Impact of Covid-19 pandemic on the mental health of undergraduate students in India: A cross sectional study using statistical analysis

Sarul Malik[1#], Daya Bhardwaj[1#*], Aastha Jain[2], Shalini Dandriyal[1], Somya Jain[1] and Vani Jain[1]

ABSTRACT

To assess the impact of covid-19 pandemic on mental health of undergraduate students of India, we conducted a web-based survey through an online questionnaire which was floated among the students through social media. A total of 313 students participated in the survey and their data was analyzed using statistical tool. Impact of various demographic parameters on the mental health of students were assessed using Ryff'scale, perceived stress scale and stress coping scale. As per their response, volunteers were classified into different overall well-being status, wherein we found a large proportion (68.7%) of the volunteers falls under 'Average' class of well-being followed by 24% of the population who claims a state of 'Above average' well-being. Around 64.9 % of volunteers reported a 'moderate' perceived stress levels and 77% reported above average level of stress copping tendency. Through statistical analysis, we found that the place of residence and prior psychiatric illness was found to be potential risk factors for the psychological problem of the students during this pandemic. This research would not only help psychologist to assist student to overcome from stress burden due to Covid-19 pandemic but also help policy makers and government authorities to take concrete steps to tackle the issue of increasing mental stress among youngsters.

Keywords: *Covid-19, Stress, Mental health. Psychological Well Being*

1. Introduction

COVID-19 (or Coronavirus disease) is a communicable disease which has recently spread globally and resulted in the ongoing 2019-20 coronavirus pandemic. This epidemic was emerged in December 2019 in Wuhan, the capital of China's Hubei province and infected more than 500 million individuals worldwide till date(Hua and Shaw, 2020). The World Health Organization (WHO) declared the coronavirus outbreak a Public Health Emergency of International Concern (PHEIC) on 30th January, 2020 and a pandemic on 11th March, 2020 (Cucinotta and Vanelli, 2020). On 30th January 2020, the first case was confirmed in India (in Kerala's Thrissur district) in a student who had returned home for a vacation from Wuhan University in China (Andrews et al., 2020). After that, cases started rising in India rapidly. The prime minister of India has declared a three-week nationwide lock-down starting from midnight of 25th March 2020 which continued till the 14th of April 2020, explaining that it was an essential and effective measure for breaking the COVID-19 infection cycle (Navinya et al., 2020). The common route of virus transmission has been reported as through respiratory droplets produced by contaminated person while coughing, sneezing, or talking. Currently, real time reverse transcription polymerase chain reaction (rRT-PCR) from the nasopharyngeal swab has been used as a standard method of diagnosis (Yang et al., 2020). Hand washing, social distancing, avoid touching face and covering sneezes and cough with a tissue has been recommended to prevent infection (World Health Organization, 2021). Strict quarantine measures to cut the transmission channel has kept manypopulations in isolation which resulted in a wide variety of psychological problem such as anxiety, panic and depression (Tang et al., 2020). Social distancing was a critical means established to break the cycle of infection. The coronavirus induced lockdown led to serious problems like displacement of millions of migrants, job losses, economy slowdown and closing of educational institutes (Suresh et al., 2020). Within a year since the first coronavirus case was reported in China's Wuhan, the pandemic outbreak in India has spread to almost all states and union territories, infecting more than 25 million people till April 2021.

1. *Shaheed Rajguru College of Applied Sciences for Women, University of Delhi*
2. *Psychologist, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi*
* *Corresponding author ✉ daya.bhardwaj@rajguru.du.ac.in*
\# *Authors with equal contribution*

Received: 17 July 2022
Available online: 31 December, 2022

The spread of virus has drastically changed the lifestyle, work life, day to day activity of a common man and it is continuing its grasp at an alarming rate and changing the scenario for worse like economic slowdown, businesses being shut down, commute are disturbed, publics places are closed and many more. All of this had a very serious and negative effect on the mental health of citizens (Rajkumar, 2020). As we investigate the case of India, the ill effect is different respective of their gender, their profession, their social and economic status, their state, city, or village. In this time of pandemic people tend to have a fear of getting infected with the virus, fear of losing their job, students worried about their education, families stressed about their family member living outside, older people worried about their regular health checkup, which can result in stress, anxiety, depression etc. (Mertens et al., 2020,Pakpour and Griffiths, 2020).

COVID-19 has severely impacted the mental health of the people all over the world and this has been shown by various research groups. A recent study showed that people who were kept in isolation or quarantine experienced significant amount of stress and showed post-traumatic stress symptoms (Arden and Chilcot, 2020). During the SARS or Ebola epidemics, a study showed that the sudden onset of life-threatening virus led to significant amount of pressure on healthcare workers (HCWs) (Pappa et al., 2020). Another study reported that COVID-19 pandemic is having a strong psychological impact on individuals' mental health(Asmundson and Taylor, 2020). A recent study carried out in India, focused upon the need to study anxiety and mental health in Indian Population during Covid-19 epidemic (Roy et al., 2020). Another study has brought our attention to the fact that the mental health consequences due to this pandemic are applicable in either short term or long term. They have asked ways to intervene unavoidable loneliness and its results as people are physically and socially isolated (Galea et al., 2020).In one of the study it is pointed out that large number of people will suffer a negative mental health due to covid-19 (Boden et al., 2021). A study of class of 2020 in Poland reveals that almost 77% of students require psychiatric attention. (Wieczorek et al.,2021)

Looking at the current scenario, college and university students, public, medical staff and elderly population are most vulnerable to the emotional impact of coronavirus. "The youth of today is the future of tomorrow", hence in this study we are focusing upon the mental health of undergraduate's students to take appropriate decisions at the right time. To diagnose the mental health, we have used one of most widely accepted questionnaire Ryff's Psychological Well-Being Scales (PWB) as a control and compared its response with Perceived Stress Scale (PSS), questioner specifically designed as a stress test for COVID-19 pandemic. To the best of our knowledge this study is unique with its statistical analysis approach. Therefore, we aimed to evaluate the psychological impact of COVID-19 outbreak on college/university students by carrying out a cross-sectional study with the help of SPSS. Also, we have not only classified our subjects as mild, moderate, and severely stressed but also classified their stress coping ability as well as overall wellbeing. This gives us an advantage to understand that even if a person is stressed how easily he/she can struggle and overcome from that condition.

A web-based survey was conducted through an online questionnaire which was floated among the students through social media. Preprocessing of data was performed to divide the data into different categories using MS Excel. Following preprocessing, the data was analyzed using statistical analysis (SPSS 16.0). In statistical analysis, three different analyses were carried out, i.e., frequency analysis (to classify the number of students in different categories), Univariate analysis (to examine the effect of a single variable on a set of data) and correlation analysis (to determine the relationship among all the sections).

2. Methodology

2.1 *Subjects*

We assessed the psychological impact of COVID-19 pandemic on College/University students. This is an online survey-based study of the 313 volunteers studying in various colleges of India. The mean group of the students were in the range of 21± 2 years old.

2.2 *Data collection*

A questionnaire was prepared and distributed among the college students through various social media platforms. We took the voluntarily consent of the participants before filling up the questionnaire. The questionnaire was based on the lifestyle related questions along with the impact of stress and its copping capabilities of an individual.

2.3 *Data preprocessing*

The structured questionnaire comprised of four sections (section A, B, C and D) related to demographic details, psychological well-being, perceived stress, and stress copping tendency. Section 'A' included the demographic details of participants like gender, educational stream, family income, place of residence (inside or outside Delhi) and history of any psychiatric illness. Section 'B' included the renown Ryff scale (Springer and Hauser, 2006) which is designed to assess the PWB status of an individual. It is an eighteen questions scale which provides the information of six aspects of wellbeing and happiness: autonomy, environmental, mastery, personal growth, positive relations with others, purpose in life and self-acceptance. Each item had 7 options ranging from 1 to 7 where 1 means strongly agree, 2 is somewhat agree, 3 is a little agree, 4 is neither agree or disagree, 5 is a little

disagree, 6 is somewhat agree and 7 is strongly disagree. Response of all the eighteen questions of an individual was added up to calculate the final weight or score. According to the score, the individuals were classified into three different classes as shown in **Table 1.** where class '1', denoted the 'Above average' PWB status with the score lied between 97-126, class '2' revealed the 'Average' PWB status with the score of 67-96 and class '3' signified a 'Below average' PWB status with a low value of score between 7-66.

Section 'C' was used to assess the perceived stress level of an individual. The PSS, a classic stress assessment tool, originally developed in 1983, was used to assess the perceived stress level in situation like Covid-19(Cohen et al., 1994) To obtain the value of PSS score, the test was divided into 10 questions, each with 5 options with the weight varying from 0 to 4 where 0 means never,1 means almost never, 2 means sometimes, 3 means fairly often and 4 means very often. As per the obtained value of score, an individual was divided into three categories (or classes) 'Low', 'moderate' and 'high' as depicted in Table.1. Section 'D' explains the stress coping capacity of an individual. It measures six aspects of stress coping: wellness scale, thought control scale, active coping scale, social ease scale, tension reduction scale and spiritual scale. The test is a structured questionnaire with 32 questions, followed by 4 options carrying the weight values from 4 to 1. The weight of all the questions together adds up to calculate the overall score which further determines its class as shown in **Table.1.**

2.4 *Data Analysis*

Statistical Analysis

Data was analyzed using SPSS Version 16.0. Descriptive statistics was used to elaborate the demographic characteristics of the respondents. Frequency and percentage were used for categorical variables. A univariate analysis (non-parametric test) was used to investigate the relationship between demographic characteristics and psychological wellbeing, perceived stress level and stress coping abilities of an individual.

Frequency analysis

Frequency analysis is a descriptive statistical method that shows the number of occurrences of each response chosen by the respondents. We have used frequency analysis to classify the number of students in different categories.

Univariate analysis

Univariate analysis was performed to examine the effect of a single variable on collected data. It is a non-parametric test which was used to explore the significant relations between the sample characteristics with the overall wellbeing, perceived stress level and stress coping ability of an individual. Sample characteristics were chosen as gender, educational stream, type of family, place of residing, income category and history of psychiatric illness. For statistically significant relation between two variables 'p' value (significance value) should be less than 0.05.

Correlation analysis

Correlation analysis is a statistical technique that shows how strongly two variables are related to each other or the degree of association between two. In the present study correlation analysis is done in order to determine the relationship among overall wellbeing, perceived stress and stress coping ability of an individual. As our data was non-uniformly distributed so we have used spearman's correlation analysis. When one variable moves in the same direction as the other, then it is called positive correlation and vice versa. The Spearman correlation coefficient, rho(@), can take values from -1 to +1. Rho value of +1 indicates a perfect positive correlation, 0 indicates no correlation and -1 indicates perfect negative correlation.

3. Results

3.1 Statistical Analysis

Frequency Analysis

After analyzing the data, we found (as shown in **Table. 2**) a large proportion (68.7%) of the participants possess average PWB however 24% of them possess above average PWB. Nevertheless, a small proportion of volunteers were seen to have below average psychological well-being. As anticipated, Covd-19 pandemic has an impact on perceived levels of stress, with 64.9% of the participants reporting moderate amount of perceived stress and 24% reporting high level of perceived stress. Around 13 % participants yet reported a mild level of perceived stress. An encouraging finding was that majority of the participants were seen to possess above average stress coping skills (77%). Further, a small fraction of the participants was found to have superior stress coping skills (7%).

Univariate Analysis

The demographic and selected characteristics considered in our study are shown in **Table 3.** Among the sample of 313 volunteers, most of the respondents, 92.3% were women. Also, majority of them were from science (64.5%) background and resident of Delhi (92%). Approximately 39 % of families have income up to2 lakh and looking at the disease history, we found 93.6% did not have any psychiatric illness. Among all the demographic parameters chosen, only the location and the previous history of psychiatric disorder were found to be significant ($P<0.05$) as compared to the other parameters as shown in **Table 3**. It exhibits the relationship between demographic

variables chosen for this study and overall wellbeing level as measured using Ryff's scale. Student's having prior psychiatric illness have significant effect on overall wellbeing (P<.05) and none other parameters was found to be significant. It also explains the association between demographic variables with the COVID-19 related anxiety level among the volunteer group chosen for this analysis. Student's having prior psychiatric illness and their present location was found to have a significant effect on perceived stress (P<.05) and rest of the parameters were found to be insignificant. Similar results were seen in stress coping capabilities of the students in the same table.

Correlation Analysis

The correlation between overall wellbeing, perceived stress level and stress coping ability is intimated in **Table.4**. Correlation between perceived stress and stress coping was found to be significant (P<0.01). They possess a negative correlation which indicates that a person showing low levels of perceived stress possess stronger capacity to cope with stress and vice versa.

As far as overall wellbeing was concerned, it did not share significant correlation neither with perceived stress nor with stress coping which means person's wellbeing does not lay any impact on perceived stress and stress coping ability.

4. Discussion

COVID-19 pandemic has affected a student's lives all over the world due to change in education pattern as well as fear to get infected. The findings of our web based cross sectional study indicated that most of the students possess average (68.7 %) to above average psychological well-being, with a very small section (7.3%) reporting below average psychological well-being. This means that majority of the students displayed, average capacity, in the extent to which they 1) felt their lives had meaning, (purpose in life); (2) the extent to which their view of themselves intersected with their own personal ideas and convictions (autonomy); (3) the extent to which they have been using their own set of potential and capacities (personal growth); (4) how well they have been managing their life situations (environmental mastery); (5) and the extent to which they experienced a depth of connection in relationship with others (positive relationships), and (6) the knowledge and acceptance they possess around their own limitations and of themselves (self-acceptance). Incidentally, as far as overall wellbeing was concerned, it did not share significant correlation neither with perceived stress or stress coper which means person's wellbeing does not lay any significant impact on perceived stress and stress coping ability. This could be explained by the fact that while Ryff's scale offers a measure of psychological being in terms of the person's overall functioning over time, and sees it more as process, the perceived stress scale contains items pertaining to how unpredictable, uncontrollable, and overloaded students found their lives to be in as recent as a time as over the last one month itself.

Additionally, it should also be kept in mind that the associations between perceived stress and psychological well-being can be moderated by other factors too which might be at play, like Emotional stability. It was beyond the scope of this study to check for these other variables. It has been seen that presence of high level of emotional stability as a variable can prevent or delay the effects of stress on psychological well-being (Dhingra and Dhingra, 2020). Conversely, statistically a significant relation was not found between psychological well-being and stress coping ability, observationally a relation can be seen in terms of majority of the student's displaying possession of average to good psychological well-being (92%) and all the students displayed above average stress coping ability.

Research findings further showed that there exists a significant relation between student's present location and perceived stress (P<.05). Since location of our study (Delhi) was reported as having one of the highest COVID-19 cases in the country and is an immediate source of stressor, this corroborates with perceived stress as noted amongst the students who participated in the study 92 % of whom were in Delhi. Further this corroborates with other studies too which showed that those in closer proximity to COVID-19 related stressors showed higher level of depression and anxiety symptoms (Rudenstine et al., 2021). Additionally, prior psychiatric illness was found to be the potential risk factors which are contributing to mental stress among participants. Studies showed that the link between stress and mental illness can be bidirectional wherein chronic stresses which if left untreated can also give way to mental disorders like anxiety and depression (Khan et al., 2017). These findings implied that universities should pay more attention to students residing in areas which reportedly have higher cases of COVID-19 who are likely to report higher levels of stress. Also, mental health providers need to consider adopting online psychotherapy to help students living in different (remote or rural) areas of our nation which otherwise be short of such facilities.

As predicted, a significant negative correlation was noted between perceived stress and stress coping ability, which corroborates with the current findings wherein it was seen that majority of the students displayed possession of above average stress coping ability (77%) and only 22.4% reported experiencing high level of stress. This corroborates with other study findings that show that those who use dysfunctional styles of coping like avoidant coping mechanism reported higher levels of perceived stress (Doron et al., 2014). No significant contribution was indicated by gender, family type, family income or subject of study which was not found to be consistent with previous findings (Cao et al., 2020). With these approach college students who need immediate attention can be identified,

and the university can take the needed steps to lend them support and help. In the hindsight, it is felt that some of the variables which did not show a significant relationship in the study could be due to the study having been conducted in the initial phases of COVID-19 pandemic.

5. Conclusion

In a nutshell, it was seen that the students possessed average or fair psychological well-being which did not share a significant relation with location, prior psychiatric history, perceived stress or stress coping. Despite there being seen a significant relation between prior psychiatric illness and perceived stress & location and perceived stress, it was seen that majority of the participants possess above average stress coping ability (74/%). This further corroborates with the finding that only 22.4% of the total number of participants reported experienced high levels of perceived stress. Overall, the impact of COVID-19 is compounded by location and history of prior psychiatric illness, however as an immediate stressor it is not significantly impacting the well-being and coping ability of the students.

6. Future Scope

Presence of several other factors like Emotional stability, resilience and other personality variables can also explain what has helped in mitigating against the stress of COVID. However, it was beyond the scope of this paper to check for these above mentioned and similar variables. The lack of a significant relation between psychological well-being and perceived stress also throws light on how possibly a variable like psychological well-being is not necessarily impacted by an immediate stressor however this needs further study to ascertain the relation between the two, which can offer useful guidance to therapists from intervention perspective. In future, a mathematical and computational model can also be developed to classify the individual in different categories of stress level depending upon their mental health status which would assist the therapist in early diagnosis.

7. Abbreviations

COVID-19	Coronavirus disease of 2019
WHO	World Health Organization
PHEIC	Public Health Emergency of International Concern
rRT-PCR	Real time reverse transcription polymerase chain reaction (A diagnostic test for the presence of Corona virus
SARS	Severe acute respiratory syndrome
HCWs	Healthcare workers
PWB	Psychological Well-Being Scales
PSS	Perceived Stress Scale
SPSS	Statistical Package for the Social Sciences

8. References

1. Andrews, M. A., Areekal, B., Rajesh, K. R., Krishnan, J., Suryakala, R., Krishnan, B., Muraly, C. P., & Santhosh, P. V. (2020). First confirmed case of COVID-19 infection in India: A case report. The Indian journal of medical research, 151(5), 490–492.
2. Arden, M. A., & Chilcot, J. (2020). Health psychology and the coronavirus (COVID-19) global pandemic: A call for research. British journal of health psychology, 25(2), 231–232.
3. Asmundson, G., & Taylor, S. (2020). How health anxiety influences responses to viral outbreaks like COVID-19: What all decision-makers, health authorities, and health care professionals need to know. Journal of anxiety disorders, 71, 102211.
4. Boden, M., Zimmerman, L., Azevedo, K. J., Ruzek, J. I., Gala, S., Abdel Magid, H. S., …McLean, C. P. (2021). Addressing the mental health impact of COVID-19 through population health. Clinical Psychology Review, 85, 102006.
5. Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry research, 287, 112934.
6. Cohen, S., Kamarck, T., &Mermelstein, R. (1994). Perceived stress scale. Measuring stress: A guide for health and social scientists, 10(2), 1-2.
7. Cucinotta, D., &Vanelli, M. (2020). WHO Declares COVID-19 a Pandemic. Acta bio-medica: AteneiParmensis, 91(1), 157–160.
8. Dhingra, V., & Dhingra, M. (2020). Effect of perceived stress on psychological well-being of health care workers during COVID 19: mediating role of subjective happiness. European Journal of Molecular & Clinical Medicine, 7(02), 2020.
9. Doron, J., Trouillet, R., Maneveau, A., Neveu, D., & Ninot, G. (2014). Coping profiles, perceived stress and health-related behaviors: a cluster analysis approach. Health promotion international, 30(1), 88-100.
10. Galea, S., Merchant, R. M., & Lurie, N. (2020). The Mental Health Consequences of COVID-19 and Physical Distancing. JAMA Internal Medicine.
11. Hua, J., & Shaw, R. (2020). Corona Virus (COVID-19) "Infodemic" and Emerging Issues through a Data Lens: The Case of China. International Journal of Environmental Research and Public Health, 17(7), 2309.
12. Khan, M., Ilcisin, M., & Saxton, K. (2017). Multifactorial discrimination as a fundamental cause of mental health inequities. International Journal for Equity in Health, 16(1), 1-12.

13. Mertens, G., Gerritsen, L., Duijndam, S., Salemink, E., & Engelhard, I. M. (2020). Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020. Journal of Anxiety Disorders, 102258.
14. Navinya, C., Patidar, G. and Phuleria, H.C. (2020). Examining Effects of the COVID-19 National Lockdown on Ambient Air Quality across Urban India. Aerosol Air Qual. Res. 20: 1759–1771.
15. Organization, W. H. (2021). Infection prevention and control guidance for long-term care facilities in the context of COVID-19: interim guidance, 8 January 2021 (@. 16 p.). World Health Organization.
16. Pakpour, A. H., & Griffiths, M. D. (2020). The fear of COVID-19 and its role in preventive behaviors. Journal of Concurrent Disorders, 2(1), 58-63.
17. Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V. G., Papoutsi, E., & Katsaounou, P. (2020). Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. Brain, Behavior, and Immunity.
18. Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. Asian Journal of Psychiatry, 102066.
19. Roy, D., Tripathy, S., Kar, S. K., Sharma, N., Verma, S. K., & Kaushal, V. (2020). Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian Journal of Psychiatry, 102083.
20. Rudenstine, S., McNeal, K., Schulder, T., Ettman, C. K., Hernandez, M., Gvozdieva, K., & Galea, S. (2021). Depression and anxiety during the covid@19 pandemic in an urban, low@income public university sample. Journal of Traumatic Stress, 34(1), 12-22.
21. Springer, K. W., & Hauser, R. M. (2006). An assessment of the construct validity of Ryff's Scales of Psychological Well-Being: Method, mode, and measurement effects. Social Science Research, 35(4), 1080–1102.
22. Suresh, R., James, J., & R. S.j, B. (2020). Migrant Workers at Crossroads–The Covid-19 Pandemic and the Migrant Experience in India. Social Work in Public Health, 35(7), 633–643.
23. Tang, F., Liang, J., Zhang, H., Kelifa, M. M., He, Q., & Wang, P. (2020). COVID-19 related depression and anxiety among quarantined respondents. Psychology & Health, 1–15.
24. Wieczorek, T., Kołodziejczyk, A., Ciułkowicz, M., Maciaszek, J.,Misiak, B., Rymaszewska, J., & Szcze@niak, D. (2021). Class of 2020 in Poland: Students' Mental Health during the COVID-19 Outbreak in an Academic Setting. International Journal of Environmental Research & Public Health, 18(6), 2884.
25. Yang, T., Wang, Y.-C., Shen, C.-F., & Cheng, C.-M. (2020). Point-of-Care RNA-Based Diagnostic Device for COVID-19. Diagnostics, 10(3), 165.

Table 1: *The distribution of classes as per the scores*

Section B		
Wellbeing range	**Grade**	
7-66	Below average	
67-96	Average	
97-126	Above average	
Section C		
Perceived Stress level	**Scores**	
Low	0-13	
Moderate	14-26	
High	27-40	
Section D		
Stresscoper	**Overall score**	**Class**
Superior	3.5+	3
Above average	2.5-3.4	2
Average	1.5-2.4	1
Below average	0-1.5	0

Table 2: *Fraction of students falling indifferent PWB, perceived stress condition and stress coping abilities*

Overall Wellbeing	**Number**	**Ratio (%)**
Good	75	24
Fair	215	68.7
Poor	23	7.3
Perceived stress level	**Number**	**Ratio (%)**
Mild	40	12.8
Moderate	203	64.9
Severe	70	22.4
Stresscoper level	**Number**	**Ratio (%)**
Average	51	16.3
Above Average	241	77
Superior	21	6.7

Table 3: *Univariate Analysis to identify significant demographic characteristics of this study*

Variables	***Total***	***Ratio (%)***	***Part-1 Overall Well-being***			***P value***
			Above average	**Average**	**Below average**	
Gender						
Male	24	7.7	6 (25 %)	17 (70.8 %)	1 (4.2 %)	0.69
Female	289	92.3	69 (23.9 %)	198 (68.5 %)	22 (7.6 %)	
Stream						
Engineering	29	9.3	11(37.9 %)	15(51.7 %)	3(10.3 %)	0.31
Humanities	35	11.2	5 (14.3 %)	29(82.9 %)	1(2.9 %)	
Medical	6	1.9	3 (50 %)	3 (50.5%)	0	
Sciences	20	64.5	45 (22.3 %)	140 (69.3 %)	17(8.4 %)	
Others	41	13.1	11 (26.8%)	28 (68.3%)	2 (4.9%)	
Family						
Joint	92	29.4	19 (20.7%)	66 (71.7%)	7 (7.6%)	0.16
Nuclear	193	61.3	45 (23.3%)	134 (69.4%)	14 (7.3%)	
Extended	13	4.2	4 (30.8%)	7 (53.8%)	2 (15.4)	
Single Parent	15	4.8	7 (46.7%)	8 (53.3%)	0	
Place						
Delhi	288	92	68 (23.6%)	198 (69.8%)	22 (7.6%)	0.47
Outside Delhi	25	8	7 (28%)	17 (68%)	1 (4%)	
Income						
Upto 2 Lac	121	38.6	31 (25.6%)	76 (62.8%)	14 (11.6%)	0.93
2-5 Lac	77	24.6	18 (23.4%)	55 (71.4%)	4 (5.2%)	
5-10 Lac	75	24	18 (24%)	53 (70.7%)	4 (5.3%)	
Above 10 Lac	40	12.8	8 (20%)	31 (77.5%)	1 (2.5%)	
Psychiatric Illness						
Yes	20	6.4	8 (40%)	12 (60%)	0	0.04
No	293	93.6	67 (22.9%)	203 (69.3%)	23 (7.8%)	

Variables	***Total***	***Ratio (%)***	***Part- II Anxiety Level***			***P value***
			Mild	**Moderate**	**Severe**	
Gender						
Male	24	7.7	4 (16.7%)	18 (75%)	2 (8.3%)	0.119
Female	289	92.3	36 (12.5%)	185 (64%)	68 (23.5%)	
Stream						
Engineering	29	9.3	3 (10.3%)	18 (62.1%)	8 (27.6%)	0.151
Humanities	35	11.2	1 (2.9%)	22 (62.9%)	12 (34.3%)	
Medical	6	1.9	0	5 (83.9%)	1 (16.7%)	
Sciences	20	64.5	30 (14.9%)	131 (64.9%)	41 (20.3%)	
Others	41	13.1	6 (14.6%)	27 (65.9%)	8 (19.5%)	
Family						
Joint	92	29.4	12 (13%)	57 (62%)	23 (25%)	0.967
Nuclear	193	61.3	23 (12%)	128 (66.7%)	41 (21.4%)	
Extended	13	4.2	2 (15.4%)	9 (69.2%)	2 (15.4%)	
Single Parent	15	4.8	3 (20%)	8 (53.3%)	4 (26.7%)	
Place						
Delhi	288	92	51(17.7%)	219 (76%)	18 (6.2%)	0.023
Outside Delhi	25	8	0	22 (88%)	3 (12%)	
Income						
Upto 2 Lac	121	38.6	11 (9.2%)	82 (67.5%)	28 (23.3%)	0.845
2-5 Lac	77	24.6	10 (13%)	50 (64.9%)	17 (22.1%)	
5-10 Lac	75	24	11 (14.7%)	49 (65.3%)	15 (20%)	
Above 10 Lac	40	12.8	8 (20%)	22 (55%)	10 (25%)	
Psychiatric Illness						
Yes	20	6.4	0	11 (55%)	9 (45%)	0.005
No	293	93.6	40 (13.7%)	192 (65.5%)	61 (20.8%)	

Variables	***Total***	***Ratio(%)***	***Part-III Stresscoper Level***			
			Average	**Above Avg**	**Superior**	
Gender						
Male	24	7.7	2 (8.3%)	20 (83.3%)	2 (8.3%)	0.3
Female	289	92.3	49 (17%)	221 (76.5%)	19 (6.6%)	
Stream						
Engineering	29	9.3	6 (20.7%)	21 (72.4%)	2 (6.9%)	0.27
Humanities	35	11.2	9 (25.7%)	25 (71.4%)	1 (2.9%)	
Medical	6	1.9	0	5 (83.3%)	1 (16.7%)	
Sciences	20	64.5	30 (14.9%)	158 (78.2%)	14 (6.9%)	
Others	41	13.1	6 (14.6%)	32 (78%)	3 (7.3%)	
Family						
Joint	92	29.4	12 (13%)	71 (72.2%)	9 (9.8%)	0.46
Nuclear	193	61.3	35 (18.1%)	147 (76.2%)	11 (5.7%)	
Extended	13	4.2	0	2 (15.4%)	11 (84.6%)	
Single Parent	15	4.8	2 (13.3%)	12 (80%)	1 (6.7%)	

Place						
Delhi	288	92	51 (17.7%)	219 (76%)	18 (6.2%)	0.02
Outside Delhi	25	8	0	22 (88%)	3 (12%)	
Income						
Upto 2 Lac	121	38.6	17 (14%)	98 (81%)	6 (5%)	0.97
2-5 Lac	77	24.6	15 (19.5%)	56 (72.7%)	6 (7.8%)	
5-10 Lac	75	24	12 (16%)	58 (77.3%)	5 (6.7%)	
Above 10 Lac	40	12.8	7 (17.5%)	29 (72.5%)	4 (10%)	
Psychiatric Illness						
Yes	20	6.4	9 (45%)	11 (55%)	0	0
No	293	93.6	42 (14.3%)	230 (78.5%)	21 (7.2%)	

Table 4: *Correlation analysis between overall well-being, perceived stress level and stress coping abilities*

Correlations

			OVERALLWELLBEING	STRESS	STRESSCOPER
Spearman's rho	OVERALLWELLBEING	Correlation Coefficient	1.000	.056	-.047
		Sig. (2-tailed)	.	.323	.403
		N	313	313	313
	STRESS	Correlation Coefficient	.056	1.000	-.443**
		Sig. (2-tailed)	.323	.	.000
		N	313	313	313
	STRESSCOPER	Correlation Coefficient	-.047	-.443**	1.000
		Sig. (2-tailed)	.403	.000	.
		N	313	313	313

**. Correlation is significant at the 0.01 level (2-tailed).

❖ ❖ ❖