



## A CROSS-SECTIONAL STUDY OF PSYCHOLOGICAL DISTRESS AMONG STUDENTS PURSUING PROFESSIONAL COURSES POST COVID.

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### ABSTRACT

**Introduction** – Covid -19 emergence has led to an array of mental health issues along with the actual disease course of SARS-Cov virus. Whereas the whole society has been affected by it, young college going students which is the majority of the population in India might cause another type of social threat to the overall country's progress and well-being.

**Aim** - To estimate prevalence of psychological distress in medical, engineering and Nursing students post-COVID.

**Material & Methods** - Apparently healthy young adults irrespective of their genders, aged between 18-24 years of age were included in the study. 1st year students of MBBS, Engineering and nursing were included after taking informed consent. Institutional Ethical committee has approved the study. A self-reporting questionnaire General Health Questionnaire 12 was used to collect data. This Questionnaire has 12 questions, which were scored using Likert's scale.

**Statistics** - The results were tabulated using Microsoft Excel and statistical analysis was done using SPSS 22.0 software. Mean, standard deviation, Odds Ratio and Logistic Regression was used for to analyse the results. Taking professional course perusal into account the psychological distress was found to be highly significant.

**Results** - More females (53.7%) were found to be in psychological distress than Male students (52 %). But the gender wise distribution of distress was found to be non-significant. The nursing students (83.3%) were found to have highest level of psychological distress followed by Engineering (50.3%). MBBS students were found to have lowest distress. Taking the place of residence into account, more day-scholars (56%) were found to be under distress. Logistic regression found professional course wise distribution to be more significant.

**Conclusion** - After the second phase of the COVID-19 pandemic, a large group of student population was found to be suffering from psychological distress. Nursing students were found to have highest psychological distress followed by engineering students. Based on these findings, we consider that mental health strategies should address the acceptance of the current situation of the pandemic in the population, such as counselling and spreading the correct treatment and information regarding the pandemic. Strategies could also include providing psychoeducation, in addition to coping techniques and helplines for emotional management.

### KEYWORDS :

#### INTRODUCTION

Youth are the backbone and future of a nation. A healthy, efficient and skilful youth can take nation to new heights. India has highest number of young people in the age group of 10-25 (1). But youth of today are facing multiple challenges due to fast paced world. According to WHO "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (2). Health is not complete without sound mental health. Several reports have found that mental disorder, substance abuse, suicidal tendency is high in youth (3). Today's youth spend majority of their time which is laden with its own set of challenges such as; internet, information explosion, cybercrimes, cyberbullying, videogames which are violent in nature to name just a few. Social networking has reduced personal interaction and made the social bonding superficial and fleeting.

At the advent of Covid pandemic and incessant lockdowns all over the world, WHO also expressed its concern over the public's mental health and the psycho-social consequences (4). The new measures which the humankind has not faced recently, such as self-isolation and quarantine have not only affected usual activities, routines, and livelihoods of people but also it has led to an increase in loneliness, anxiety, depression, insomnia, harmful alcohol, and drug use, and self-harm or suicidal behaviour. The recent survey by the Indian Psychiatric Society shows a twenty percent increase in overall mental illnesses in the society since the coronavirus

outbreak in India (5). Professional students may be especially vulnerable to COVID-19's psychological impact because they are in the transition stages of their academic and professional lives and in general have been prone to experience high levels of stress, anxiety, and depression (6). These general mental health impacts for college students have also been found among students—showing that they experience high levels of anxiety and depression than adults (7). Within the pandemic context, college students would specifically be an impacted group, due to disruptions of regular routine and norms brought about by COVID-19(8).

#### AIM & OBJECTIVE –

To estimate prevalence of psychological distress in medical, engineering and Nursing students post-COVID.

#### MATERIAL AND METHODS –

##### Study Setting:

A cross sectional study, conducted in, Visakhapatnam, Andhra Pradesh (India) during August - October 2021. Study groups include students from NRI Institute of Medical Sciences (NRI IMS), Anil Neerukonda Institute of Technology and Sciences (ANITS) and American NRI college of Nursing (ANCN).

##### Study Population:

300 Apparently healthy young adults in the age group of 18-24 years who are studying in the various professional colleges

were enrolled for the study. 264 (Male – 128, Female – 136) students had returned completely filled the forms.

#### Inclusion Criteria:

Apparently healthy young adults irrespective of their genders, aged between 18-24 years of age were included in the study. 1<sup>st</sup> year students of MBBS, Engineering and nursing were included after taking informed consent.

#### Exclusion Criteria:

young adults (18-24 years) who had any Psychiatric condition requiring medication at present or any previous history of diagnosed mental illness. Students having any acute or chronic illness were also excluded.

#### Study Tool:

Data collection was done using a self-reporting questionnaire General Health Questionnaire 12 (Cronbach's  $\alpha = 0.863$ ). [9, 10] This Questionnaire has 12 questions, which were scored using Likert's scale. Cut-off for the markings were taken as 14 for Likert.[8] In the Likert-type scoring method, 0 = "less than usual," 1 = "no more than usual," 2 = "rather more than usual," and 3 = "much more than usual. After taking consent the students were asked to fill the form anonymously as only socio-demographic information were collected in the form and no name or ID number was mentioned on the form. Students were allowed to leave if they didn't want to fill the forms. We had distributed 300 forms, out of which 33 students didn't return the forms and 13 forms had to be discarded as they were incomplete. Form was written in English and was explained to students in Their local language before distribution.

This study was approved by Institutional Ethical Committee.

The results were tabulated using Microsoft Excel and statistical analysis was done using SPSS 22.0 software. Mean, standard deviation, Odds Ratio and Logistic Regression was used for to analyse the results.

## RESULTS:

**Table 1 Socio-demographic Characteristics Of Study Participants**

	TOTAL	MALE	FEMALE	
AGE (Mean)	19.0282 (n=264)	19.026 (n=128)	19.029 (n=136)	F = 3.530 P = 0.0623
STREAM				ns
MBBS	123	49	74	
ENGINEERING	105	68	37	
NURSING	36	11	25	
PLACE OR RESIDENCE AFTER LOCK DOWN				
HOSTALITE	172	77	95	
DAY SCHOLAR	92	51	41	

Average age of the students (264) was 19 years. There were 128 males and 136 females in the study group. 123 MBBS students, 105 Engineering students and 36 Nursing students participated in the study. Out of 264 participants, 172 students were found to be residing in hostel and 92 were day scholar.

**Table 2 Psychological Distress Distribution Among Study Participants Taking Gender Into Consideration**

	Distress	No distress	Total	X <sup>2</sup>	p value
MALE	66 (52.0%)	61 (48.0%)	127	0.77	0.806
FEMALE	73 (53.7%)	63 (46.3%)	136		
TOTAL	139	124			

More females (53.7%) were found to be in psychological distress than Male students (52 %). But the gender wise distribution of distress was found to be non-significant here.

**Table 3 Psychological Distress Among College Students Taking Their Professional Stream Perusal Under**

#### Consideration

	Distress	No Distress	X <sup>2</sup>	p value
MBBS	57 (46.3%)	66 (53.6 %)	16.026	< 0.00001
ENGINEERING	53 (50.5%)	52 (49.5%)		
NURSING	30 (83.3%)	6 (16.7%)		
TOTAL	139	124		

The nursing students were found to have highest level of psychological distress followed by Engineering. Students perusing MBBS were found to have lowest level of distress among all three branches. 83.3% nursing students were found to be under distress and 46.3% MBBS students were under distress. 50.9% engineering students were found to be under distress. Taking professional course perusal into account the psychological distress was found to be highly significant.

**Table 4 Psychological Distress Among Study Participants Taking Their Place Of Residence Post COVID**

	Distress	No Distress	X <sup>2</sup>	p value
DAY SCHOLAR	51 (56.0%)	40 (44.0%)	0.569	0.451
HOSTELER	88 (51.2%)	84 (48.8%)		
TOTAL	139	124		

Taking the place of residence into account, more day-scholars (56%) were found to be under distress. Statistically it was not significant.

**Table 5 Factors Associated With Distress Among Study Participants Using Multivariable Logistic Regression**

parameter	Unadjusted OR (CI)	P value	Adjusted OR (CI)	P value
age	0.990 (.774 -1.267)	.939	1.417 (0.993-2.022)	.054
Gender(male)	0.934 (.575- 1.516)	0.806	0.935 (0.549-1.591)	.804
Residence	0.822 (.493-1.369)	0.516	0.993 (.567-1.739)	0.980
Education(Engineering)				
Nursing	1.201 (0.902- 3.685)	.094	1.824 (0.902-3.685)	0.094
MBBS	5.893 (3.280- 29.142)	.000	9.777 (3.280-29.142)	0.000

With one year increase in age risk of negative mental health increase 1.4 times after adjusting for other factors like gender, residence, and professional education. Female gender was protective for negative mental health both with and without adjustment for other social and demographic factors. (OR = 0.9, AOR= 0.9). Staying in a hostel was found to be protective for mental health. Psychological distress was 9.7 times more prevalent among MBBS students as compared to engineering students having similar age, sex and residence. Similarly nursing students were 1.8 times increased chance of having negative mental health after adjusting for other factors.

## DISCUSSION:

College students are a group that is most sensitive to mental health concerns. The findings of this study, points out the effects of pandemic-related transitions of the mental health of this specific population. We found in this review that psychological stress-anxiety, depressive symptoms, anger etc were the major mental health manifestations of the COVID 19 pandemic in college students. By giving questionnaire forms to students post covid, we found out that majority of participants were experiencing increased stress and anxiety due to Covid 19. Lockdowns, closure of educational institutions and workplaces can have a substantial influence on mental health owing to changes in daily routine and social isolation in the population, particularly among college students and those in their middle years. Regardless of exposure, people may experience fear and anxiety regarding falling sick or dying triggering off a mental breakdown. The effects of the pandemic include worries about one's own

health and in students mainly difficulty in concentrating. Difficulty in concentrating is expressed by most of our participants, which adversely affects student's confidence in themselves. This has known correlations to increased stress and mental health in college students. The findings on sleep and eating habits are also a cause for concern as these variables have known correlation with depressive symptoms and anxiety.

In this study three courses were taken Medical, Engineering and Nursing streams, having total of 263 students out of which 139 (52.8%) showed distress, wherein nursing students were found having more distress symptoms with significant p value. This is in accordance with meta-analysis survey conducted from March 8 to 24, 2020 in China in nursing students showed that the prevalence of anxiety, depression and PTSD were 34.97%, 40.22% and 14.97% respectively (11). In this study male nursing students showed higher level of stress in comparison with female students. In another multicentral cross-sectional study conducted by Patelarou et al from April 30 – May 14, 2020 in three European countries (Spain, Greece and Albania) indicated that 67.5% nursing students had mild to severe depression, and rates of depression differed among countries (Spain 86%, Greece 59.5% and Albania 58.9%) (12). In our study 139 (52.8%) students out of 263 from three courses showed symptoms of psychological distress. This is similar to study done by Chowdary et al on 324 students out of which 223 (68.8%) had high fear of covid, 93 students (28.7%) had moderate to severe depression, and 167 (51.5%) had mild to severe anxiety (13). Sathe et al conducted a study in India in general population and found severe level of fear of covid 19 with 49% prevalence (14). Doshi et al (15) found that 48% of the general public in India, indicated being afraid of covid 19. The 2016 National Mental Health Survey reported a 2.7% prevalence of depressive disorder and a 3.1% prevalence of anxiety in Indian population. (16) A study conducted in college students in United Kingdom showed 71% of students have anxiety due to covid outbreak. A study conducted in Malaysia among university students found that anxiety was present in 29% of students, which is a lower percentage compared to this study.

In a study by Aftab et al, out of 123 Medical students 57 students (46.3%) were found to be distressed. Researcher concluded that during pandemic the students faced learning difficulty, 96% trouble with memorizing in 54.0%, concentration problems (67.%), about 55.5% of students made more mistakes, while 44.5% noted an increase in reaction time for solving questions. They found that around 90% of the total students experienced greater difficulty in overall learning during the pandemic compared to pre-pandemic time (17). This might be a again a serious pointer and indicator of psychological distress students might be facing which might lead to poor gain in knowledge and implementation in later stages.

In our study female students were found to have greater psychological distress (53.7%) compared to males (52.0%) . This study is consistent with a survey conducted by Faisal RA et al in Bangladeshi students where there was no impact of gender or residential status on anxiety and depression levels (18). But, study done by Pramukti et al showed significant impact of gender on symptoms of anxiety (19). They found that, problems or roadblocks in pandemic control, availability of resources, and receiving COVID-19 information from the internet and family were the main key factors which might be the reason behind anxiety and suicidal thoughts in the study population.

In our study there was no significance in distress levels between day-scholars and hostellers. Same was the finding by Faisal et al (18).

As per table 5, we found significant distress was professional training these students were receiving and it was insignificant for gender, age or the place of stay. As per Bedaso et al (20), logistic regression found poor social support, and current substances use were significant predictors of mental distress among students.

## CONCLUSION :

After the second phase of the COVID-19 pandemic, a large group of student population was found to be suffering from psychological distress. Nursing students were found to have highest psychological distress followed by engineering students. Based on these findings, we consider that mental health strategies should address the acceptance of the current situation of the pandemic in the population, such as counselling and spreading the correct treatment and information regarding the pandemic. Strategies could also include providing psychoeducation, in addition to coping techniques and helplines for emotional management. Easy availability to information on internet and social media outburst and panic also affects the young minds. Providing correct and legit information on social media sites will also help preventing the panic and dissemination of correct information. Counselling, mentorship programmes, self-help groups should be provided to the college students to provide good support system to those who need them.

## Limitations of the study:

Sample size of our survey was relatively smaller when compared to typical survey-only studies and there is no questionnaire about stressors. Second the sample is taken from one large university, and findings may not generalize to all college students. In addition, a majority of our participants are from engineering stream. Therefore, future work is needed to use a stratified nationwide sample across wider disciplines to verify and amend these findings.

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