

Social isolation in COVID-19: Impact on mental health of young adults

Aditi Verma¹, Abhishek Mehta¹

¹Department of Public Health Dentistry, Faculty of Dentistry, Jamia Millia Islamia, New-Delhi, India

Abstract

Background: The coronavirus disease (COVID-19) is profoundly affecting life around the globe. Social Isolation, contact restrictions and economic shutdown impose a complete change to the psychosocial environment threatening the mental health of young adults significantly.

Objectives: The present study aims to assess the impact of Social Isolation on the mental health of young adults during the pandemic.

Methods: A web based research was conducted on a sample of 438 college students of age 18-24 years. The participants were asked for responding to a standardized online questionnaire that included questions related to their anxiety levels and the 7-item Generalized Anxiety Disorder Scale (GAD-7).

Results: The results revealed 78.4% of the study populations were suffering with mild (35.2%), moderate (23.7%), and severe anxiety (19.4%) respectively. Univariate and Logistic Regression Analysis revealed gender and course/year of study had a significant effect on the level of anxiety ($p < 0.05$). Also, students living alone and having a relative or an acquaintance infected with COVID-19 were likely to be more anxious ($p < 0.05$). Spearman correlation analysis depicted Social Isolation as the main Covid-19 related stressor which was positively correlated and highly significant ($p = 0.0001$) to the level of anxiety of young adults.

Conclusions: The present study revealed approximately 43% of young adults is suffering from moderate to severe anxiety levels which require urgent attention.

Keywords: Social isolation, Mental Health, Young adults, India, COVID-19 pandemic.

Citation: Verma A and Mehta A. (2022) Social isolation in COVID-19: impact on mental health of young adults. Dentistry 3000. 1:a001 doi:10.5195/d3000.2022.185
Received: May 13, 2021
Accepted: May 27, 2021
Published: April 30, 2022
Copyright: ©2022 Verma A and Mehta A. This is an open access article licensed under a Creative Commons Attribution Work 4.0 United States License.
Email: averma1@jmi.ac.in

Introduction

The world is going through a major health and socio-economic crisis due to the emergence of novel Corona Virus Disease (COVID-19). The best option available for breaking the chain of transmission of this viral infection is with Social Isolation. As of 23rd March, 2020, all schools, colleges and educational institutions have been suspended under nationwide lockdown by the Government of India. The continuous rise in cases coupled with social isolation

measures such as the delay in the opening of schools, colleges/ universities or educational institutions across the country, closure of shopping malls and restrictions on social gatherings it is expected that the mental health of young adults is influenced [1]. These measures resulted in the major disruptions in the daily routines of socializing in schools, colleges and educational institutions which were important stress coping mechanisms for young adults [2]. Research

suggests that this social isolation could lead to various psychological-related disorders if they are left unattended [3, 4].

Several studies have already reported the negative psychological impact of pandemic on different age-groups [1, 3-5]. According to a review, young adults who feel lonely might be as much as three times more likely to develop depression in the future and that the impact of this loneliness on mental health could last for at least 9 years [3].

However, we found only a single Indian published literature focusing on understanding the mental state of youth during the current crisis [6]. Hence, the present study was conducted with an aim to assess the psychological impact of social isolation during COVID-19 pandemic on the mental health of young adults with the objectives: a. Evaluate the level of anxiety among young adults during this pandemic period; b. Evaluate the relationship between the COVID related stressors and anxiety.

Materials and Methods

A cross-sectional web-based study was conducted on a sample of 438 college students of age group 18-24 years (young adults) irrespective of courses enrolled from Jamia Millia Islamia University, New-Delhi, India. The snow-ball sampling method was utilized to achieve desired study sample. The minimum sample size of this study 'n' was estimated based on earlier study [6].

Ethical Issues and consent

The study proposal was reviewed and approved Faculty of Dentistry, Jamia Millia Islamia Institutional Review Board (No. FOD/IRRC/40/2020/F/2072020) prior to the commencement of the study. The research was conducted in concordance with the provisions of the Declaration of Helsinki regarding research on human participants. Informed consent was obtained from the study participants prior to the

commencement of study after being informed about the study purpose.

Eligibility Criteria

Students enrolled in various courses of Jamia Millia Islamia University and of age less than 25 years were eligible for participation in this study. Students on medications for any psychiatric disorder or anxiety issues or were unwilling to provide informed consent were excluded from the study.

Data Collection

A structured online questionnaire was prepared on Google forms referenced from an earlier study [1] with a consent form appended to it. The link of the questionnaire was sent through emails and WhatsApp to the university students 4 months post-lockdown. The data collection was initiated on 1st August 2020 at 10 AM IST and closed on 5th August 2020 at 10AM IST. The students who are willing to participate voluntarily in this study were invited to fill the questionnaire after taking their due informed consent. The participants were encouraged to roll out the survey to as many students as possible. Thus, the link was forwarded to students apart from the first point of contact and so on. On receiving and clicking the link the participants got auto directed to the information about the study and informed consent. Participants with access to the internet could participate in the study.

After inquiring about the general demographic information such as age, gender, place of residence, the participants were inquired about the COVID-19 related stress factors such as its economic influence, academic delays and social isolation along with the availability of social support. A standardized Generalized Anxiety Disorder Scale (GAD-7) [2] was used to measure the anxiety levels of the respondents. The GAD-7 includes seven items based on seven core symptoms and inquires the frequency with which respondents suffered from these symptoms within the last two weeks. Respondents report their symptoms using a 4-item Likert rating scale ranging from 0 (not at all) to 3 (almost every day), such that the total score ranges from 0 to 21. The GAD-7 is a well-validated screening instrument, and it has demonstrated excellent internal consistency (Cronbach's $\alpha = 0.911$) [3]. The level of anxiety and its probable causal factors (COVID-19 stressors) among university students during the pandemic were investigated.

Statistical Analysis

The data obtained were analyzed with a Statistical Package for the Social Sciences v22 (SPSS Inc; <http://www.spss.com>). Descriptive statistics were performed for illustrating the baseline characteristics of the respondents while univariate analysis was employed to check for the association between the respondent's characteristics and their level of anxiety. The association between

COVID-19 related stressors and anxiety levels were evaluated by Spearman's correlation coefficient.

Results

A total of 438 study participants were included in the present study comprising of 131 (30%) males and 307 (70%) females. Mean age of the study participants was 22.15 ± 1.93 years. The majority of the participants were living in urban areas (70%); 82.9% ($n = 363$) were staying with their parents and have a steady source of income while 17% ($n = 75$) of the parents of students did not have a steady income. More than $\frac{3}{4}$ (78.8%) of the participants reported that none of their relatives or acquaintances are or were infected with COVID-19 while 21% ($n = 93$) of the participants had relatives or acquaintances who were infected with COVID-19 [Table 1].

Level of anxiety among students

The mental health of the participants was affected during the pandemic to varying extent. The total of 438 study participants, only 21.6% reported no symptoms of anxiety whereas the proportions of students with mild, moderate, and severe anxiety were 35.2%, 23.7%, and 19.4%, respectively [Table 2].

Table 1. Comparison of different independent variables with severity of anxiety levels of study participants.

VARIABLES	TOTAL	NO/ MINIMAL	MILD	MODERATE	SEVERE	P
GENDER						
Male	131	38	42	31	20	0.038 ^a
Female	307	57	112	73	65	
PLACE OF RESIDENCE						
Urban	345	73	120	79	73	0.483 ^b
Rural	34	7	15	9	3	
Urban-Rural	59	15	19	16	9	
COURSE/YEAR OF STUDY						
BDS	186	41	61	48	36	0.003 ^a
Others than BDS	252	54	93	56	49	
STEADY FAMILY INCOME						
Yes	363	81	126	88	68	0.535 ^a
No	75	14	28	16	17	
SOCIAL SUPPORT/ LIVE WITH PARENTS						
Yes	363	82	130	95	56	0.009 ^a
No	75	13	24	9	29	
RELATIVE OR ACQUAINTANCE GOT COVID-19						
Yes	93	14	32	24	23	0.042 ^a
No	345	81	122	80	62	

^aMan-Whitney U – Test, ^bKruskal Wallis Test

Factors influencing students' anxiety

Univariate analysis revealed gender and course/year of study had a

significant effect on the level of anxiety among the study participants whereas place of residence and families with steady source of income

had no significant effect on the anxiety levels. Moreover, students living alone and having a relative or an acquaintance infected with COVID-19 were more likely to be more anxious [Table 1].

Table 2. Frequency distribution of study participants with different anxiety levels (n=438).

ANXIETY LEVEL	NUMBER	RATIO
Minimal anxiety	95	21.6
Mild anxiety	154	35.2
Moderate anxiety	104	23.7
Severe anxiety	85	19.4

Significant factors from the univariate analysis were included in the ordinal logistic regression analysis. In the model test, $p < 0.05$, indicating that the OR value of at least one variable was statistically significant. Therefore, $\chi^2 = 27.197$, $p > 0.05$, obtained in the test of parallel lines indicated a good model fit with the observed values. The results showed that having a social support, i.e. staying with their parents was one of the significant protective factors against students' anxiety (OR = 0.246, 95%CI = 0.387 - 1.352) while gender, course/year of study were other significant risk factors for anxiety [Table 3].

Correlation between the COVID-19-related stressors and levels of students' anxiety

Worrying about the economic influences of the epidemic and academic delays were positively related to the levels of anxiety in

Table 3. Frequency distribution of study participants with different anxiety levels (n=438).

FACTORS	NUMBER	SE	OR	P	95%CI
GENDER					
Female	307	0.207	0.459	0.027	(0.053, 0.864)
Male ^a	131	-	-	-	-
COURSES/ YEAR OF STUDY					
1 st Year BDS	38	0.407	1.218	0.003	(0.421, 2.015)
2 nd Year BDS	35	0.405	1.073	0.008	(0.280, 1.867)
3 rd Year BDS	31	0.428	1.392	0.001	(0.554, 2.231)
Final Year BDS	46	0.382	0.915	0.017	(0.166, 1.664)
Internship	36	0.333	0.757	0.023	(0.105, 1.410)
Other than BDS ^a	252	-	-	-	-
SOCIAL SUPPORT/LIVE WITH PARENTS					
Yes	363	0.870	0.246	0.000	(0.387, 1.352)
No ^a	75	-	-	-	-
RELATIVE OR ACQUAINTANCE GOT COVID-19					
No	345	0.222	-0.217	0.327	(-0.652, 0.217)
Yes ^a	93	-	-	-	-

*Ordinal Regression Analysis, ^aMan-Whitney U - Test, ^bKruskal Wallis Test

college students but was not statistically significant. Moreover, the influence of social isolation/lockdown in terms of affecting their daily life, feeling of limitation of identity and anxiousness were positively correlated and were highly significant with the levels of anxiety [Table 4].

Table 4: Correlation analysis between COVID related stressors and students anxiety.

COVID STRESSORS	ANXIETY LEVELS	P
Worried about economic influence	0.064	0.114
Worried about academic delays	0.084	0.078
Social isolation/ lockdown influences on my daily life	0.242	0.000
Social isolation/ lockdown is my limiting identity	0.273	0.000
Feeling Anxious because of social isolation/lockdown	0.174	0.000

*Spearman's Co-relation

Discussion

The anxiety and other psychological concerns of society are globally affecting every individual to variable extents. Recent evidence suggests that individuals who are kept in isolation experience significant distress in the form of anxiety, anger, confusion and post-traumatic stress symptoms [7]. The aim of this study was to evaluate the psychological impact of the current pandemic on the college students and explore underlying factors influencing their anxiety. The present study revealed that the majority of the college students (nearly 80%) were tormented with higher anxiety levels because of the COVID-19 outbreak. The anxiety levels reported in the present study were higher than in the

previous studies done by Cao W et al (24.9%) and Gaikwad S (48%). The probable reason for reporting such higher anxiety levels may be because of their stronger association with the duration of the social isolation [3]. In India, the educational institutions and colleges have been closed since mid-march and we conducted this research after 4 months of social isolation. It is known anxiety disorders are more likely to occur and worsen in the absence of interpersonal communication [8]. Another factor may be students in India are still uncertain about the impact of pandemic on their academic year and future employment opportunities.

The results also suggested that students' anxiety regarding the epidemic was associated with gender, course/year of study, whether living with parents and whether a relative or an acquaintance was infected with COVID-19. This difference in anxiety levels on the basis of gender predilection is in line with the previous studies [3, 9] but is in contrast with the study done in China [1]. The difference indicates that male and female students experienced the difference in levels of stresses and negative emotions as a result of the pandemic. However, no significant difference was reported in source of parental income or place of residence, which was different from previous findings [1].

The year/course of study were also reported to be another variable associated with student's anxiety. The

present study reported significant levels of anxiety among the dental students in comparison to other courses. The probable reason could be the possibility of acquiring the disease while treating the patients which is a part of their undergraduate curriculum is higher in comparison to the other non-specialized courses. Previous studies [1, 10] have also indicated that the risk factors associated with emotional and anxiety disorders in adults include not living with parents which are consistent with the results of this study.

Among the COVID related stressors the social isolation/ lockdown reported to be positively associated and had a significant impact among the anxiety levels of students. This is in line with the previous study [3]. Although economic influence and academic delays were also reported to be positively associated with anxiety but were not statistically significant. This is in contrast to the previous study done in China [1]. This suggests that the current social isolation measures enforced because of COVID-19 could lead to an increase in mental health problems among college students and is particularly becoming problematic for young adults.

Some strengths and limitations of this study can be noted. The use of the robust methodology and the standardized anxiety scale for detecting small correlations is the major strength of this study. Whilst the limitations include the cross-

sectional nature of the study, self-report nature of the questionnaire may exhibit social desirability bias and may limit the generalizability of our results to a wider population.

Conclusion

Of the total study participants, 19.4% experienced severe anxiety and 23.7% experienced moderate anxiety levels which needs psychological interventions. Thus, there are numerous mental health threats associated with the current pandemic and subsequent restrictions. Finding ways to give young adults a sense of belonging within the family and to feel that they are part of a wider community should be a priority. Helping them to identify valued alternative activities and build structures and purpose into periods of involuntary social isolation may help to provide a wider range of rewards. Addressing negative thoughts about social encounters (e.g. self-blame, self-devaluation) may also be effective. Digital Technology that provides evidence-based interventions to help young adults to reappraise their thoughts and change their behavior within the confines of the home setting should be [3]. Hence, it is pertinent to understand and investigate the psychological states of our young minds during these hard times and provide them with appropriate help and support from the family, institutions/colleges and society at large.

Acknowledgement

None.

Conflicts of Interest

The authors have no conflict of interest to disclose.

Funding

This research did not receive any specific grants from funding agencies in the public, commercial or not-for-profit sectors.

References

1. Cao W, Fang Z, Hou G et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*. 2020; 287:112934.
2. Spitzer RL, Kroenke K, Williams JB, Lowe B. A Brief Measure for Assessing Generalized Anxiety Disorder. *Arch Intern Med*. 2006; 166:1092-1097.
3. Loades ME, Chatburn E, Higson-Sweeney N et al. Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. *J Am Acad of Child Adolesc Psychiatry*. Available online 3 June 2020.
4. Hiremath P, Suhas-Kowshik CS, Manjunath M, Shettar M. COVID 19: Impact of lock-down on mental health and tips to overcome. *Asian Journal of Psychiatry*. 2020; 51:102088.
5. Fegert JM, Vitiello B, Plener PL, Clemens V. Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child Adolesc Psychiatry Ment Health* 2020; 14:20.
6. Gaikwad S. Psychological Impact of COVID-19 on Adolescents. *Purakala*. 2020 May; 31(37):639-643.
7. Brooks SK, Webster RK, Smith LE et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*. 2020 February; 395 (10227):912-920.
8. Xiao C. A novel approach of consultation on 2019 novel coronavirus (COVID-19)-Related psychological and mental problems: structured letter therapy. *Psychiatry Investig*. 2020; 17 (2), 175–176.
9. Moreno E, Muñoz-Navarro R, Medrano LA et al. Factorial in variance of a computerized version of the GAD-7 across various demographic groups and over time in primary care patients. *J. Affect Disord*. 2019; 252, 114–121.
10. Woodgate RL, Tailor K, Tennent P et al. The experience of the self in Canadian youth living with anxiety: a qualitative study. *PLoS ONE*. 2020; 15 (1),e0228193.