

*Title of the Manuscript:*

# Impact of COVID-19 Pandemic on Mental Health and Effects of a Sense of Verdict of Selected College Students in Nepal, Nigeria and India

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## Abstract

**Background:** The COVID-19 pandemic has brought a negative impact on mental health among college students across the world. Mental health issues are the leading obstacle to academic success. Aim of the study was to assess the prevalence and impact of COVID-19 on mental health and effects of a sense of verdict of selected college students from Nepal, Nigeria and India.

**Methods:** Non-probability, snowball sampling technique was applied for data collection. A total of 696 responses were recorded from selected colleges from Nepal, Nigeria and India. Online survey-based platform was used to distribute the e-questionnaire to collect the information. Online survey was conducted from 15<sup>th</sup> to 30<sup>th</sup> June 2020.

**Results:** More than half of the respondents 390(56%) had experienced depression during lockdown period. Majority of respondents 45(75.0%) from Nigeria had undergone depression followed by Nepal 73(58.87%) and India 271(52.93%). Young respondents 194(38.6%) in the age group of 18-20 years had experienced mild depression.

**Conclusion:** The lockdown due to COVID-19 pandemic has been brought an extraordinary academic challenge to the students across the world. It is necessary to adapt holistic approach to develop interventions and preventive strategies to address the mental health of college students for their well being.

**Key words:** COVID-19, mental health, depression, college students and lockdown

## Introduction

The COVID-19 pandemic has been significantly influencing the life of each and all people across the world. It is known that the prevalence of pandemic creates new stressors including depression, anxiety,

fear, frustration and worry for oneself or dear ones, constraints on physical movement and public activities due to quarantine, and rapid and radical lifestyle changes across the world. WHO, together with partners, is providing guidance and advice during the COVID-19 pandemic for health workers, managers of health facilities, people who are looking after children, older adults, students, people in isolation and members of the public more generally, to help us look after our mental health.

The COVID-19 pandemic has brought a negative impact on mental health among college students across the world. Mental health issues are the leading obstacle

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to academic success. Mental illness can affect students' motivation, concentration, and social interactions-crucial factors for students to succeed in higher education.<sup>[1]</sup> Many countries declared lockdown strategy throughout their country to minimize the gravity of its spread and enforced pronounced restrictions on public life into effect on middle of the March, 2020, to ensure 'social distance' through 'home quarantine' to curb the 'spread' of COVID-19. As a part of implementing this strategy, all education institutions were closed initially from March 16 to March 31 and later extended to June 2020. As of June 7, 2020, around 6.91 million people were infected with the COVID-19, with a confirmed fatality of another 0.4 million worldwide.<sup>[2]</sup> Hence, many countries implemented a range of anti-epidemic measures, such as restricting travel for foreign nationals,<sup>[3]</sup> closing down public spaces, and shutting down the entire transit system,<sup>[4,5]</sup> to contain the transmission of the highly contagious infections from human-to-human.

Depression, anxiety, fear and worry are normal responses to perceived or real threats, and at times when we are faced with uncertainty or the unknown. So it is normal and understandable that people are experiencing fear in the context of the COVID-19 pandemic. Faced with new realities of work from home, home-schooling of children, and lack of physical contact with friends and colleagues, it is important that we look after our mental as well as our physical health. It is well known that pandemics pose a threat to mental health.<sup>[6-8]</sup> Correspondingly, 2 recent reviews found a consistently negative impact of COVID-19 on mental health, with 16–18% of participants showing symptoms of anxiety and depression.<sup>[9,10]</sup> The first evidence indicates that women,<sup>[11,12]</sup> younger people,<sup>[13]</sup> and those with a poor sleep quality<sup>[11,13]</sup> are at an increased risk for mental health problems. The aim of the present study was to assess the prevalence and impact of COVID-19 on mental health and effects of a sense of verdict of selected college students from India, Nepal and Nigeria during 60 days of lockdown period from 1<sup>st</sup> April to 31<sup>st</sup> May 2020.

## Materials and Methods

### Study design

A web-based cross-sectional survey method was applied for collecting the information from the students.

Students enrolled in the different colleges in Nepal, Nigeria and India was considered for the present research study. Students in the age group of 18-34 years were selected for the research study. The study was conducted among students only those who had an understanding of English language and internet facility and were willing to participate in the study.

### Sampling technique

The Non-probability, snowball sampling technique was applied for data collection. An informed consent form was attached to the e-questionnaire and each respondent agreed to participate in the Online survey after reading the consent form. The respondents were asked to share the e-questionnaire with their friends using their personal network such as Email and Facebook etc. A total of 696 responses were recorded from selected colleges from Nepal, Nigeria and India.

### Data source

Students enrolled in different colleges in Nepal, Nigeria and India were the target population for the study. The Questionnaire encompasses Basic information, Depression and related information. An online survey-based platform was used to distribute the e-questionnaire to collect the information from the students. The e-questionnaire was developed by means of Google Form. Students from selected colleges in Nepal, Nigeria and India were contacted and interviewed through different social media networks. The Online survey was conducted from 15<sup>th</sup> to 30<sup>th</sup> June 2020. Data analysis was carried out using excel. Categorical variables were presented as frequencies and percentages.

## Results

The present study was conducted an Online survey through Google Form to assess the prevalence and impact of COVID-19 pandemic on Mental Health and effects of a sense of verdict of selected college students in Nepal, Nigeria and India. A total of 696 responses were recorded from selected colleges from Nepal, Nigeria and India. All the participants were between the age group of 18-34 years. The study shows [Figure 1] that overall more than half of the respondents 390(56%) had experienced and 306(46%) had not experienced depression due to COVID-19 during 60 days of lockdown from 1<sup>st</sup> April

to 31<sup>st</sup> May 2020. It is quite noticeable that [Figure 2] majority of college students 45(75.0%) from Nigeria had undergone depression due to COVID-19 followed by Nepal 73(58.87%) and India 271(52.93%).

[Table 1] describes the degree of depression among college students according to country wise. The result indicates that highest number of college students had experienced depression from Nigeria. Moreover, 7(12.7%) of respondents had faced severe depression from same country too. One fourth 31(25%) & 15(25%) of the respondents had experienced depression moderately from Nepal and Nigeria respectively. It is highly noticeable that less than half of the respondents 241(47.1%) from India had never been exposed depression during the period of COVID-19 pandemic followed by Nepal 51(41.1%).

[Table 2] indicates the degree of depression among college students according to their age. It is clearly understood that 3(6.3%) of respondents in the age group of 24-26 years had experienced severe depression during the lockdown period. This table highlights another point is that 239(47.6%) & 41(46.1%) of student in the age group of 18-20 and 21-23 years respectively had none minimal experience of depression throughout the lockdown period and also 194(38.6%) of respondents in the age group of 18-20 years had experienced mild depression during the lockdown period.

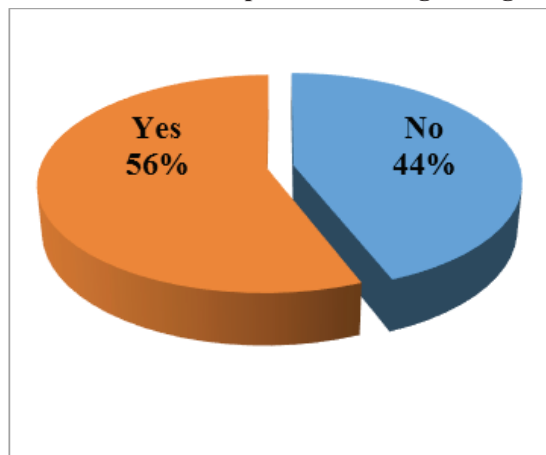
[Table 3] reveals the extent of depression among college students during COVID-19. Around 62(8.9%) of the respondents had experienced ‘Sleeping problem’ almost all days followed by ‘Fatigue’ 40(5.7%). When look at the ‘Appetite problem’ 50(7.2%) of respondents

had experienced. The result shows that 65(9.3%) respondents couldn’t keep their concentration on study during lockdown period.

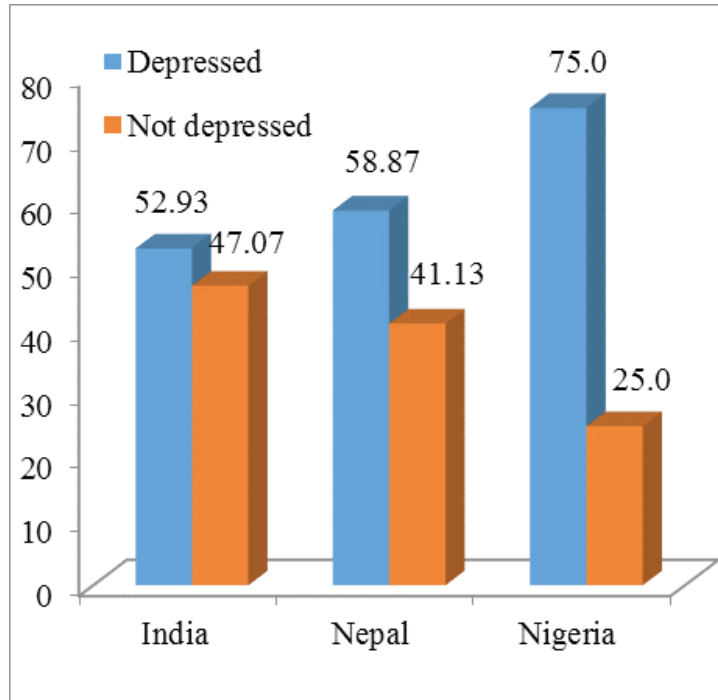
[Table 4] illustrates the extent of depression during COVID-19 among college students according to country wise. Around 8(13.3%) of students from Nigeria had undergone ‘Feeling and Hopelessness’ almost entire period of lockdown (46-60 days). Students from Nepal and Nigeria had undergone ‘Sleeping problems’ 21(16.9%) & 10(16.7%) respectively. It is noticeable that students 15(12.1%) from Nepal had faced problems of ‘Fatigue’ almost all days during lockdown period followed by Nigeria 6(10.0%) and India 19(3.7%). Result reveals that students who reside in Nigeria 8(13.3%) had experienced more ‘Appetite problem’ during entire lockdown period followed by Nepal 14(11.3%). It concludes that students from various countries had undergone mental health problems due to COVID-19

[Table 5] shows that respondents 5(8.3%) from Nigeria had experienced almost all days ‘Negative feeling by themselves’ during lockdown period. While looking at the ‘Concentration problems’ throughout the lockdown period towards academic activities was reported very high among students from Nepal 25(20.2%) & Nigeria 12(20.0%) whereas this cases was very low in India 28(5.5%). Result also indicates that ‘Feeling frustration’ during 2 months lockdown period was high among Nigerian students 7(11.7%) but in India it was only 8(1.6%). It conclude that students in Nigeria and Nepal had experience more degree of depression during the period of lockdown.

**Figure 1: Prevalence of Depression among College Students**



**Figure 2: Prevalence of Depression among College Students by Country wise**



**Table 1: Degree of Depression among College Students by Country wise**

Country	Degree of Depression				Total
	None-minimal (%)	Mild (%)	Moderately (%)	Severe (%)	
Nepal	51(41.1)	41(33.1)	31(25.0)	1(0.8)	124
Nigeria	15(25.0)	23(38.3)	15(25.0)	7(12.7)	60
India	241(47.1)	195(38.1)	74(14.5)	2(0.3)	512
Total	307	259	120	10	696

**Table: 2 Degree of Depression among College Students according Age**

Age	None-minimal (%)	Mild (%)	Moderately severe (%)	Severe (%)	Total
18-20	239(47.6)	194(38.6)	68(13.6)	1(0.2)	502
21-23	41(46.1)	24(27.0)	19(21.3)	5(5.6)	89
24-26	10(20.8)	19(39.6)	16(33.3)	3(6.3)	48
27-29	8(24.2)	12(36.4)	12(36.4)	1(3.0)	33
30-34	9(37.5)	10(41.7)	5(20.8)	0	24
Total	307	259	120	10	696

**Table: 3 Extent of depression among College Students during COVID-19**

Variables	Extent of depression during 60 days of lockdown period from 1st April to 31st May (N= 696)			
	Not at all (%)	< 30 days	30-45 days	46-60 days
Work Pleasure	127(18.2)	187(26.9)	115(16.5)	267(38.4)
Sleep problem	430(61.7)	147(21.1)	58(8.3)	62(8.9)
Fatigue	423(60.7)	186(26.7)	48(6.9)	40(5.7)
Appetite problem	459(65.9)	131(18.8)	57(8.2)	50(7.2)
Negative feeling of yourself	541(77.8)	110(15.8)	25(3.6)	20(2.9)
Concentration problem	434(62.3)	158(22.6)	40(5.7)	65(9.3)
Movement slow fidgety	555(79.8)	82(11.7)	34(4.9)	23(3.3)
Thoughts of hurting yourself	612(88)	51(7.3)	20(2.9)	13(1.9)

**Table 4: Extent of depression among College Students during COVID-19 by Country**

Variables & Country	Extent of depression during 60 days of lockdown from 1st April to 31st May 2020				Total (N= 696)
	Not at all	< 30 days	30- 45 days	46- 60 days	
Work Pleasure					
Nepal	41(33.1)	34(27.4)	25(20.2)	24(19.4)	124
Nigeria	17(28.3)	17(28.3)	4(6.7)	22(36.7)	60
India	69(13.5)	137(26.8)	86(16.8)	220(43.0)	512
Feeling and Hopelessness					
Nepal	8(65.3)	28(22.6)	9(7.3)	6(4.8)	124
Nigeria	28(46.7)	20(33.3)	4(6.7)	8(13.3)	60
India	311(60.7)	145(28.3)	44(8.6)	12(2.3)	512
Sleeping problem					
Nepal	59(47.6)	32(25.8)	12(9.7)	21(16.9)	124
Nigeria	28(46.7)	15(25.0)	7(11.7)	10(16.7)	60
India	344(67.2)	100(19.5)	39(7.6)	29(5.7)	512
Fatigue problem					
Nepal	62(50.0)	35(28.2)	12(9.7)	15(12.1)	124
Nigeria	16(26.7)	27(45.0)	11(18.3)	6(10.0)	60
India	346(67.6)	122(23.8)	25(4.9)	19(3.7)	512
Appetite problem					
Nepal	77(62.1)	18(14.5)	15(12.1)	14(11.3)	124
Nigeria	35(58.3)	14(23.3)	3(5.0)	8(13.3)	60
India	348(68.0)	97(18.9)	39(7.6)	28(5.5)	512

**Table 5: Extent of depression during lockdown period according to Country**

Variables & Country	Extent of depression during 60 days of lockdown from 1st April to 31st May 2020				Total (N=696)
	Not at all	<30 days	30-45 days	46-60 days	
<b>Negative feeling of yourself</b>					
Nepal	94(75.8)	18(14.5)	7(5.7)	5(4.0)	124
Nigeria	41(68.3)	11(18.3)	3(5.0)	5(8.3)	60
India	408(79.7)	79(15.4)	15(2.9)	10(2.0)	512
<b>Concentration problem</b>					
Nepal	67(54.0)	24(19.4)	8(6.5)	25(20.2)	124
Nigeria	25(41.7)	19(31.7)	4(6.7)	12(20.0)	60
India	341(66.6)	115(22.5)	28(5.5)	28(5.5)	512
<b>Movement slow fidgety</b>					
Nepal	94(75.8)	13(10.5)	11(8.9)	6(4.8)	124
Nigeria	34(56.7)	13(21.7)	4(6.7)	9(15.0)	60
India	429(83.8)	56(10.9)	19(3.7)	8(1.6)	512
<b>Thoughts of hurting yourself</b>					
Nepal	103(83.1)	8(6.5)	5(4.0)	8(6.5)	124
Nigeria	47(78.3)	3(5.0)	7(11.7)	3(5.0)	60
India	464(90.6)	38(7.4)	8(1.6)	2(0.4)	512
<b>Feeling Frustration</b>					
Nepal	68(54.9)	33(26.6)	17(13.7)	6(4.8)	124
Nigeria	25(41.7)	20(33.3)	8(13.3)	7(11.7)	60
India	304(59.4)	187(36.5)	13(2.5)	8(1.6)	512

## Discussion

Globally, the potential impact of the COVID-19 pandemic on student's mental health especially towards academic activities is of increasing concern. The present study was conducted an Online survey through Google Form to assess the prevalence and impact of COVID-19 pandemic on Mental Health and effects of a sense of verdict of selected college students in Nepal, Nigeria and India. The present study shows that 56% of the respondents had experienced depression during lockdown period due to COVID-19. The ongoing COVID-19 pandemic is creating a psycho-emotional chaotic situation as countries have been reporting a sharp rise of mental health problems, including anxiety, depression, stress, sleep disorder as well as fear, among its citizens.<sup>[14-18]</sup>

The present study shows that majority of college students (75.0%) from Nigeria had undergone depression due to COVID-19 followed by Nepal (58.87%) and India (52.93%). Furthermore, with the exception of high-burnout categories, depression levels among students, reported in several recent studies,<sup>[19,20,21]</sup> have varied between 29% and 38%, which may suggest an uptick in pandemic-related depressive symptoms among college students similar to recent studies in China.<sup>[22,23]</sup> Although our participants specifically mentioned several factors such as feelings of loneliness, powerlessness, as well as financial and academic uncertainties, other outcomes that were perceived to be impacted by the COVID-19 pandemic may also act as contributors to depressive thoughts and suicidal ideation. In particular, both difficulty concentrating and changes in sleeping habits are associated with depression.<sup>[24,25,26]</sup>

For college students, heightened levels of psychological distress and downstream negative academic consequences are prevalent under normal circumstances. As a result of physical distancing measures implemented in response to COVID-19, tertiary education institutions have shifted to an emergency online learning format, which would be expected to further exacerbate academic stressors for students.<sup>[27]</sup> One study has explored the impact of COVID-19 on student education and well-being.<sup>[28]</sup> Approximately 25% of their sample reported experiencing anxiety symptoms, which were positively correlated with increased concerns about academic

delays, economic effects of the pandemic, and impacts on daily life. Furthermore, among the many student surveys administered worldwide, one survey by Young Minds reported that 83% of young respondents agreed that the pandemic worsened pre-existing mental health conditions, mainly due to school closures, loss of routine, and restricted social connections.<sup>[29]</sup>

Many respondents found that COVID-19 pandemic had made difficult to adjust to the new academic routine during lockdown period and disturbed their preparations of academic life. This is a testimony to the fact that the present scenario has been relatively disruptive in terms of emotional and psychological health of the respondents concerned and required adjustment on part of them to get acquainted to new life during the period of lockdown. The present study results revealed a 56% prevalence of depressive symptoms during the COVID-19 outbreak among students. The anxiety and stress symptoms were found to be present in 49.06% and 43.19% of premedical students, respectively which is much more than the global prevalence of anxiety which was 33.8% and anxiety was most prevalent among medical students from the Middle East and Asia.<sup>[30]</sup> The study revealed that COVID-19 is creating psychological distress among students, as there are limitations due to lockdown students are forced to stay home and hence they are unable to attend the physical classes for preparation for the professional life and hence the most common mode of preparation was found to be self-study and online classes as of the lockdown students are going through a crisis situation and feeling lack of control on their academic lives due to lockdown.

## Conclusion

The lockdown due to COVID-19 pandemic has brought an extraordinary academic challenge to the students across the world. The findings of the study emphasize the multiple factors contributing to students' distress during this lockdown period. There is much impact on their mental health remains due to lockdown and what has to be done to diminish their negative effects. Priorities should be included the disturbances to educational progress and approaches academic institutions have taken to reduce adverse academic and mental health outcomes. New data may help to inform student-centered support programs and

diminish the long-term negative implications for student education and mental health. Due to the long-lasting pandemic situation such as lockdown and stay at home, COVID-19 pandemic has brought negative impacts on higher education. It concludes that there is necessary to adapt holistic approach to develop interventions and preventive strategies to address the mental health of college students for their well being.

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