Assessing the Socio-Economic and Health Effects of COVID-19 Lockdown: A Comparative Study of Under-and Over-50-Year-Old Nigerians

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Abstract:  
The emergence of COVID-19 has distorted life and living in all societies including Nigeria, and there is urgent need for research into its diverse effects, as in this study. This is a cross-sectional descriptive study conducted from 20 April to 20 June 2020, with 5,227 participants recruited through various social media using a structured questionnaire. There were 3,173 (60.7%) male and 804 (15.4%) were ≥50 years old. In tracking family life during the lockdown, participants <50 years significantly spent more time on family-oriented activities. Socioeconomically, more under-50s received assistance and were more involved in social networking, whereas more over-50s felt lonelier. Additionally, more males and unemployed persons were in need of, but unable to access healthcare. The consequences of these socio-economic and health effects particularly among persons aged ≥50 years could ripple into long lasting psycho-social and physical health challenges, and it is therefore urgent need to step up efforts to address these problems.

Keywords: COVID-19; socio-economic; health; effect; Nigeria; coronavirus; lockdown

1. Introduction

At the end of December 2019, clusters of pneumonia cases were reported in Wuhan city of Hubei province in China, attributed to a novel coronavirus (initially named: 2019-nCOV) (Zhu et al., 2020). This outbreak was considered as meeting the criteria for, and declared a Public Health Emergency of International Concern (PHEIC) by the World Health Organization (WHO) on January 30, 2020 (WHO, 2020a). The novel coronavirus was officially named in February 11, 2020 by the WHO as the ‘Severe Acute Respiratory Syndrome Coronavirus 2’ (abbreviation: SARS-CoV-2) and the disease named the ‘Coronavirus disease 2019’ (abbreviation: COVID-19) (WHO, 2020b). By March 11, 2020 there were more than 118,000 cases of COVID-19 in 114 countries with 4,291 deaths and the WHO declared the disease as a Pandemic (WHO, 2020c). At present (4 September, 2020; 3.38am CEST), there are 26,171,112 confirmed cases of COVID-19, with 865,154 deaths globally; and 1,072,858 confirmed cases in Africa reported to WHO (WHO, 2020d). In Nigeria, as at 31st August 2020, the Nigeria Centre for Disease Control (NCDC) had tested 405,916 persons and reported 54,008 confirmed cases of COVID-19 with 1,013 deaths at a case fatality rate of 1.9% (NCDC, 2020).

The United Nations (UN) has described the COVID-19 pandemic as a health, economic and social crisis (UN, 2020). Lockdowns instituted for the control of pandemics have health, social and economic consequences across populations (Ahmed et al., 2020). Clinicians all over the world have noticed higher degrees of morbidity and mortality due to the novel SARS CoV-2 among persons with advancing age, especially with co-existing chronic conditions (Doraiswamy, 2020). In developed economies where life expectancy is very high with a larger pool of aged population, 65 years of age is often used as cut-off to demarcate those at greater risk from COVID-19 (Mueller, 2020). However, in developing countries such as in Sub-Saharan Africa with a relatively younger population, a cut-off of 50 years is being applied. This is following the WHO’s report that in Africa, mortality from COVID-19 was commonest among persons aged 50 years and above (WHO, 2020e). Thus, an age cut-off of 50 years is applied in this study to conduct early analyses into the age group most affected by the COVID-19 lockdown in terms of health, social and economic aspects in order to proffer effective policy recommendations to buffer the socio-economic and health impacts in the most populous nation in Africa.
2. Materials and Methods

This is a descriptive cross sectional study that collected quantitative data using an online structured questionnaire with Google forms to assess the social, economic and social impacts of the COVID-19 pandemic in Nigeria. The survey was conducted from the 20 April to 20 June 2020, with 5,227 respondents recruited from the general populace as the self-administered questionnaire was administered online through various social media platforms across the 36 States and Federal Capital Territory of Nigeria. The form was designed such that informed consent was obtained before participant would proceed with the survey.

The data were analyzed with Statistical Package for Social Science (SPSS) version 25, using frequencies and proportions for discrete variables, and mean and standard deviation for the continuous variable. Logistic regression was used to measure the relationship between the socio-economic and health variables and the categorized age (<50 vs ≥50 years) of the respondents. The level of significance was set at p < 0.05.

3. Results

The respondents were aged 18 to 73 years, with a mean ± SD of 37.62±8.53 years; and were made up of 3,173(60.7%) males and 2,054(39.3%) females. A total of 4423(84.6%) were aged below 50 years and 804(15.4%) were aged 50 years and above. Majority (67.1%) of the respondents had postgraduate level of education, and about a quarter (26.5%) of respondents had undergraduate level of education (Table 1).

| Background Characteristics | Male | Female | Total |
|----------------------------|------|--------|-------|
| **1. Age:**                |      |        |       |
| 18-30                      | 781  | 825    | 1606  |
| 31-40                      | 1203 | 739    | 1942  |
| 41-50                      | 690  | 307    | 997   |
| 51-60                      | 409  | 152    | 561   |
| 61-70                      | 45   | 31     | 76    |
| 71-80                      | 45   | 0      | 45    |
| **Total:**                 | 3173 | 2054   | 5227  |
| **2. Age (<50 vs ≥50 years):** |      |        |       |
| <50 years                  | 2718 | 1705   | 4423  |
| ≥50 years                  | 455  | 349    | 804   |
| **Total:**                 | 3173 | 2054   | 5227  |
| **3. Education:**          |      |        |       |
| No formal education        | 63   | 0      | 63    |
| Primary                    | 27   | 15     | 42    |
| Secondary                  | 141  | 89     | 230   |
| Undergraduate              | 897  | 489    | 1386  |
| Post Graduate              | 2045 | 1461   | 3506  |
| **Total:**                 | 3173 | 2054   | 5227  |
| **4. Employment Status:**  |      |        |       |
| Student                    | 195  | 271    | 466   |
| Unemployed                 | 604  | 407    | 1011  |
| Employed                   | 1720 | 988    | 2708  |
| Businessperson             | 654  | 388    | 1042  |
| **Total:**                 | 3173 | 2054   | 5227  |
| **5. Religion:**           |      |        |       |
| None                       | 75   | 73     | 148   |
| Christian                  | 2306 | 1741   | 4047  |
| Muslim                     | 642  | 210    | 852   |
| Traditionalist             | 30   | 0      | 30    |
| Other                      | 120  | 30     | 150   |
| **Total:**                 | 3173 | 2054   | 5227  |

Table 1: Background Characteristics of Respondents

In tracking family life during the lockdown: among participants aged below 50 years, 41.8% strongly agreed to have spent more time with family versus 30.0% of those aged above 50 years. Participants aged below 50 years indicated they were more involved with home schooling (21.5%), family religious activities (25.1%), had more harmony in their homes (19.4%) compared to the over-50 year olds at 16.5%, 18.3% and 14.2% respectively (Table 2). All reported differences in tables 2-6 are statistically significant at p < 0.05.
Socially, more under-50s received help from individuals, non-governmental organizations (NGOs), religious organizations and clubs than persons aged 50 years and above (9.4% vs 7.5%). The results also show that more under-50s were involved in social networking; and more over-50s indicated they were lonelier (34.3% vs 29.7%) (Table 3).

### Table 2: Effect of COVID-19 on Family Life in Nigeria

| Characteristics | <50 years | ≥50 years | Total | P value |
|-----------------|-----------|-----------|-------|---------|
|                 | M         | F         | Total | M        | F        | Total |       |
| I have received help from individuals, NGOs during COVID-19: | | | | | | | |
| Yes             | 159       | 257       | 416   | 21       | 39       | 60    | 476   | 0.001 |
| No              | 2559      | 1448      | 4007  | 434      | 310      | 744   | 4751  |       |
| Total           | 2718      | 1705      | 4423  | 455      | 349      | 804   | 5227  |       |
| I am able have social meetings as much as before: | | | | | | | |
| Strongly agree  | 120       | 27        | 147   | 18       | 3        | 21    | 168   |       |
| Agree           | 188       | 69        | 257   | 49       | 22       | 71    | 328   |       |
| Neutral         | 316       | 89        | 405   | 48       | 3        | 51    | 456   | 0.001 |
| Disagree        | 1178      | 701       | 1880  | 203      | 179      | 382   | 2262  |       |
| Strongly disagree| 915      | 819       | 1734  | 137      | 142      | 279   | 2013  |       |
| Total           | 2718      | 1705      | 4423  | 455      | 349      | 804   | 5227  |       |

### Table 3: Social Effects of COVID-19 Pandemic in Nigeria

| Characteristics | <50 years | ≥50 years | Total | P value |
|-----------------|-----------|-----------|-------|---------|
|                 | M         | F         | Total | M        | F        | Total |       |
| I personally feel more lonely now: | | | | | | | |
| Strongly agree  | 405       | 333       | 738   | 77       | 37       | 114   | 852   |       |
| Agree           | 867       | 445       | 1312  | 164      | 112      | 276   | 1588  |       |
| Neutral         | 601       | 302       | 903   | 79       | 58       | 137   | 1040  | 0.001 |
| Disagree        | 555       | 466       | 1021  | 108      | 109      | 217   | 1238  |       |
| Strongly disagree| 290     | 159       | 449   | 27       | 33       | 60    | 509   |       |
| Total           | 2718      | 1705      | 4423  | 455      | 349      | 804   | 5227  |       |
Table 4 shows that financially, more under-50s received less income (39.2% vs 31.7%), and were food deprived (31.4% vs 27.0%).

| Characteristics                                                                 | <50 years | ≥50 years | P-value |
|--------------------------------------------------------------------------------|-----------|-----------|---------|
| 1 I earn less than N23,000 (naira) Monthly; or less than N700 (naira)/$2 Daily: | 1484      | 2939      | 0.062   |
|   Yes                                                                            | 297       | 507       |         |
|   No                                                                             | 1781      | 3446      |         |
| 2 I am able to continue earning income during Lock Down:                         | 981       | 186       | 0.237   |
|   Agree                                                                         | 983       | 199       |         |
|   Disagree                                                                       | 615       | 102       |         |
|   Neutral                                                                        | 430       | 85        |         |
|   Strongly agree                                                                | 1414      | 232       |         |
|   Strongly disagree                                                             | 1414      | 232       |         |
| 3 COVID-19 is affecting My Economy negatively:                                  | 1331      | 241       | 0.816   |
|   Agree                                                                         | 72        | 16        |         |
|   Disagree                                                                       | 262       | 54        |         |
|   Neutral                                                                        | 2480      | 440       |         |
|   Strongly agree                                                                | 278       | 53        |         |
|   Strongly disagree                                                             | 4423      | 804       |         |
| 4 My INCOME is the SAME or more during Lock Down:                               | 649       | 126       | 0.000   |
|   Agree                                                                         | 1320      | 309       |         |
|   Disagree                                                                       | 434       | 77        |         |
|   Neutral                                                                        | 284       | 37        |         |
|   Strongly agree                                                                | 4423      | 804       |         |
|   Strongly disagree                                                             | 1736      | 255       |         |
| 5 I am able to Feed Well and Pay All my Bills this period:                      | 877       | 154       | 0.000   |
|   Agree                                                                         | 1155      | 281       |         |
|   Disagree                                                                       | 617       | 96        |         |
|   Neutral                                                                        | 391       | 56        |         |
|   Strongly agree                                                                | 4423      | 804       |         |
|   Strongly disagree                                                             | 1383      | 217       |         |

Table 4: Economic Effects of COVID Pandemic on Income Dynamics of Younger and Older Nigerians

In addition, Table 5 shows that only 30% of respondents were able to go to work or earn money during the pandemic and lockdown. Of the 70% of respondents who were unable to go to work, 95.2% had primary level of education, 92.2% were business persons and 73.4% were aged 50 years and above.

| Characteristics                  | I am able to go to work during lock down period: | P-value |
|----------------------------------|-----------------------------------------------|---------|
| 1 Educational Qualification:     |                                               |         |
|   No formal education           | 31                                            | 32      | 0.000   |
|   Post Graduate                 | 1063                                          | 2443    |         |
|   Primary                       | 2                                             | 40      |         |
|   Secondary                     | 66                                            | 164     |         |
|   Undergraduate                 | 415                                           | 971     |         |
|   Total:                        | 1577                                          | 3650    |         |
| 2 Employment Status             |                                               |         |
|   Businessperson                | 81                                            | 961     | 0.000   |
|   Employed                      | 1119                                          | 1589    |         |
|   Student                       | 165                                           | 301     |         |
|   Unemployed                    | 212                                           | 799     |         |
|   Total:                        | 1577                                          | 3650    |         |
| 3 Age:                          |                                               |         |
|   <50 years                      | 1363                                          | 3060    | 0.017   |
|   ≥50 years                      | 214                                           | 590     |         |
|   Total:                        | 1577                                          | 3650    |         |
| 4 Gender:                       |                                               |         |
|   Male                           | 986                                           | 2187    | 0.077   |
|   Female                         | 591                                           | 1463    |         |
|   Total:                        | 1577                                          | 3650    |         |

Table 5: Relationship of Educational and Employment Status to Ability to Go Out to Work, Access Healthcare and Using Health Insurance
Table 6 shows that in considering access to health care during this period, 28.8% of respondents were in need of, but unable to access healthcare - more among over 50s (31.8%), males (31.4%), individuals with secondary level of education, students and unemployed (39.6%, 35.6% and 35.3% respectively).

| Characteristics | Have you been in need of, but unable to access adequate medical and health services because of the COVID-19 pandemic? | P-value |
|-----------------|-----------------------------------------------------------------|---------|
|                 | Yes                  | No                  |       |
| 1 Educational Qualification: | | | |
| No formal education | 16 | 47 | 0.000 |
| Post Graduate | 900 | 2606 | |
| Primary | 1 | 41 | |
| Secondary | 91 | 139 | |
| Undergraduate | 496 | 890 | |
| Total: | 1504 | 3723 | |
| 2 Employment Status: | | | |
| Businessperson | 346 | 696 | 0.000 |
| Employed | 635 | 2073 | |
| Student | 166 | 300 | |
| Unemployed | 357 | 654 | |
| Total: | 1504 | 3723 | |
| 3 Age: | | | 0.037 |
| <50 years | 1248 | 3175 | |
| ≥50 years | 256 | 548 | |
| Total: | 1504 | 3723 | |
| 4 Gender: | | | 0.001 |
| Male | 644 | 1410 | |
| Female | 860 | 2313 | |
| Total: | 1504 | 3723 | |
| 5 Educational Qualification: | | | 0.000 |
| No formal education | 0 | 63 | |
| Primary | 0 | 42 | |
| Secondary | 46 | 184 | |
| Undergraduate | 129 | 1257 | |
| Post Graduate | 931 | 2575 | |
| Total: | 1106 | 4121 | |
| 6 Employment Status: | | | 0.000 |
| Businessperson | 92 | 950 | |
| Employed | 878 | 1830 | |
| Student | 45 | 421 | |
| Unemployed | 91 | 920 | |
| Total: | 1106 | 4121 | |
| 7 Age: | | | 0.050 |
| <50 years | 915 | 3508 | |
| ≥50 years | 191 | 613 | |
| Total: | 1106 | 4121 | |
| 8 Gender: | | | 0.000 |
| Male | 371 | 1683 | |
| Female | 735 | 2438 | |
| Total: | 1106 | 4121 | |

Table 6: Relationship of Educational and Employment Status to Access to Healthcare and Using Health Insurance

Additionally from table 6, 4121(78.8%) of respondents did not have and use health insurance. The table shows that 1683(81.9%) of males, 950(91.2%) of business persons, 920(91.0%) of unemployed and 421(90.3%) of students in this study did not have and use health insurance. Also, 100% each of respondents with no formal and primary education did not have and use health insurance. All reported differences are statistically significant at p < 0.05.

4. Discussion

This study shows the socio-economic and health effects of the COVID-19 pandemic in Nigeria, and that of the accompanying lockdown which started on March 30th (Amzat et al., 2020). The lockdown was instituted to contain the
pandemic and had effects in both the under- and over- 50-year-olds, but more especially the older age group (over-50-year-olds). In this study, individuals aged 50 years and above felt lonelier compared to the under-50s (34.3% vs. 29.7%); and this is a possible consequence of their being less involved in social networking than the under-50s (at 2.6% vs. 3.3%). Other studies have reported that quarantine and lockdowns can cause psychosocial effects including loneliness in addition to socioeconomic distress; and these are explained by many factors including reduced social networking, inability to attend social events as well as withdrawal from social events (Dubey et al., 2020; Brooks et al., 2020). These effects may be more in older persons due to perceived risk for infection from the pandemic as well as from the ‘infodemic’ or ‘pandemic of social media panic’, that is, panicking messages spread via several social media platforms (Depouyat et al., 2020; Zarocostas, 2020). Thus, current advice rests on implementing physical distance (of at least 6 feet), not distancing socially, achieved through incorporation of digital strategies to meet the personal and social needs of particularly the older persons during the pandemic (Nicol et al., 2020).

It was observed in this study that, compared to respondents aged 50 years and above, more under-50s seemed to fare better in receiving help from individuals, non-governmental organizations and religious organizations and clubs. However, this could be as a consequence of the observation that the under-50s also received comparatively less income (39.2% vs. 31.7%), and were food deprived (31.4% vs. 27.0%). As reported in this study and other studies by Dubey et al. (2020) and Erokhin and Gao (2020), COVID-19 has turned out not only a health challenge but an economic and social challenge. Buonsenso et al. (2020)’s study on the social consequences of COVID-19 in 78 households in Sierra Leone, West Africa reported a 51-80% (19.2%) to 81-100% (79.4%) reduction of weekly income in households, compared to the pre-lockdown period; as well as difficulties in providing food for the family members in 82% of households. These results were higher than the values obtained in our study possibly because we studied both urban and rural areas in Nigeria, whereas the study in Sierra Leone was focused on a small rural community with low resource setting. Similarly, Dyer (2020) estimates that the gravest concern about the lockdown in Africa is about people’s abilities to feed their families, and this is attributed to the lack of safety nets in the informal sector in which 70% of Africans work in. This concern is worsened by reports by Ogunmijet et al. (2017) that 70% of Nigerians live on less than US$1.25 every day.

These results on challenges with ability to feed among many Nigerians in the face of the country’s ‘resource-rich’ status has been taunted as attributable to a ‘resource curse phenomenon’, however there is weak evidence for this (Adika, 2020). An explanation for the challenges could be found in Bakalis et al. (2020)’s study clarifying that the two-faced nature of COVID-19 on food security as being through direct (disrupted international food supply and demand systems) and indirect (by undermined economic access to food through degrading the purchasing power of the population). Specifically, Nigeria is reported to have more significant causality flowing from food inflation to food insecurity during the pandemic (Erokhin and Gao, 2020).

During the period of the study, more individuals aged 50 years and above were in need of, but unable to access healthcare (31.8%), as well as more males (31.4%), individuals with secondary level of education, students and unemployed (39.6%, 35.6% and 35.3% respectively). A study by Ahmed et al. (2020) on access to healthcare in seven slum communities in Nigeria, Kenya, Pakistan and Bangladesh explained a general reduction in access to healthcare services as being due to increased cost of healthcare, reduced household income, increased challenges in physically getting to the facilities and reluctance of individuals to get to health facilities due to fear of getting infected or diagnosed and stigmatized with COVID-19. These factors could also explain the challenges leading to reduced access in this study among the older age group (as older persons may be less able to trek to health facilities during lockdown in the absence of other means of transportation, and may have greater fear of the risk of infection).

Among all participants in the study, majority (78.8%) did not have and use health insurance. There were more unemployed and student participants who did not have and use health insurance, which is in line with Alemu and Adesina (2017)’s conclusion that in general, livelihood is significantly better for engaged persons. This, in the face of increased healthcare cost, could additionally explain why these participants were less able to access healthcare during the COVID-19 pandemic lockdown. The results also showed that specifically, all (100%) participants with primary and secondary levels of education did not have and use health insurance. Thus, it could be argued that investment in education could yield gains beyond the educational sector and into the health sector. Similarly, other studies by Emediegwu (2021) and Odusola (2017) concluded and recommended that heavily investing in the educational sector will make significant positive impact on many aspects of educational and health development in Nigeria.

This study thus highlights as well as advocates the need to prioritize of the health needs of older people in response to the COVID-19 pandemic, an observation also made by Lloyd et al. in 2020. This study further found that older persons (aged 50 years and above) spent less time with family, had less involvement with children’s homeschooling, less family religious activities and less harmony in their homes compared to the younger persons (aged less than 50 years). In addition, majority of respondents were unable to go to work during the pandemic, more for older persons compared to younger persons. These could be a direct result of the lockdown as well as of guidelines to keep a distance from older persons due to increases health risks during the pandemic. As there is paucity of studies in these aspects, this paper uniquely adds to the knowledge base on the comparative analysis of health and socio-economic effects of the pandemic among under- and over- 50 year olds in Nigeria. This paper also highlights the urgent need to address these challenges to curb their degeneration into longer lasting effects.

4.1. Conclusion

In conclusion, this initial study provides an insight into the short-term and possibly long-term effects of the pandemic on adult Nigerians. Our deposition is that the COVID-19 pandemic has had statistically significant socio-
economic and health effects in Nigeria particularly among persons aged 50 years and older, the less educated, unemployed persons and males. The consequences noted could ripple into long lasting psycho-social and physical health challenges. There is therefore urgent need for individuals, families, non-governmental organizations and the government to step up efforts to address the problems emerging from the pandemic and lockdown especially for citizens 50 years and above who are also at greater health risk during the COVID-19 pandemic.

5. Acknowledgements

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