



PIONEER

MEDICAL JOURNAL

Vol. 1 No. 1 Jul. - Dec., 2021

ERRATUM

This article was inadvertently republished under Volume 1, No. 1 (July-December 2021) following a redesign and restructuring of the journal website. The correct bibliographic designation for this article is Volume 11, No. 2 (July-December, 2024), under which it was originally published. This correction affects only the volume, issue, and publication-period metadata. The article content, DOI, authorship, pagination, and publication date remain unchanged.

www.pioneermedicaljournal.com

ISSN: 2354 - 1954

Official Publication of The Medical and Dental
Consultants' Association of Nigeria (**MDCAN**)
FMC, Umuahia Chapter.

Editor In-Chief

DR. CHIMEZIE GODSWILL OKWUONU

PIONEER MEDICAL JOURNAL

FMC, UMUAHIA

Original Article

PSYCHOSOCIAL EFFECTS OF COVID-19 AMONG STUDENTS OF A TERTIARY EDUCATIONAL INSTITUTION IN EDO STATE, NIGERIA.

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ABSTRACT

COVID-19 proved to be one of the most globally challenging pandemics necessitating a global lockdown, thereby drastically affecting global economy and influencing psychosocial wellbeing of individuals. This study assessed the psychosocial effect of COVID-19 among students of University of Benin, Edo State.

Methods: An analytical cross-sectional study was conducted involving 640 respondents selected from ten departments within University of Benin, selected by multistage sampling methods. Semi-structured self-administered questionnaire containing open and close ended questions, adapted from Impact of Events Scale-Revised (IES-R) were used for data collection. Data was collected and analyzed using IBM SPSS version 25.0. The main outcome variable psychosocial effect of COVID-19 was classified as affected and unaffected respectively with statistical significance set at $p < 0.050$ and 95% Confidence Interval.

Result: The mean age of respondents studied was 21.6 ± 3.9 years. About a third 207 (32.3%) of the respondents studied felt they were affected psychologically by COVID-19 while 433 (67.7%) were not affected psychologically. Age was recognized as a major determinant of psychosocial effect of COVID-19 among respondents studied (OR=1.110; 95% CI :1.005-1.225; $p=0.040$).

Conclusion: A third of respondents studied experienced psychosocial effects of COVID-19. Pandemic counselling and rehabilitation centers should be established and instituted during infectious disease outbreaks to help persons infected and affected cope better with the psychosocial effects and impact.

Keywords: COVID-19, Nigeria, Psychosocial Effect, Students, Undergraduate, University of Benin.

INTRODUCTION

Corona Virus Disease (COVID) is a highly transmissible, mild to severe respiratory illness caused by the novel Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2).¹⁻³ The COVID-19 pandemic began with a small cluster of pneumonia cases related to a seafood market in Wuhan, China on December 19, 2019, and has since grown to become one of the worst pandemics in human history, with 224.7 million infections in 221 nations and more than 4.6 million deaths as of September 11, 2021⁴.

COVID-19 pandemic has interfered with every sphere of human life, this interference spans from local to international levels, thus necessitating its declaration as a global pandemic⁵. The high transmissibility of Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2) and its ability to mutate into several variants has made its control difficult⁶. COVID-19 has proven to be one of the most globally challenging pandemics necessitating a global lockdown, thereby drastically affecting the economy of the world and psycho-social well-being of individuals resulting in depression, anxiety and post-traumatic stress disorder.¹⁻⁷ A study done in China reported that 30% of the residents affected had anxiety, 17% were depressed, and 35% had trauma related distress symptoms when the lockdown was implemented⁷. Similarly, another research conducted in Italy showed that 17.3% of respondents experienced depression, 20.8% experienced anxiety, and 22.9% experienced adjustment disorder because of restriction of movement due to quarantine⁸, these findings were similarly collaborated in a study conducted in southern Nigeria⁹

Furthermore, additional control measures to prevent the virus (SARS-CoV-2) from spreading resulted in schools being closed down. The closure of schools led to elevated stress levels, boredom, loneliness, anxiety, and post-traumatic stress among students because of performance pressure, potential uncertainty and academic disruption¹⁰. This disruptions and restrictions in movement during the pandemic can impose and infuse psychological pressure, stress and anxiety on individuals affected by COVID-19.

The COVID-19 pandemic did not spare local, regional or global economies. Border closures, travel restrictions, and lockdown resulted in a \$1.7 trillion to \$2.6 trillion reduction in global trade (1.9% to 2.9% of GDP)¹¹. COVID-19 also had a significant impact on employment and wage income, as reports showed that about 5 million people including university staff, lost their job in the first 2 months of the pandemic, and unemployment claims exceeded 1 million per week¹²⁻¹³. A study done in Bangladesh showed that employees lost between 30% - 50% of their wages because of school closures¹⁴. Not less than 1.6 billion children and youths worldwide were out of school due to school closure during the pandemic and 4.3 million learners in Africa might not be able to re-enroll into school in 2021 because of the economic effect of COVID-19¹⁵⁻¹⁶. This study was conducted to assess the psycho-social effects of COVID-19 among undergraduate students of University of Benin, in order to bridge the knowledge gap and improve preventive measures.

METHODS

An analytical cross-sectional study among undergraduate students was carried out in University of Benin, Benin City, Edo State, Nigeria between April 2021 to April 2022. University of Benin (UNIBEN) is a public tertiary education institution founded in 1970.¹⁷⁻¹⁸ It started as an Institute of Technology and was accorded the status of a full-fledged University by National University Commission on 1st July, 1971. The University has a student enrolment range of 40,000 - 44,999 students made up of both full-time and part-time students; and 4,000 – 4,499 academic staff.¹⁷ The faculties in UNIBEN include Agriculture, Arts, Education, Engineering, Environmental Sciences, Law, Life Sciences, Management Sciences, Pharmacy, Physical Sciences, and Social Science and a College of Medical Sciences which comprises the School of Medicine, Dentistry, Basic Medical Sciences and Institute of Child Health.¹⁷ An estimated sample size of 640 undergraduate students was calculated using the Cochran's formula¹⁹ for simple proportion based on prevalence of 50%²⁰. Respondents were recruited across selected faculties and department based on multistage sampling technique. The psychosocial effect of COVID-19 was assessed using pretested semi-structured self-administered questionnaires adapted from Impact of Events Scale-Revised (IES-R)²¹ containing a total of 21 questions with a 5-point Likert scale ranging from 0 to 4. The following scores were given based on the answers given: strongly disagree = 0, Disagree = 1, Neutral = 2, Agree = 3, Strongly agree = 4. Giving a maximum score of 84 and a minimum score of 0. The scores were converted to percentages and interpretation are as follows: scores less

than 50% was classified as unaffected while scores of 50% and above was classified as affected (negative outcome). Data collected was collated and screened for completeness after which they were serially entered into the IBM Statistical Package for the Social Sciences (SPSS) version 25.0 software for analysis with statistical significance set at $p < 0.05$ and 95% confidence interval. Results obtained were analyzed and presented as prose, frequency tables, charts and contingency tables. Level of significance was set at $p < 0.050$ and 95% confidence interval.

Ethical approval was obtained from the Research and Ethics Committee (REC), University of Benin Teaching Hospital. While informed consent was obtained from the respondent before participation after full explanation of the study objectives. The respondents were informed that participation in the study was voluntary and that there were no penalties or loss of benefits for refusal to participate in the study or withdrawal from it.

RESULTS

The mean age of respondents studied was 21.6 ± 3.9 years. About two-thirds, 391 (61.1%) of the respondents were within the age group of 20 – 24 years. Three hundred and twenty-three (50.5%) of the respondents were females while three hundred and seventeen (49.5%) were males. Six hundred and twenty (96.9%) were never married while twenty (3.2%) were ever married.

Six hundred and one (93.9%) of respondents studied practiced Christianity. In relation to ethnicity 171 (26.7%) were Benin, Igbo 145 (22.7%), and Esan 112 (17.5%), See Table 1 for other sociodemographic characteristics of respondents studied.

Table 2 showed that three hundred and thirty-four (52.2%) of the respondents admitted to being afraid of not being able to meet up with academic milestones. The hundred and forty-one (53.3%) of the respondents were afraid of their family members getting infected with COVID-19. Only 52 (8.2%) respondents reported that they had lost interest in former pleasurable activities and 63 (8.9%) had been having suicidal thoughts due to the COVID-19 pandemic. However, most of the respondents denied having suicidal thoughts 389 (60.8%), being unable to sleep 346 (54.1%) or trouble in their relationship at home or professionally 321 (50.2%) as a result of the pandemic.

Figure 1 showed that four hundred and thirty-three (67.7%) respondents studied felt they were unaffected psychologically by COVID-19 while 207 (32.3%) felt they were affected psychologically by COVID-19.

The results in table 3 showed that the age group 30 – 34 years accounted for the highest proportion of respondents who reported they were psychologically affected by COVID-19. This association was statistically significant ($p < 0.001$). Although, a slightly higher proportion of females compared to males were affected psychologically this association was not statistically significant ($p = 0.555$). In relation to religion, respondents that practiced Islam reported a higher proportion of being affected psychologically by COVID-19 compared to Christians and ATR respectively and this association was statistically significant ($p = 0.041$) Respondents from the Faculty of Arts 53 (42.7%) and the Department of Philosophy 31 (75.6%) reported highest

proportion of those affected psychologically by COVID-19 compared to other faculties and departments respectively and these associations were statistically significant ($p = 0.007$ and $p < 0.001$). Respondents who were separated/divorced were found to be most 3 (100.0%) psychologically affected by COVID-19 and the association between marital status and being psychologically affected by COVID-19 was statistically significant ($p < 0.001$). Although, respondents in 600 level were found to be most affected 8 (40.0%) compared to other levels the association between respondent's level and being affected psychologically by COVID-19 was not identified to be statistically significant ($p=0.562$). Psychological effect of COVID-19 was found to increase with increasing age and this was statistically significant ($OR = 1.110$, $p = 0.040$) as shown in table 4. Female respondents were found to be less likely to be psychologically affected by COVID-19 but this was not statistically significant ($OR = 0.781$, $p = 0.221$). Respondents who practiced Christianity were found to be more likely to be psychologically affected by COVID-19 when compared to those who were Islam/Atheist but this was not statistically significant ($OR = 2.112$, $p = 0.068$). Respondents from the Faculties of Education and Medicine were more likely to be psychologically affected by COVID-19 and those in the Faculties of Arts and Law were less likely to be psychologically affected by COVID-19 than those who were in the Faculty of Engineering but these were not statistically significant ($OR = 1.004$, $p = 0.989$; $OR = 1.114$, $p = 0.790$; $OR = 0.758$, $p = 0.360$ and $OR = 0.599$, $p = 0.129$ respectively). Respondents who were in 100, 200, 300, 400 and 500 level

were more likely to be psychologically affected by COVID-19 than those in 600 level but these were not statistically significant (OR = 1.699, $p = 0.459$; OR = 1.337, $p = 0.636$; OR = 2.252, $p = 0.209$; OR = 1.133, $p = 0.841$ and OR = 1.103, $p = 0.891$ respectively). Respondents who were single were more likely to be psychologically affected by COVID-19 than those who were not single but this was not statistically significant (OR = 1.211, $p = 0.637$).

DISCUSSION

Over half of respondents studied reported to develop fear of not being able to meet up with academic milestone due to COVID-19. This was similar to report from a study done in Ibadan²⁰. This may be because undergraduates may be encountering their first autonomous life outside the direct supervision of their parent, thus may find the unexpected disruption of academic plans novel and disturbing. Also, undergraduate students are often still formulating a career path and likely to be bothered by any delay to achieve the academic milestone needed to create their career path. These worries about achieving academic milestones highlights the fact that students need unique psycho-social support to help them successfully resolve academic challenges. This study revealed that over half of the respondents were afraid of their family member getting infected with COVID-19. This is similar to findings from a study carried out western Nigeria which revealed that more than half of the respondents were afraid of contracting COVID-19^{20,22-23}. This may be because the southwest region of the country reported the highest number of cases (more than half of the national burden of the pandemic), hence

people in that region were very scared of themselves or their family members contracting the disease^{20,22-23}. This fear reported by respondents may help enhance strict adherence to the COVID-19 prevention guidelines thereby reducing the spread and burden of the COVID-19 disease.

About half of the respondents studied reported being worried, anxious, felt socially isolated with stigmatization due to the COVID -19 pandemic. These findings are in contrast to reports in Rotana district in Guinea among students²⁴. These findings were similarly reported in a study in China revealed that about half of the total participant developed features of depression such as loneliness and suicidal ideation²⁵⁻²⁶. Furthermore, anxiety was reported to be associated with COVID-19 in a population based study⁹ in Edo State, South Southern Nigeria. This may be because the study population was made up of mainly student population who keep themselves busy with the social media unlike the general population used in the study quoted above. This study identified that majority of the respondent (over two-third) were unaffected psychologically by the pandemic. Poor psycho-social well-being which can manifest as depression, can be associated with poor sleep patterns and poor quality of life and reduced productivity among students and non-students, this can be aggravated by the traumatic experience of COVID-19. Hence, the need to set up counselling units for mental health rehabilitation and support for various population group during infectious disease outbreaks such as COVID-19.

This study also demonstrated that majority of those affected psychologically were above 30 years of age while most of those

who were unaffected psychologically are less than 25 years of age. This may be because the older adults have greater sense of responsibility to their families as they need to care for themselves and significant others which became unduly interrupted due to the lockdown imposed during the pandemic which made many socially and financially handicapped.

CONCLUSION

A third of respondents studied experienced psycho-social effects of COVID-19 with increasing age of respondent identified as the significant predictor for psychological

effect of COVID-19. Pandemic counselling and rehabilitation centers should be established and instituted during infectious disease outbreaks to help persons infected and affected cope better with the psychosocial effects and impact.

ACKNOWLEDGEMENT:

We the authors sincerely express our profound gratitude to the respondents and the University of Benin Authority for permission to carry out this study.

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Variable	Frequency n = 640	Percent (%)
Age		
15 – 19	167	26.1
20 – 24	391	61.1
25 – 29	66	10.3
30 – 34	9	1.4
≥35	7	1.1
Mean age = 21.6 ± 3.9		
Sex		
Male	317	49.5
Female	323	50.5
Religion		
Christianity	601	93.9
Islam	33	5.2
Atheist	6	0.9
Faculty		
Engineering	190	29.7
Education	145	22.7
Arts	124	19.4
Law	99	15.5
Medicine	82	12.8
Department		
Law	99	15.5
English and Literature	83	13.0
Medicine	82	12.8
Electrical/Electronics	76	11.9
Adult Education	64	10.0
Mechanical Engineering	62	9.7
Chemical Engineering	52	8.1
Educational Evaluation and Counselling Psychology	45	7.0
Philosophy	41	6.4
Human Kinetics and Sport Science	36	5.6
Level		
100	102	15.9
200	193	30.2
300	188	29.4
400	84	13.1
500	53	8.3
600	20	3.1
Marital status		
Never Married	620	96.9
Ever Married	20	3.2
Ethnic group		
Bini	171	26.7
Igbo	145	22.7
Esan	112	17.5
Yoruba	56	8.8
Isoko	55	8.6
Urhobo	55	8.6
Etsako	33	5.2
Hausa	13	2.0

TABLE 2: PSYCHOSOCIAL EFFECTS OF COVID-19

Psycho-social effect of COVID-19	Disagree Freq (%)	Strongly disagree Freq (%)	Neutral Freq (%)	Agree Freq (%)	Strongly agree Freq (%)
Experienced anxiety	171 (26.7)	107 (16.7)	137 (21.4)	130 (20.3)	95 (14.8)
Fear of getting infected with COVID-19	141 (22.0)	90 (14.1)	103 (16.1)	191 (29.8)	115 (18.0)
Fear of family members contracting the virus	104 (16.3)	81 (12.7)	114 (17.8)	194 (30.3)	147 (23.0)
Fear of not meeting up with academic milestones	120 (18.8)	81 (12.7)	105 (16.4)	183 (28.6)	151 (23.6)
Trouble relaxing when thinking of COVID-19	191 (29.8)	137 (21.4)	153 (23.9)	99 (15.5)	60 (9.4)
Heart races when I read about the COVID-19	203 (31.7)	132 (20.6)	151 (23.6)	89 (13.9)	65 (10.2)
Worry about the future	150 (23.4)	87 (13.6)	143 (22.3)	173 (27.0)	87 (13.6)
Uneasy when reading news about COVID-19	163 (25.5)	131 (20.5)	146 (22.8)	141 (22.0)	59 (9.2)
Loneliness due to the pandemic	208 (32.5)	136 (21.3)	126 (19.7)	88 (13.8)	82 (12.8)
Frustration with uncertainty	176 (27.5)	125 (19.5)	142 (22.2)	132 (20.6)	65 (10.2)
Feel helpless	209 (32.7)	138 (21.6)	135 (21.1)	101 (15.8)	57 (8.9)
Feel worthless	293 (45.8)	145 (22.7)	100 (15.6)	59 (9.2)	43 (6.7)
Inability to get support from friends and family	236 (36.9)	115 (18.0)	114 (17.8)	119 (18.6)	55 (8.6)
Social stigma if I became infected	152 (23.8)	91 (14.2)	147 (23.0)	148 (23.1)	102 (15.9)
Social isolation	182 (28.4)	119 (18.6)	120 (18.8)	147 (23.0)	72 (11.3)
Lost interest in former pleasurable activities	221 (34.5)	142 (22.2)	124 (19.4)	51 (8.0)	1 (0.2)
Feeling very fatigued	259 (40.5)	155 (24.2)	121 (18.9)	75 (11.7)	30 (4.7)
Having suicidal thoughts	389 (60.8)	86 (13.4)	102 (15.9)	37 (5.8)	26 (4.1)
Troubled professional and personal relationships	321 (50.2)	131 (20.5)	101 (15.8)	52 (8.1)	35 (5.5)
Lack of sleep	346 (54.1)	125 (19.5)	92 (14.4)	43 (6.7)	34 (5.3)
Problems making decisions	305 (47.7)	102 (15.9)	111 (17.3)	72 (11.3)	50 (7.8)

TABLE 3: FACTORS ASSOCIATED WITH PSYCHOSOCIAL EFFECTS OF COVID-19 AMONG RESPONDENTS

Variable	Psychosocial effect		Test statistic	p-value
	Affected n = 207 Freq (%)	Unaffected n = 433 Freq (%)		
Age (years)			Fisher's exact	
15 – 19	51 (30.5)	116 (69.5)	29.251	< 0.001*
20 – 24	115 (29.4)	276 (70.6)		
25 – 29	26 (39.4)	40 (60.6)		
30 – 34	9 (100.0)	0 (0.0)		
≥35	6 (85.7)	1 (14.3)		
Sex			χ^2	
Male	99 (31.2)	218 (68.8)	0.356	0.555
Female	108 (33.4)	215 (66.6)		
Religion			Fisher's exact	
Christianity	189 (31.4)	412 (68.6)	5.989	0.041*
Islam	17 (51.5)	16 (48.5)		
Atheist	1 (16.7)	5 (83.3)		
Faculty			χ^2	
Education	37 (25.5)	108 (74.5)	14.104	0.007*
Engineering	51 (26.8)	139 (73.2)		
Arts	53 (42.7)	71 (57.3)		
Medicine	27 (32.9)	55 (67.1)		
Law	39 (39.4)	60 (60.6)		
Department			χ^2	
Adult Education	17 (26.6)	47 (73.4)	55.537	< 0.001*
Educational Evaluation.	10 (22.2)	35 (77.8)		
Human Kinetics	10 (27.8)	26 (72.2)		
Chemical Engineering	19 (36.5)	33 (63.5)		
Electrical/Electronics	10 (13.2)	66 (86.6)		
Mechanical Engineering	22 (35.5)	40 (64.5)		
English and Literature	22 (26.5)	61 (73.5)		
Philosophy	31 (75.6)	10 (24.4)		
Medicine	27 (32.9)	55 (67.1)		
Law	39 (39.4)	60 (60.6)		
Level			χ^2	
100	33 (32.4)	69 (67.6)	3.931	0.562
200	63 (32.6)	130 (67.4)		
300	52 (27.7)	136 (72.3)		
400	31 (36.9)	53 (63.1)		
500	20 (37.7)	33 (62.3)		
600	8 (40.0)	12 (60.0)		
Marital status			Fisher's exact	
Single	182 (30.6)	412 (69.4)	20.010	< 0.001*
Married	13 (76.5)	4 (23.5)		
Separated/Divorced	3 (100.0)	0 (0.0)		
Co-habiting	9 (34.6)	17 (65.4)		

* = statistically significant

TABLE 4: DETERMINANTS OF PSYCHOLOGICAL EFFECTS OF COVID-19

Factors	B	Odds ratio	95% CI for OR		p-value
	(Regression co-efficient)		Lower	Upper	
Age	0.104	1.110	1.005	1.225	0.040*
Sex					
Female	-0.248	0.781	0.525	1.161	0.221
Male		1			
Religion					
Christianity	0.748	1.004	0.568	1.775	0.989
Islam/Atheist		1			
Faculty					
Engineering		1			
Education	-0.004	1.004	0.568	1.775	0.989
Arts	-0.277	0.758	0.419	1.372	0.360
Law	-0.512	0.599	0.309	1.161	0.129
Medicine	0.108	1.114	0.502	2.472	0.790
Level					
100	0.530	1.699	0.459	6.286	0.427
200	0.290	1.337	0.402	4.443	0.636
300	0.812	2.252	0.634	7.994	0.209
400	0.125	1.133	0.335	3.825	0.841
500	0.098	1.103	0.274	4.434	0.891
600		1			
Marital status					
Never married	0.191	1.211	0.547	2.679	0.637
Ever married		1			

* = statistically significant; $R^2 = 18.8 - 26.3\%$

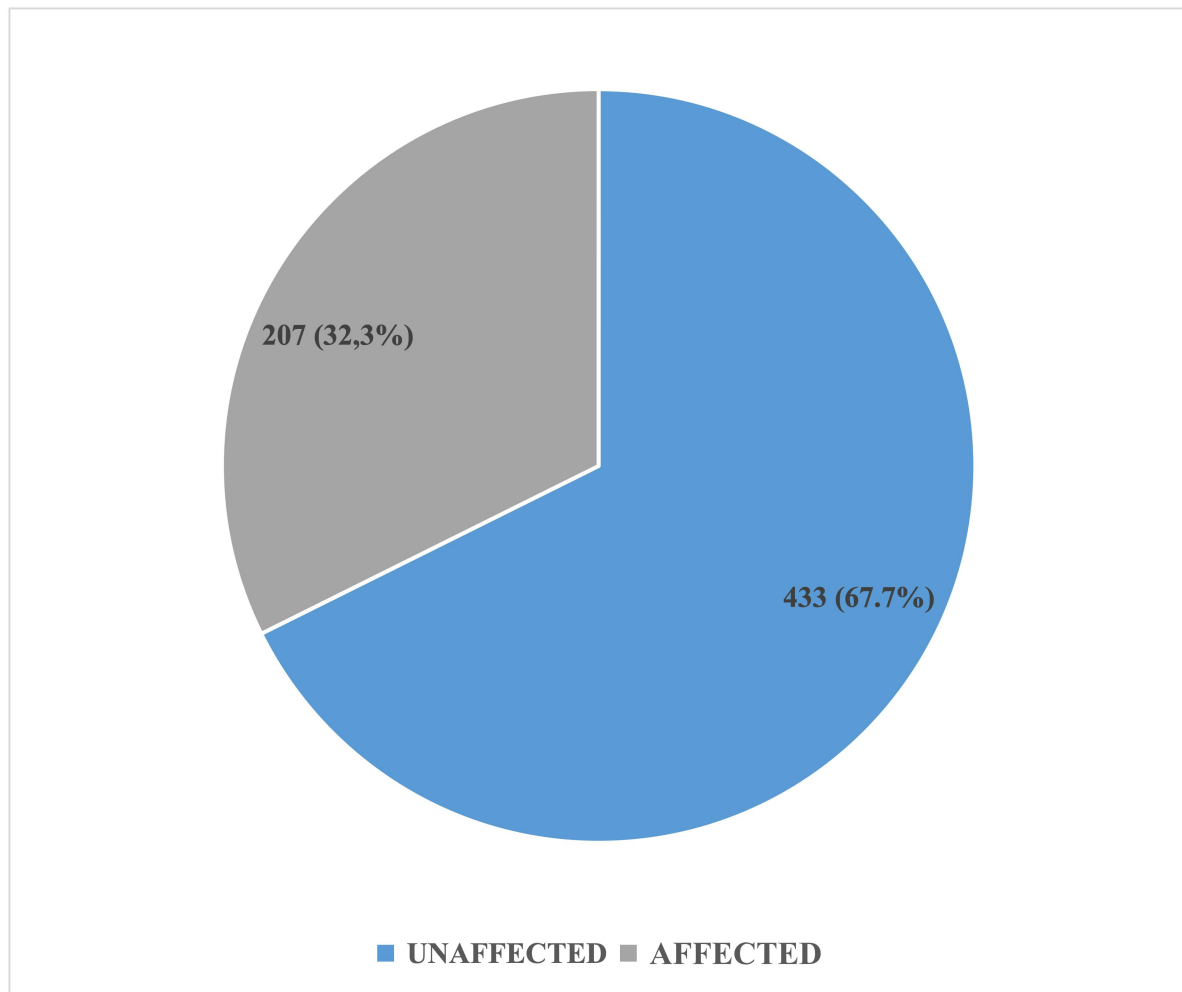


FIGURE 1: PSYCHOSOCIAL EFFECTS OF COVID-19 ON RESPONDENTS

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