. For those older adults and caregivers who can read and write, the questionnaire was given to them and they filled it out themselves freely. But those who faced difficulties in reading and understanding the questions were assisted by the researchers by reading out the questions for them, recording their responses which were confirmed by them. The questionnaire was designed with both close-ended and open-ended types of questions with section A assessing the socio-demographic variables (sex, age, education, occupation and place of residence) and section B focusing on the impact of COVID-19 in relation to psychosocial health and well-being. The data collected were analyzed using the Statistical Package for Social Science (SPSS version 22) and the results were presented with descriptive statistical tools such as percentages and frequencies. Descriptive statistics were run to analyze older adults and caregivers' socio-demographic variables and other variables of interest for the study. The chi-square statistics were used to assess the association between categorical variables such as selected socio-demographic variables and psychosocial problems, setting P values of significance at  $<0.05$

## Results

### **Socio-demographic characteristics of older adults and caregivers**

We explored the psychological impact of COVID-19 on older adults and caregivers. Table 1 below reveals the age, sex, education, occupation, and living arrangement of respondents. A close examination of Table 1 indicates that among the older adults, the majority (62.0%) were 60-75 years old, and were predominantly females (65.3%). The educational profile of the respondents as contained in Table 1 shows that an appreciable number of the older adults (34.0%) had primary education; 44.7% were in business and most of them were living with their caregivers. Table 1 also revealed that among the caregivers, the majority (61.0%) were aged between 46-59 years and 73.0% were females. The caregivers' educational profile as contained in Table 1 shows that a good number of them (43.0%) had tertiary education; 33.0% were in business and all caregivers were living with older adults.

**Table 1.** *Percentage distribution of older adults and caregivers by socio-demographic variables*

Variables	Older adults		Caregivers	
	Frequency	Percentages (%)	Frequency	Percentages (%)
Age				
18-45 years	0	0.0	39	39.0
46-59 years	0	0.0	61	61.0
60-75years	93	62.0	0	0.0
76 years/above	57	38.0	0	0.0
Total	150	100	100	100
Sex				
Males	52	34.7	27	27.0
Females	98	65.3	73	73.0
Total	150	100	100	100
Educational status				
No formal education	31	20.7	5	5.0
Primary education	51	34.0	17	17.0
Secondary education	33	22.0	35	35.0
Tertiary education	35	23.3	43	43.0
Total	150	100	100	100
Occupation status				
Student	0	0.0	22	22.0
Artisan	35	23.3	16	16.0
Business	67	44.7	33	33.0
Civil/Public servant	19	12.7	29	29.0
Retired	34	19.3	0	0.0
Total	150	100	100	100
Living arrangement				
Alone	25	16.7	0	0.0

With others	125	83.3	100	100.0
Total	150	100	100	100

Source: *Field survey, 2020*

**Psychosocial impacts of COVID-19 on older adults and caregivers**

Table 2 below contains the percentage distribution of older adults and caregivers' responses to the impacts of COVID-19 on their psychosocial health and well-being. Among the older adults, the result revealed that for the majority (68.7%), the feeling of loneliness was severe and 83.3% had been seriously depressed during this period. 45.3% expressed the severity of boredom and most of them (60.7%) reported that their state of sleeplessness was severe. The result also shows that 66.0% of older adults' feelings of anxiety and fear of being infected and death were severe. The

state of loss of usual routine and stress were moderate (49.3%) and mild (62.7%) respectively. This could be so as their caregivers have more time to stay around them within the period of lockdown and quarantine. However, the majority of the caregivers' states of stress (71.6%) and depression (43.0%) were severe. The majority (67.0%) and (51.0%) also indicated that their level of anxiety and fear of being infected and death and sleeplessness were severe. However, the majority of caregivers reported a mild state of loneliness (53.0%) and boredom (50.0%). Finally, 49.0% reported that loss of usual routine in the care of the older adults was mild.

**Table 2: Percentage distribution of older adults and caregivers by psychosocial variables**

Psychosocial Problems	Older adults			Total F(%)	Caregivers			Total F(%)
	Severe F(%)	Moderate F(%)	Mild F(%)		Severe F(%)	Moderate F(%)	Mild F(%)	
<b>Loneliness</b>	103 (68.7)	37 (24.7)	10 (6.7)	150 (100)	18 (18.0)	29 (29.0)	53 (53.0)	100 (100)
<b>Depression</b>	125 (83.3)	18 (12.0)	7 (4.7)	150 (100)	43 (43.0)	37 (37.0)	20 (20.0)	100 (100)
<b>Boredom</b>	68 (45.3)	47 (31.3)	35 (23.4)	150 (100)	13 (13.0)	37 (37.0)	50 (50.0)	100 (100)

Sleeplessness	91 (60.7)	45 (29.3)	14 (10.0)	<b>150 (100)</b>	51 (51.0)	31 (31.0)	18 (18.0)	<b>100 (100)</b>
Anxiety and Fear of infection and death	99 (66.0)	42 (28.0)	9 (6.0)	<b>150 (100)</b>	67 (67.0)	22 (22.0)	11 (11.0)	<b>100 (100)</b>
Loss of usual routine	53 (35.3)	74 (49.3)	23 (15.4)	<b>150 (100)</b>	27 (27.0)	24 (24.0)	49 (49.0)	<b>100 (100)</b>
Stress	11 (7.3)	45 (30.0)	94 (62.7)	<b>150 (100)</b>	71 (71.6)	19 (19.0)	10 (10.0)	<b>100 (100)</b>

Source: Field survey, 2020

**Degree of association between state of psychosocial problems and selected socio-demographic variables of older adults**

Table 3 below shows the degree of association between socio-demographic variables on the psychosocial variables (loneliness, depression, sleeplessness and anxiety/fear). The table specifically indicates that there is a significant association between older adults' age

( $\chi^2$ -19.378, P-.000), sex ( $\chi^2$ -18.499, P-.000), educational status ( $\chi^2$ -6.175, P-.046), and occupation ( $\chi^2$ - 10.614, P-.005) on the state of their psychological well-being. The table shows that older adults who were aged between 76 years and above and were females with lower education but retired are more likely to be severely psychologically and socially affected by COVID-19.

**Table 3.** Degree of association between socio-demographic characteristics and severity of older adults' psychosocial well-being

Socio-demographic Variables	Psychosocial problems				$\chi^2$ value	P-value
	Loneliness	Depression	Sleeplessness	Anxiety/Fear		
Age						
60-75years	52	76	43	51	19.378	.000*
76 years/above	51	49	48	48		

Sex						
Males	41	36	31	47	18.499	.000*
Females	62	89	60	52		
Educational status						
No formal education	27	29	23	25		
Primary education	47	49	40	39	6.175	.046*
Secondary education	16	25	23	25		
Tertiary education	13	22	12	10		
Occupation status						
Artisan	13	21	24	27		
Business	54	59	51	55	10.614	.005*
Civil/Public servant	8	16	7	6		
Retired	28	29	9	12		

Source: *Field survey, 2020*

### Discussion

Globally, it is an understatement to say that the COVID-19 pandemic has impacted the lives of both young and older adults either directly or indirectly due to the control measures like lockdown, isolation and quarantine adopted. The populations that are vulnerable to the COVID-19 outbreak and its psychosocial health effects include older adults and their caregivers. Discussions on the findings from the study focus on ascertaining the psychosocial impacts of COVID-19 on older adults and their caregivers. The finding of the study shows that older adults and their caregivers' psychosocial

problems (such as loneliness, depression, boredom, sleeplessness, stress, anxiety and fear of infection and death) were severe during the period of the study. The level of COVID-19 impact was dependent on the socio-demographic variables. The chi-square test shows a significant relationship between selected socio-demographic variables and the psychosocial impacts of COVID-19. The finding corroborates the previous studies that psychosocial health issues are associated with age, sex, education and occupation (Adeleke, Adebowale & Oyinlola, 2017; Williams, 2020). Loneliness and social isolation are often overlooked, despite being vital public

health concerns. The finding revealed an increase in severe feelings of loneliness (68.7%) among older adults. The findings of the study aligned with previous studies conducted by Gerst-Emerson and Jayawardhana (2015), and Li et al. (2020), which posited that the major cause of the psychosocial problems is loneliness which is an independent risk factor for depression, anxiety disorders, and suicide. Older adults who are lonely are more likely to suffer from negative health outcomes and multiple conditions like high blood pressure, cardiovascular disease, disability, cognitive decline and depression (Kontis, Theocharis & Tsalta 2013). Therefore, they need a continuum of practical and emotional support through informal networks (families), health workers, caregivers, and volunteers. This can be alleviated by social support from family members and the government. Increasing social contact also may prevent morbidity and postpone death among older adults.

Adeleke, Adebowale and Oyinlola (2017) stated that old age is a risk factor for depression, which is the most prevalent mental health problem among older adults. This study indicates that the majority (83.3%) of the older adults were more depressed and bored during the lockdown. The contributing factor may be

losses, difficulties in socialisation and boredom due to social isolation. A similar finding was reported by Vasiliadis et al. (2013); for him, the feeling of depression is a result of lack of socialisation and the ability to cope and cater for the needs for love, affection and a feeling of belongingness. Older adults showed more negative emotions of depression and indignation and less positive emotions (happiness) after the declaration of COVID-19 (Li et al, 2020). The way out of reducing depressive feelings and boredom is by encouraging constant visitations and assistance which have been deprived of older adults due to the COVID-19 pandemic lockdown.

An added burden for caregivers was created by the adoption of lockdown and social distancing as control measures for COVID-19. Social distancing and social isolation of older adults are serious public health concerns due to older adults' bio-psychosocial vulnerabilities. The majority of the caregivers in this study reported being more stressed during the pandemic lockdown. The finding of the present study reveals that being in isolation during the COVID-19 outbreak, caregivers were more agitated, angry, anxious, withdrawn and/or stressed. This was also supported by the reports of WHO (2020a),

and Animasahun and Chapman (2017). Caregivers' stress may negatively impact their physical health or cause them to be physically or verbally aggressive towards the elderly person, leading to abuse or neglect. In addition, caregivers may frequently feel a wave of emotions such as anger, anxiety, depression, diminished social activities, frustration, guilt, isolation, marriage dissatisfaction, or decreased self-esteem. During these COVID-19 lockdowns and restrictions, the older adult caregivers' physical and psychological stress can be extremely high due to finances, high workload, potential stigma and discrimination, and extensive and close contact with potentially vulnerable older adults.

### **Limitation**

Due to the COVID-19 control measures, characteristics of quantitative research and short-term study, the sample size of this study was limited in number. One of the limitations of this study was related to the participant recruitment process. Also, due to the nature of the COVID-19 outbreak and the prevention and control measures adopted, we were unable to conduct in-depth interviews and focus-group interviews to avoid potential cross-infection by maintaining social distancing.

### **Conclusion**

Having seen the effects of the COVID-19 pandemic on the older adults (their plights, voices, opinions and health concerns), special attention was needed. Thus this study provided a comprehensive and in-depth understanding of the psychosocial experiences of older adults and caregivers during this COVID-19 pandemic because of its fundamental control measures such as lockdown, social isolation and quarantine. It is evident that social relationships and supports are integral to human well-being, as it has protective effects on psychosocial aspects of life, morbidity and mortality outcomes. Social relationships and supports are important for older adults and caregivers to maintain psychological and social health. However, our findings reveal dominant and severe psychosocial impacts of COVID-19 among older adults and caregivers due to the restrictions enacted to curtail the spread of the pandemic. This lockdown and social isolation that restrict social contact and movement have proved to be a common intervention that can contain and reduce the transmission of infectious diseases. Therefore, concerned authorities like the government, health care personnel, and

other stakeholders have to develop policies to cater for older adults and caregivers' financial and social support, ensure suitable housing, and respect for their rights and dignity to reduce psychological instability.

### Recommendations

Based on the findings of the study, the recommendations made include the need to ensure and strengthen advocacy and leadership for the rights and needs of older adults and their caregivers. Through disability technical working groups, there should be advocacy for the support of programmes and specific responses for older adults and their caregivers. Older

adults and caregivers should be assured access to medical treatment services, timely communication and provision of care with accurate updates. Also, there is a need for special policies and strategies to protect and improve the lives of older adults, both during and after the COVID-19 pandemic. Finally, a long-term study of older adults and caregivers would be a valuable avenue to explore in the future.

### Conflict of interest

The authors declared that there was no conflict of interest in publishing the article.

### References

Adalja, A. A., Toner, E. & Inglesby, T. V. (2020). Priorities for the US health community responding to COVID-19. *JAMA*, 5. DOI: 10.1001/jama.2020.3413 32125355.

Adeleke, R. O., Adebowale, T. O. & Oyinlola O. (2017). Profile of elderly patients presented with psychosocial problems in Ibadan. *Gerontology Ger.*, 1(1), 26-36. DOI: 10.15406/mojgg.2017.01.00006

Alexis Compassionate Care (2020). *Caregiving During the COVID-19 Pandemic*. Retrieved from <https://alexiscompassionatecare.com/caregiving-during-the-COVID-19-pandemic/>

Animasahun, V. J., & Chapman, H. J. (2017). Psychosocial health challenges of the elderly in Nigeria: a narrative review. *African Health Sciences*, 17(2), 575-583. <http://doi.org/10.4314/ahs.v17i2.35>

- Barbisch, D. (2015). Is there a case for quarantine? Perspectives from SARS to Ebola Disaster *Med Public Health Prep*, 9, 547.
- Beach, S. R., Schulz, R., Donovan, H. & Rosland A. M. (2021), Family Caregiving During the COVID-19 Pandemic. *The Gerontologist*, 61(5), 650-660. DOI: 10.1093/geront/gnab049
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N. & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet*, 395(4), 912.
- Cochran, W. G. (1963). Sampling technique (2<sup>nd</sup> edition) New York: John Wiley and Sons Inc.
- Douglas, M., Katikireddi, S. V., Taulbut, M., McKee, M., & McCartney, G. (2020). Mitigating the wider health effects of COVID-19 pandemic response. *British Medical Journal*, 369(1557), 1-6. DOI: <https://doi.org/10.1136/bmj.m1557>
- Dubey, S., Biswas, P., Ghosh, R., Chatterjee, S., Dubey, M. J., Chatterjee, S., Lahiri, D., & Lavie, C. J. (2020). Psychosocial impact of COVID-19. *Diabetes & metabolic syndrome*, 14(5), 779-788. <https://doi.org/10.1016/j.dsx.2020.05.035>
- Gerst-Emerson, K., & Jayawardhana, J. (2015). Loneliness as a public health issue: the impact of loneliness on health care utilization among older adults. *American Journal of Public Health*, 105(5), 1013-1019. Doi: 10.2105/AJPH.2014.302427.
- Hoof, E. V. (2020). *Lockdown is the world's biggest psychological experiment - and we will pay the price*. Retrieved from <https://www.weforum.org/agenda/2020/04/this-is-the-psychological-side-of-the-COVID-19-pandemic-that-were-ignoring/>
- Jeong, H., Yim, H. W., Song, Y. J., Ki, M., Min, J. A., Cho, J., & Chae, J. H. (2016). Mental health status of people isolated due to Middle East Respiratory Syndrome." *Epidemiol Health*, 38, 48.

- Kabir, S. M. (2016). *Methods of data collection*. Retrieved from [https://www.researchgate.net/publication/325846997\\_METHODS\\_OF\\_DATA\\_COLLECTION](https://www.researchgate.net/publication/325846997_METHODS_OF_DATA_COLLECTION)
- Kesmodel, U. S. (2018). Cross-sectional studies - what are they good for? *Acta Obstetricia et Gynecologica Scandinavica*, 97(4), 388–393. <https://doi.org/10.1111/aogs.13331>
- Kontis, D., Theocharis, E., & Tsaltas, E. (2013). Dementia and bipolar disorder on the verge of old age. *Psychiatry*, 24/2: 132–144.
- LaFave, S. & Szanton, S. (2020). *The impact of COVID-19 on older adults*. Retrieved from <https://hub.jhu.edu/2020/05/05/impact-of-COVID-19-on-the-elderly/>
- Lai, C. C., Shih, T. P., Ko, W. C., Tang, H. J., & Hsueh, P. R. (2020). Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): the epidemic and the challenges. *International Journal of Antimicrobial Agents*, 55, 105924.
- Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y., Ren, R., Leung, K., Lau, E., Wong, J. Y., Xing, X., Xiang, N., Wu, Y., Li, C., Chen, Q., Li, D., Liu, T., Zhao, J., Liu, M., Tu, W., ... Feng, Z. (2020). Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia. *The New England Journal of Medicine*, 382(13), 1199–1207. <https://doi.org/10.1056/NEJMoa2001316>
- Liu, X, Kakade, M., Fuller, C. J., Fan, B., Fang, Y., Kong, J., Guan, Z., & Wu, P. (2012). Depression after exposure to stressful events: lessons learned from the severe acute respiratory syndrome epidemic. *ComprPsychiatr*, 53, 15–23.
- Mills, J. P., Kaye, K. S., & Mody, L. (2020). COVID-19 in older adults: clinical, psychosocial, and public health considerations. *JCI Insight*, 5(10):e139292. doi: 10.1172/jci.insight.139292.
- Mukhtar, S. (2020). Psychosocial Impact of COVID-19 on Older Adults: A Cultural Geriatric Mental Health-Care Perspectives. *Journal of Gerontological social work*, 63(6-7), 665–667. <https://doi.org/10.1080/01634372.2020.1779159>
- National Population Commission (2010). Population Census of the Federal Republic of Nigeria.

- Okoye, U. O. (2013). *The erosion of traditional forms of care for the elderly and its implication for the elderly in Nigeria. Journal of Department of Social Work, University of Nigeria Nsukka, Nigeria*
- Pfefferbaum B., & North C. S. (2020). Mental health and the COVID-19 pandemic. *N. Engl. J. Med., 3 (24), 25-34.* doi: 10.1056/NEJMp2008017.
- Rubin, G. J. O. & Wessely, S. (2020). The psychological effects of quarantining a city. *BMJ*, 368, m313.
- Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A., Iosifidis, C., & Aghad, R. (2020). World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International Journal of Surgery, 76*, 71–76. Doi: 10.1016/j.ijvsu.2020.02.034
- Turner, R., Reese-Melancon, C. & Harrington, E. (2021). Caregiving during the COVID-19 pandemic: Factors associated with caregiver stress and cognition. *Innovation in Aging, 5*. 806-806. DOI: 10.1093/geroni/igab046.2945.
- Vasiliadis, S. D., Jackson, A. C., Christensen, D., & Francis, K. (2013). Physical accessibility of gaming opportunity and its relationship to gaming involvement and problem gambling: A systematic review. *Journal of Gambling Issues, (28)*. <https://doi.org/10.4309/jgi.2013.28.2>
- World Health Organization [WHO] (2021a). *Infection Prevention and Control Guidance for Long-Term Care Facilities in the context of COVID-19" Interim Guidance.* Retrieved from [https://apps.who.int/iris/bitstream/handle/10665/331508/WHO-2019-nCoV-IPC\\_long\\_term\\_care-2020.1-eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/331508/WHO-2019-nCoV-IPC_long_term_care-2020.1-eng.pdf).
- WHO (2020b). *Mental health and psychosocial considerations during the COVID-19 outbreak.* Retrieved from <https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations>.
- Williams, S. N., Armitage, C. J., Tampe, T., et al. (2020). Public perceptions and experiences of social distancing and social isolation during the COVID-19 pandemic: a UK-based focus group study. *BMJ Open, 10*, e039334. doi:10.1136/ bmjopen-2020-039334

Yang, P., & Wang, X. (2020). COVID-19: a new challenge for human beings. *Cell Mol Immunol* 17, 555–557. <https://doi.org/10.1038/s41423-020-0407-x> 16