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## Mind matters – Mental Health Status of students appearing for NEET examination in a rural area of Tamil Nadu: A Cross-Sectional study

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### Abstract

**Background:** The mental health status of students preparing for the National Eligibility-cum-Entrance Test (NEET) in Tamil Nadu is a critical aspect that needs attention. NEET is a highly competitive and demanding examination that serves as the gateway for admission to various medical and dental colleges across the country. The intense academic pressure, coupled with the high stakes associated with NEET, often places a significant burden on the mental well-being of students. The objective of this study was to estimate the prevalence of anxiety, depression, and its contributing factors among students preparing for the NEET exams.

**Methods:** This was a cross-sectional study done among rural students preparing for their NEET exam. Simple random sampling was used to enroll the students with the sample size of 450. Interview was conducted using a questionnaire. Results are presented as frequency and percentage and Chi-square test was done to assess the associated factors.

**Results:** Among the 450 students, the prevalence of anxiety was 53% and the prevalence of depression among rural students was 44%. While comparing gender, family, number of times they appeared for NEET, and their mental health status were statistically significant.

**Conclusions:** Students who prepared for NEET exam had higher level of depression and anxiety. More than one-third of the students had anxiety and more than half of the participants had depression. When students are getting ready for the NEET exam, parents, teachers, students, and the Government should all take the students' mental health status into consideration.

**Keywords:** Anxiety, Depression, students, NEET examination

## Introduction

The National Eligibility cum Entrance Test (NEET) is a highly competitive and standardized entrance examination in India. It serves as the gateway for students aspiring to pursue undergraduate medical (MBBS), dental (BDS), and some other allied health science courses in approved/recognized medical/dental colleges across the country. Indian students face immense stress due to the compulsory competitive exams for entry into professional courses such as medical and dental. The inability to cope with performance pressure, meet parental expectations, and achieve personal aspirations can result in psychological distress and, consequently, depression. Tamil Nadu has witnessed the suicides of many students who were unable to clear the NEET exam. Mental health problems can reduce the quality of student's life by affecting their academic achievement and physical health.<sup>1</sup> These issues can also have long-term consequences for students, affecting their future employment, earning potential, and overall health. High school students are increasingly vulnerable to social and psychological disturbances, due to developmental and academic requirements.<sup>1</sup> The availability of medical seats in India is increased now a days unlike other courses like engineering, considering the large number of students aspiring to pursue medicine. The competition is inherently stressful, which trigger depression and anxiety. Because of the assurance of lucrative white-collar job opportunities, fields like medicine, engineering, and management have emerged as the top preferences for higher education among students and/or their parents. Consequently, higher education has become a crucial stepping stone for a successful future, making exams a significant source of stress and anxiety for many students. Beyond grappling with their own personal standards, today's students also face the pressure of meeting the expectations of their parents and society, amplifying feelings of anxiety, depression, and inclinations toward suicide.<sup>3</sup> Depression, in turn, negatively impacts interpersonal relationships with peers and family, potentially escalating to suicidal thoughts. Past incidents of students anticipating failure in the NEET exam have been reported, with instances of suicide documented across different regions of India<sup>4</sup>. According to the National Crime Records Bureau (NCRB), approximately one percent of suicides in India in 2021 were attributed to examination failure<sup>5</sup>. Globally, suicide stands as a grave public health issue linked with substantial disability, psychosocial challenges, and medical conditions<sup>6</sup>. In certain cases, anxiety can escalate to such an extent that it leads to suicidal tendencies. Unfortunately, India holds one of the highest rates of teenage suicide globally, with an increasing number of students attempting suicide due to the fear and pressure of exams<sup>7</sup>. Specifically, Tamil Nadu leads not only in terms of high suicide rates (as per the National Crime Record Bureau, 2013) but also in reported suicides attributed to exam failures. It's important to note that suicide represents an extreme response to distress, indicating that for every reported suicide, numerous cases of mental health issues likely remain undetected. The recent introduction of the NEET exam in Tamil Nadu has placed additional pressure on students, yet there are few studies investigating the mental health challenges students confront concerning this examination. Aim of the study was to measure the mental health status in terms of anxiety and depression among students preparing for NEET exams and to determine its risk factors.

## Methods

A cross-sectional study was conducted among rural areas across Tamil Nadu. The study enrolled students appearing for NEET exam for the first time and second time. The study was done for a period of one year. Students were selected from schools and NEET coaching centers. Purposive sampling technique was used. Sample size was calculated with an alpha error of 5%, a 95%

confidence interval, an alpha error of 5%, and an expected proportion of 50%, the minimum calculated sample size was 380. We collected the data using a pretested, semi-structured questionnaire after getting the informed consent. The Hamilton anxiety and depression rating scale was used to assess the anxiety and depression of the student. Grading was done to assess the anxiety and depression as mild, moderate and severe. A total score is calculated by summing the individual scores from each question.<sup>8</sup> Scores below 7 generally represent the absence or remission of depression. Scores between 7-17 represent mild depression, Scores between 18-24 represent moderate depression, Scores 25 and above represent severe depression.

### Data analysis

The data was collected by a face-to-face interview using questionnaire through google form and the Microsoft excel sheet was downloaded from Google form. The analysis was done using SPSS Version 25.0. Categorical variables were expressed as frequency and percentage. Anxiety and depression were expressed as proportion. The association of sociodemographic characteristics were compared with anxiety and depression using Chi-square test presented with p value,  $p < 0.05$  was considered statistically significant.

### Results

Among 450 participants 204(45%) were male students and 246 female students were enrolled in this study. Age range from 8-21 year with mean 19 years. More than half 162(36%) of the participants were from joint family, 246(54%) of the student parents were daily wage workers and 150(33%) of the students belonged to the upper class. The prevalence of anxiety among rural students was 240(53%) and the prevalence of depression among them was 201(44%). The prevalence of anxiety-178(77%) and depression 172-(86%) was high among females and there is a statistically significant association ( $p$ -value  $< 0.05$ ) between gender (Table 1). There is an association between socio-economic status and this association is significant with a  $p$  value 0.003. The reason for anxiety and depression was due to family expectation and environment, financial burden for coaching. (Table-1 and 2)

**Table 1: Socio demographic factors compared with anxiety(N=240).**

Variable	Anxiety (n=240)	p-value
Gender		
Male	62(25%)	<0.005
Female	178(75%)	
Type of family		
Joint	125(52%)	>0.005
Nuclear	165(48%)	
Reason for anxiety		
Family expectation		
Yes	167(70%)	<0.005

No	73(30%)	
Financial burden		
Yes	192(80%)	<0.005
No	48(20%)	
No of attempt		
1	194(81%)	<0.005
2	46(19%)	

**Table 2: Socio-demographic characteristics compared with depression (N=201).**

Variable	Depression (n=201)	p-value
Gender		
Male	56 (28%)	<0.005
Female	145(72%)	
Type of family		
Joint	83(41%)	>0.005
Nuclear	118(59%)	
Reason for anxiety		
Family expectation		
Yes	186(93%)	<0.005
No	15(7%)	
Financial burden		
Yes	165(82%)	<0.005
No	36(18%)	
No of attempt		
1	185(93%)	<0.005
2	16(7%)	

There was significant difference observed which comparing depression and anxiety with gender, family expectation, financial burden, and no of times appearing.

**Table-3**

Variables	Anxiety (240)			Depression (201)			p-value
	Mild	Moderate	Severe	Mild	Moderate	Severe	
Gender							
Male	15	40	17	12	16	23	0.455
Female	101	34	43	44	65	36	

Type of family							
Joint	88	23	14	34	16	33	0.038
Nuclear	113	25		56	32	30	
Family expectations							
Yes	10	122	35	135	21	30	0.043
No	41	20	12	4	9	2	
Financial burden							
Yes	65	87	40	56	35	10	0.058
No	24	22	3	21	10	5	
No of attempts							
Yes	42	98	54	51	82	52	0.034
No	30	14	2	8	7	1	

## Discussion

This analytical cross-sectional study aimed to assess the prevalence of anxiety and depression among students preparing for the NEET exam, with the objective of revitalizing the current education system. Among the total students, the prevalence of anxiety among rural students was 53%. and depression was 44%. Study done by Janakiram et al also found almost similar percentage of anxiety and depression in their study.<sup>9</sup> In this study, the prevalence of depression and anxiety is found to be high among students preparing for the NEET exam, it underscores the critical need to address the mental health challenges faced by these individuals. Likewise, according to a study conducted by Shrivastava A and Rajan D, the prevalence of depression and anxiety showed no significant differences between genders. The implications of elevated levels of depression and anxiety in this context are multifaceted and deserve careful consideration and proactive intervention. Depression and anxiety was high among females than men. High levels of depression and anxiety among NEET aspirants can significantly impact their academic performance and overall well-being.<sup>10</sup> There's a higher incidence of depression among students from lower socio-economic backgrounds. This underscores the perception of education as a pathway to a prosperous future and economic advancement. The intense competition inherent in exams like NEET exposes students to anxiety and depression. They face immense pressure to achieve high ranks in these exams, contributing to the emergence of mental health challenges such as anxiety and depression. In severe cases, this strain might even lead to thoughts of suicide. India grapples with a high suicide rate, with Tamil Nadu ranking second in the number of suicides. It's crucial for the government to prioritize students' mental health when formulating new policies. Mental health conditions like depression often reduce concentration, motivation, and cognitive abilities, which are crucial for success in competitive exams like NEET. Anxiety, on the other hand, may exacerbate stress levels, leading to decreased focus and effective study habits.<sup>(11)</sup> Ultimately, these mental health challenges could impede their chances of performing well in the exam. Addressing these mental health concerns requires a holistic approach, encompassing not only individual support but also systemic changes in educational structures and support mechanisms.

## Conclusion

In conclusion, if depression and anxiety are found to be high among students preparing for the NEET exam, it necessitates urgent attention and comprehensive strategies. Prioritizing

mental health support within the academic sphere is crucial not only for the immediate well-being of students but also for fostering a healthier, more resilient generation of aspiring professionals.

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