## Original Research Article

# The impact of the COVID-19 pandemic on the psychosocial well-being of undergraduate students in south India- a cross sectional study

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**ABSTRACT**

**Background:** There is an increasing concern on the psychosocial well-being of students especially being vulnerable during times such as the pandemic. Objective were (i) to assess the prevalence of psychosocial issues and coping skills over the lockdown period due to the covid pandemic among undergraduate students in India, (ii) to associate the various factors affecting the study pattern over the lockdown period among the same population.

**Methods:** This was an online cross-sectional study among undergraduate students studying in various south-Indian colleges done during the initial lockdown (May to September 2020). We followed snowball sampling and collected data using google forms with study tools such as, standard revised UCLA loneliness scale and WHO 5 well-being index questionnaire. Our final data of 350 (from 378) was then analyzed using IBM SPSS v21.0 and based on Likert scaling, we graded our responses to assess the severity of loneliness and well-being.

**Results:** The mean age was 23.1±3.31 years and majority of participants belonged to the age group of 21-23 (58.3%). Majority of the participants were pursuing a medical course (62%) and were in their second year of professional course (39.7%). According to WHO-5 scale, 115 (32.9%) had poor well-being and 235 (67.1%) had good well-being and further on comparing it was observed that those with severe loneliness (N=16.7%) had 0.010 times lesser chance of having good well-being (p=0.000) than those who had no loneliness (N=95%).

**Conclusions:** Vulnerable and changing times such as these contribute for alteration in a growing adult's progress towards well-being.

**Keywords:** College students, Loneliness, Psychosocial well-being, Well being

## INTRODUCTION

Due to the long-lasting pandemic situation and onerous measures such as lockdown and stay-at-home orders, the COVID-19 pandemic brought negative impacts on higher education.[1] Student's mental health in higher education had been an increasing concern as the pandemic situation around the world had been impedimental and contributed to various changes in usual routines that may have brought about a negative impact on students especially owing to strained adjustments. The lockdown in India was imposed on 24 march 2020 by the central government for 21 days.[2] But subsequently the lockdown was extended for longer duration and lasted till 31st May.[3]

Although the restrictions were lifted from then onwards, the ongoing lockdown was further extended till 30th June for only the containment zones.[4] Services were resumed in a phased manner and there were also various measures enforced by their state governments for limiting activities in their states such as self-isolation, closure of academic institutions and a shift in teaching methodology to online medium.[5] Since all these individually tampered with the usual routine, the students found it difficult to get accustomed to, thereby leading to increased isolation and loneliness in students.

There has been remarkable change on various dimensions of social networks (interaction, friendship, social support,

group studying), psychosocial well-being indicators and loneliness among students.[6] Stressors have shifted to health, family, friends and their future from missing out on social life.[6] It has been seen that positive thinking and resilience were strong mediators between COVID-19 experience and the psychosocial well-being.[7]

The objective of our study was to assess the prevalence of psychosocial well-being issues and coping skills over the lockdown period due to the COVID-19 pandemic among undergraduate students in India and to associate the factors affecting the study pattern and academic adaptations over the lockdown period among the undergraduate students in India.

# METHODS

## Operational definitions

### Loneliness

Loneliness is defined as a compromising feeling of distress that accompanies the perception where one's social needs are not being met sufficiently or the quality of one's social relationships are affected.[9]

### Well-being

A state of happiness and contentment, with low levels of stress, overall good physical and mental health and outlook contributing towards a rather good quality of life.[10]

## Study design

This was an online cross-sectional study.

## Study population

The study was conducted among college going students (age group 18- 25 years) across South India.

## Study period

The study took place during initial lockdown period (May to September 2020)

## Sampling technique

The study used a snowball sampling technique.

## Sample size

The initial sample size was calculated to be around 380 and received a total response of 350 through online platforms used.[1]

Sample size was calculated using the formula:

$$n = \frac{z^2(pq)}{d^2}$$

where,

z = relative deviate (at 95% confidence interval) i.e. 1.96

p = prevalence of depression, taken as 56.2%.[1]

d = Absolute precision (precision taken is 5%)

q = 1-p

$$n = \frac{1.96^2(56.2 \times 43.8)}{5^2}$$

Calculated sample size = 378.25. Rounded off to 380.

## Inclusion criteria

Undergraduate students (age group 18-25 years) across South India.

## Exclusion criteria

Students who could not comprehend and finish the complete questionnaire, suffering from any illnesses and undergoing treatment for existing mental health illness or other comorbidities were excluded from the study.

## Ethical considerations

The institutional Ethics committee approval (IEC No. 304/2020) was obtained prior to the initiation of the study.

## Study tools

The information was collected using a semi structured, face validated questionnaire which consisted of the following parts: a) socio-demographic profile which looks into the basic identification details and collected information like name, age, gender, address, year of college, course pursued, type of family. b) Lockdown related questions which consists of 16 self-rated questions on a Likert scaling, based on interaction with society and family, being occupied, online learning, screen time, sleep quality, The total score was combined and categorized. c) WHO 5 Well-being index questionnaire which consists of 5 questions is a self-rated measure of current mental well-being and it is composed of five statements containing a total score ranging from 0 to 25 with a score equal to 13 or greater considered to be good well-being and score below 13 taken as poor well-being.[11] d) Revised UCLA Loneliness scale consists 20 self-rated items based on a Likert score and the scale consists of 10 positively scored items and 10 negatively scored items. Total scale scores are graded into four

levels: not lonely (0-2), moderate loneliness (3-8), severe loneliness (9-10) and very severe loneliness (11).[12]

### Data collection

The data was collected using online Google forms which was sent as a link to all the participants from various colleges.

### Data analysis

The data was imported and edited into Microsoft Excel and analyzed using IBM Statistical Packages for Social Sciences (IBM SPSS v21.0) as percentage, mean and standard deviation. The various factors and their associations were studied using relevant tests of significance such as the Chi square test and Fisher's exact test with p value of less than 0.05 was considered to be significant. This was also followed by a logistic regression for further analysis of the same.

### RESULTS

A total of 378 responses were obtained and ultimately a total of 350 were analyzed, of which the mean age was found to be 23.1±3.31 years with the majority 204 (58.3%) of participants belonging to the age group of 21-23 years. Among the 378 study participants, 149 (42.6%)

were females and 201 (57.4%) were males. Maximum participants were from families having 4-7 members (87.7%) and the remaining 10.6% with background of 1-3 members and only 1.7% having more than 7 family members. Majority (62%) were pursuing a medical course and most were in the second year of their professional course (39.7%) and the details are tabulated below (Table 1).

**Table 1:  Demographic details (N=350).**

| Variables | Category | N (%) |
|---|---|---|
| **Age (years)** | 18-21 | 124 (35.4) |
| | 21-23 | 204 (58.3) |
| | >23 | 22 (6.3) |
| **Gender** | Male | 201 (57.4) |
| | Female | 149 (42.6) |
| **Religion** | Christian | 189 (54.0) |
| | Hindu | 137 (39.1) |
| | Muslim | 24 (6.9) |
| **Course** | Engineering | 66 (18.9) |
| | Graduate | 67 (19.1) |
| | Medicine | 217 (62.0) |
| **Year of course** | I | 68 (19.4) |
| | II | 139 (39.7) |
| | III | 100 (28.6) |
| | IV | 43 (12.3) |

**Table 2: Associations with WHO (5) scale of well being (N=350).**

| Variables | Categories | WHO | | p value* |
|---|---|---|---|---|
| | | Poor well-being (N=115) (%) | Good well-being (N=235) (%) | |
| **Engaged in new hobbies** | No | 40 (60.6) | 26 (39.4) | 0.001 |
| | Yes | 75 (26.4) | 209 (73.6) | |
| **More family time** | No | 20 (69.0) | 9 (31.0) | 0.001 |
| | Yes | 95 (29.5) | 226 (70.5) | |
| **Screen time** | <6 hours | 19 (21.8) | 68 (78.2) | 0.010 |
| | 6-12 hours | 81 (34.8) | 152 (65.2) | |
| | >12 hours | 15 (50) | 15 (50) | |
| **Stay in touch in close circle** | No | 24 (48.0) | 26 (52.0) | 0.014 |
| | Yes | 91 (30.3) | 209 (69.7) | |
| **Social isolation felt** | No | 193 (64.7) | 105 (35.2) | 0.023 |
| | Yes | 42 (80.7) | 10 (19.3) | |
| **Sleep cycle** | Not altered | 23 (21.3) | 85 (78.7) | 0.002 |
| | Altered | 92 (38) | 150 (62) | |

*chi-square test

According to the 2 scales of grading our outcome variables, namely well-being and loneliness, the WHO-5 grading showed that among the 350 study participants, majority of the participants had good well-being 235 (67.1%) and 115 (32.9%) had poor well-being and according to the UCLA loneliness grading, majority of the participants 162 (46.3%) had moderate loneliness and

128 (36.6%) had severe loneliness, whereas only 42 (12%) had no loneliness and 18 (5.1%) very severe loneliness. The outcome variables were further analysed using Chi square test and Fischer exact test to look for any significant findings with certain exposure variables, and the results as tabulated as below (Table 2).

*Inference*

Majority 284 (81.14%) of the study participants had adopted new hobbies of which 209 (73.6%) showed an outcome of good well-being and it was found to be statistically significant (p=0.001). Most 318 (90.85%) of the study participants spent more time with family members of which 226 (70.5%) had good well-being and it was found to be statistically significant (p=0.001).

In many 242 (67.22%) of the participants, whose 150 (62%) sleep cycle was not altered, it was found that they had good well-being (p=0.002).

**Table 3: Associations with UCLA and self made questionnaire (N=350).**

| Variables | Categories | UCLA (%) | | | P value* |
|---|---|---|---|---|---|
| | | Very severe to severe loneliness | Moderate loneliness | No loneliness | |
| Extra curricular activities | No | 23 (54.8) | 18 (42.9) | 1 (2.3) | 0.008 |
| | Yes | 123 (39.9) | 144 (46.8) | 41 (13.3) | |
| Family time | Same | 16 (55.1) | 13 (44.8) | 0 (0.0) | 0.035 |
| | Increased | 130 (40.4) | 149 (46.4) | 42 (12.8) | |
| Stay in touch in close circle | No | 29 (58.0) | 15 (30.0) | 6 (12.0) | 0.018 |
| | Yes | 117 (39.0) | 147 (49.0) | 36 (12.0) | |
| Overburdened by online classes | No | 165 (39.3) | 115 (38.9) | 15 (5.0) | 0.016 |
| | Yes | 39 (71.0) | 13 (23.6) | 3 (5.4) | |
| Social isolation | No | 164 (55.1) | 118 (39.6) | 16 (5.3) | 0.001 |
| | Yes | 40 (76.92) | 10 (19.2) | 2 (3.8) | |

*chi-square test

**Table 4: Logistical regression with UCLA versus WHO 5 well-being.**

| | WHO 5 well-being | | | |
|---|---|---|---|---|
| | Independent variable | OR | 95% | P value |
| UCLA Loneliness index | No loneliness | 1 | — | — |
| | Moderate loneliness | 0.122 | 0.028-0.527 | 0.005 |
| | Severe loneliness | 0.075 | 0.017-0.326 | 0.001 |
| | Very severe loneliness | 0.010 | 0.002-0.066 | 0.000 |

*Inference*

Majority 308 (85.55%) of the participants were involved in other activities and 144 (46.8%) had only moderate loneliness and it was statistically significant (p=0.008).

Many 321 (91.71%) of the participants were spending more time with family and 149 (46.4%) were found to have only moderate loneliness and it was statistically significant (p=0.035).

Majority 298 (85.14%) of the participants who 140 (47%) felt missed out or disconnected from the society had severe loneliness and it was statistically significant (p=0.001).

On further analysis of the association between the wellbeing and loneliness, it was found that majority of the participants 115 (71%) who had good well-being had moderate loneliness and this was statistically significant. (p=0.001).

*Inference*

Compared to those who had no loneliness, the students having severe loneliness had 0.010 times less chance of having good well-being, which is statistically significant (p value =0.000).

**DISCUSSION**

In a study conducted by Labrague et al on social and emotional loneliness among college students during the COVID-19 pandemic which assessed the predictive role of coping behaviors, social support, and personal resilience, it was found that loneliness among students was high during the coronavirus pandemic.[13] Resilience, coping behaviors, and social support were identified as protective factors against loneliness. In our study it was seen that most of the students 308 (88%) were involved in extracurricular activities, out of which 144 (46.8%) had moderate loneliness. Participants adopted extracurricular activities as coping behavior; we helped them to overcome loneliness. This was attributed to the level of moderate loneliness and adaptive measure to the ongoing change of routines.

Similarly, a study conducted among health care professionals by Stuijfzand et al on psychological impact of an epidemic/pandemic addressed the major problems like post traumatic stress disorder, sleep disturbances and the effect on their daily lives.[14] In our study also it was found out that the students 42 (80.7%) who were socially isolated had poor well-being and severe to very severe loneliness 40 (76.92%). This could be avoided by increasing the quality of time spent with family and reduced screen time which could in turn lead to better well-being. Afterall, a supportive environment, especially in personal terms, would help in lowering the sense of loneliness and improving their well-being as an indirect effect of the same.

In a study conducted by Alkhamees et al on the psychological impact of pandemic on the general population of Saudi Arabia, it was shown that out of the 1160 respondents surveyed 23.6% reported moderate or severe psychological impact.[15] In our study it was found out that 115 (32.9%) had poor well-being which were probably due to decreased social interactions, social isolation and altered sleep cycle. During situations such as these, when students were forced to remain within the limits of online platforms, their need to interact with family and peers or their way of adapting to other hobbies were a good way of coping to different styles of progressive well-being measures.

Online surveys commonly suffer from two serious methodological limitations: the population to which they are distributed cannot be described, and respondents with biases may select themselves into the sample. Research is of value only when the findings from a sample can be generalized to a meaningful population.

## CONCLUSION

Stressful and changing times of life routines eventually demands adaptive patterns to help sustain and overcome such vulnerable situations. Also, it was seen that loneliness was one of the outcomes faced during the lockdown as a result of which, as the severity of loneliness increased, the quality of well-being decreased.

### Recommendations

During difficult times like the pandemic keeping oneself occupied with new hobbies or spending more time with family improves the well-being of an individual and also helps to overcome loneliness.

Staying in touch with close circle helps to decrease loneliness and helps to have good well-being.

Reducing screen time and having a regular sleep timetable gives adequate rest and also helps in having a good well-being.

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