

# Depression, Anxiety and Stress Among Higher Secondary School Students of Imphal, Manipur

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## ABSTRACT

**Introduction:** Adolescence is a stressful period due to physical, psychological, sexual changes, and the presence of psychiatric disorders such as depression, anxiety, and stress at this stage of life is a matter of concern. **Objectives:** The objectives of the study were to determine the prevalences of depression, anxiety, and stress among higher secondary school students of Imphal and to determine the association between depression, anxiety, and stress and selected variables such as gender, standard, and religion. **Materials and methods:** From September 2014 to October 2014, a cross-sectional study was conducted among higher secondary school students of Imphal. The sample size was calculated to be 750. Seven schools were randomly selected, and all the students in that school were enrolled in the study. The study tool used was a questionnaire containing DASS (Depression Anxiety Stress Scale) and sociodemographic characteristics. **Results:** The prevalences of depression, anxiety, and stress among 830 valid respondents were 19.5%, 24.4%, and 21.1%, respectively. In total, 81.6% of the respondents had at least one of the studied disorders and 34.7% of the respondents had all the three negative states. The prevalences of depression, anxiety, and stress were high among females and were significant for anxiety ( $P = 0.00$ ) and stress ( $P = 0.04$ ). The prevalences of depression and stress were significantly higher among 12th standard students with  $P$ -values of 0.00 and 0.02. **Conclusion:** The prevalences of depression, anxiety, and stress were high with anxiety and stress significantly higher among females, whereas prevalences of depression and stress were significantly higher among 12th standard students. More studies are recommended to determine the factors leading to these mental disorders.

**Keywords:** Anxiety, depression, DASS-42, higher secondary school students, Manipur, stress

## Introduction

Adolescence is considered a stressful period due to physical, psychological, sexual changes and is also influenced by maturity.<sup>[1]</sup> It is a crucial phase in life course of a human, and the presence of psychiatric disorders such as depression, anxiety, and stress at this stage of life is a matter of concern. The symptoms of these three disorders can lead to poor academic performance, lack of communication with friends and family members, substance abuse, feeling of abandonment, homicidal ideation, and suicidal tendency.<sup>[2-4]</sup> Several areas of

research show that the majority of adults suffering from mental disorders indicate that their symptoms began in childhood and adolescence.<sup>[5-7]</sup> Roberts and his colleagues<sup>[8]</sup> reported that the prevalence of mental disorders among children and adolescents range from 1% to 51% with a mean rate of 15.8% for adolescents. Depression is the fourth leading cause of all disease, accounting for 4.4% of total burden.<sup>[9]</sup> Despite the prevalence and substantial impact of these mental disorders, detection and treatment in the primary health

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care setting have been suboptimal. Scant literature is available regarding the prevalence of depression, anxiety, and stress in adolescents, and none were available for Manipur. Most of the studies on depression, anxiety, and stress have been conducted on adults. Hence, the present study was carried out to determine the prevalences of depression, anxiety, and stress among higher secondary school students of Imphal, Manipur, and to determine the association between depression, anxiety and stress and selected variables such as gender, standard, and religion.

## Materials and Methods

From September 2014 to October 2014, a cross-sectional study was conducted among higher secondary school students of Imphal, the capital city of Manipur in northeast India. Based on a prevalence of depression as 25% in a study,<sup>[10]</sup> with an absolute precision of 5% at 5% significance level, the sample size was calculated to be 300. With a design effect of 2.5, the final sample size was estimated to be 750. Hence, about 800 students were targeted for data collection. Seven schools were randomly selected, and all the students in that school were enrolled in the study. Those who were absent on the day of data collection were excluded from the study.

The study tool used was a questionnaire containing DASS<sup>[11]</sup> (Depression Anxiety Stress Scale) and sociodemographic characteristics. The DASS is a 42-item Questionnaire which includes three self-reporting scales designed to measure the negative emotional states of depression, anxiety, and stress. Each of the three scales contains 14 items. Respondents were asked to use the 4-point severity/frequency scales to rate the extent to which they have experienced each state over the past week. Further, since the DASS permits cutoffs into different categories (normal, mild, moderate, severe, and extremely severe) based on the scores, the prevalences were generated accordingly.

Questionnaires were distributed to the students in the class, and they were explained about the questions and how to fill up the questions. Filled-up questionnaires were collected and checked for completeness and consistency. Incompletely filled-up questionnaires were excluded from the analysis. Data entry and analysis were done using IBM SPSS version-20. Descriptive statistics such as mean and percentage were used. Data analysis performed using the chi square test and a *P*-value of < 0.05 was considered statistically significant.

Approval was sought from the Institutional Ethics Committee, RIMS, Imphal. Informed consent was obtained from school principals, and verbal assent or consent was taken from students. Steps were taken up to maintain confidentiality.

**Table 1: Prevalence of depressive, anxiety, and stress symptoms**

	Depression [n (%)]	Anxiety [n (%)]	Stress [n (%)]
Normal	330 (81.5)	306 (75.6)	364 (79.9)
Mild	26 (6.4)	22 (5.4)	17 (7.1)
Moderate	27 (6.7)	50 (12.3)	12 (6.0)
Severe	14 (3.5)	6 (1.5)	6 (5.5)
Extremely severe	8 (2.0)	21 (05.2)	6 (2.5)

**Table 2: Association between depression, anxiety, and stress and sociodemographic characteristics**

	Depression [n (%)]	Anxiety [n (%)]	Stress [n (%)]
Sex			
Male	156 (48.9)	198 (62.1)	155 (48.6)
Female	282 (55.2)	369 (72.2)	286 (56.0)
p value	0.08	0.00	0.04
Standard			
Eleven	212 (48.8)	298 (68.7)	203 (46.8)
Twelve	226 (57.0)	269 (68.0)	238 (60.1)
p value	0.02	0.82	0.00
Religion			
Hindu	269 (52.5)	41 (68.0)	267 (52.1)
Meitei	30 (54.5)	41 (74.5)	27 (49.1)
Meitei	30 (54.5)	41 (74.5)	27 (49.1)
Muslim	9 (31.0)	14 (48.3)	10 (34.5)
Others	5 (50.0)	5 (50.0)	6 (60.0)
p value	0.17	0.07	0.12

## Results

The total number of respondents was 863. About 33 questionnaires were incomplete and hence excluded. Therefore, the total number of valid respondents was 830, with a response rate of 96.2%. The mean age of the respondents was  $17.06 \pm 0.68$  years with a range of 16–19 years. The prevalences of depression, anxiety, and stress were 19.5%, 24.4% and 21.1% respectively [Table 1]. Around four-fifth (81.6%) of the respondents had at least one of the studied disorders, and 34.7% of the respondents had all the three negative states. Table 2 shows that the prevalences of depression, anxiety, and stress were high among females and were significant for anxiety (*P*=0.00) and stress (*P*=0.04). The prevalences of depression and stress were significantly higher among 12th standard students with *P*-values of 0.00 and 0.02.

## Discussion

The present study indicated a high prevalence for symptoms of depression, anxiety, and stress with 81.6% of the students reported symptoms of at least one of the three studied disorders. Findings of previous studies performed all over the world also indicate a large proportions of adolescents having these psychiatric disorders.<sup>[12–19]</sup> Similar to the prevalences found in our study, the prevalences of depression, anxiety, and stress

were 41.5%, 66.2%, and 52.5% in a study conducted in Saudi Arabia<sup>[14]</sup> among secondary school girls. Bayram and Bilgel<sup>[18]</sup> found that the prevalences were 51.4%, 66.05%, and 39.4% among University students, whereas the prevalences were 51.3%, 33.1%, and 53.0% in a study conducted among UG MBBS students.<sup>[19]</sup> About one-third (34.7%) of the respondents had all the three psychiatric disorders, which is within the range as found in the previous studies, whereas the comorbidity was 25% to 68%.<sup>[14,20,21]</sup> The prevalences of depression, anxiety, and stress were higher among girls, a finding which is seen in other studies.<sup>[13,16,18,19]</sup> This may be due to the fact that women articulate depressive symptoms, even minor ones, more easily.<sup>[22]</sup> As seen in other studies,<sup>[16,17,23]</sup> depression and stress were significantly higher in 12th standard students as compared to the 11th standard students. This may be because they are in tremendous pressure regarding their performance in board examination to be conducted at the end of the year. The strengths of the study were: the sample size was adequate and the validated questionnaire was used. The limitations were as follows: since this was a school-based study, we do not know the effect of excluding non-school going children and there was a difficulty in understanding some of the questions by the respondents. It is concluded that the prevalences of depression, anxiety, and stress were 19.5%, 24.4%, and 21.1%, respectively. Anxiety and stress were significantly high among females, whereas depression and stress were significantly higher among 12th standard students. Considering the importance of high prevalences of depression, anxiety, and stress among these students, it is essential to detect depressive, anxiety, and stress-related symptoms in this population and follow up with further referral for an appropriate diagnosis and treatment to specialized psychiatry centers to avoid damage to the learning and development process. Moreover, further studies are recommended to find out the factors leading to these mental disorders.

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### Conflicts of Interest

There are no conflicts of interest.

### References

- Casey BJ, Jones RM, Levita L, Libby L, Pattwell S, Ruberry E. *et al.* The storm and stress of adolescence: Insights from human imaging and mouse genetics. *Dev Psychobiol* 2010;52:225-35.
- Polloc R, Rosenbaum J, Marrs B, Biederman J. Anxiety disorders of childhood: Implications for adult psychopathology. *Psychiatr Clin North Am* 1995;18:745-65.
- Brooks TL, Harris SK, Thrall JS, Woods ER. Association of adolescents risk behaviors with mental health symptoms in high school students. *J Adolesc Health* 2002;31:240-6.
- Gregory AM, Caspi A, Moffitt TE, Koenin K, Eley TC, Poulton R. Juvenile mental health histories of adults with anxiety disorders. *Am J Psychiatry* 2007;164:301-8.
- Renouf AG, Kovacs M, Mukerji P. Relationship of depressive, conduct, and co-morbid disorders and social functioning in childhood. *J Am Acad Child Adolesc Psychiatry* 1997;36:998-1004.
- Beautrais AL. Risk factors for suicide among young people. *Aust N Z J Psychiatry* 2000;34:420-36.
- Ringeisen H, Oliver KA, Menvielle E. Recognition and treatment of mental disorders in children: Considerations for pediatric health systems. *Paediatr Drugs* 2002;4:697-703.
- Roberts RE, Attkisson CC, Rosenblatt A. Prevalence of psychopathology among children and adolescents. *Am J Psychiatry* 1998;155:715-25.
- Üstün TB, Ayuso-Mateos JL, Chatterji S, Mathers C, Murray CJL. Global burden of depressive disorders in the year 2000. *Br J Psychiatry* 2004;184:386-92.
- Sahoo S, Chess CRJ. Prevalence of depression, anxiety, and stress among young male adults in India. *J Nervous Mental Disease* 2010;198:901-4.
- Lovibond SH, Lovibond PF. *Manual for the Depression Anxiety Stress Scales*. 2nd ed. Sydney: Psychology Foundation of Australia; 1995.
- Al-Gelban KS. Depression, anxiety and stress among Saudi adolescent school boys. *J R Soc Health* 2007;127:33-37.
- Saluja G, Iachan R, Scheidt PC, Overpeck MD, Sun W, Giedd JN. Prevalence of and risk factors for depressive symptoms among young adolescents. *Arch Pediatr Adolesc Med* 2004;158:760-65.
- Al-Gelban KS, Al-Amri HS, Mostafa OA. Prevalence of Depression, Anxiety and Stress as Measured by the Depression, Anxiety, and Stress Scale (DASS-42) among Secondary School Girls in Abha, Saudi Arabia. *SQU Medical Journal* 2009;9:140-7.
- Grant KE, Compas BE. Stress and anxious-depressed symptoms among adolescents: Searching for mechanisms of risk. *J Consult Clin Psychol* 1995;63:1015-21.
- Bhasin SK, Sharma R, Saini NK. Depression, anxiety and stress among adolescent students belonging to affluent families: A school-based study. *Indian J Pediatr* 2010;77:161-5.
- Baviskar MP, Phalke VD, Phalke DB. Depression, anxiety and stress: A comparative study in Arts, Commerce and Science Junior College students in Rural Area of India. *GRA* 2013;2:183-5.
- Bayram N, Bilgel N. The prevalence and sociodemographic correlations of depression, anxiety and stress among a group of university students. *Soc Psychiatry Psychiatr Epidemiol* 2008;43:667-72.
- Iqbal S, Gupta S, Venkatarao E. Stress, anxiety and depression among medical undergraduate students and their socio-demographic correlates. *Indian J Med Res* 2015;141:354-7.
- McGee R, Feehan M, Williams S, Anderson J. DSMIII from age 11 to 15 years. *J Am Acad Child Adolesc Psychiatry* 1992;31:50-51.
- Offord D, Boyle MH, Szatmari P, Rae-Grant NI, Links PS, Cadman DT. *et al.* Ontario Child Health Study II. Six-month prevalence of disorders and rates of service utilization. *Arch Gen Psychiatry* 1987;44:832-6.
- Noble RE. Depression in women. 14. *Metabolism* 2005;54:49-52.
- Rodrigo C, Welgama S, Gurusinge J, Wijeratne T, Jayananda G, Rajapakse S. Symptoms of anxiety and depression in adolescent students: A perspective from Sri Lanka. *Child Adolesc Psychiatry Ment Health* 2010;4:10.