Anxiety, Stress, Depression among School Going Adolescents in Bareilly City: A Cross Sectional Study

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Abstract

Context: Depressive disorders often start at a young age. There is a need for early identification of depression, anxiety, and stress (DAS) and prevention. The present study was undertaken to find the magnitude of DAS among adolescents.

Aims: To find the mental health status of school going adolescents in Chandigarh. The objectives were (i) to study the prevalence of DAS among school going adolescents and (ii) to study the correlates of DAS. Settings and Design: A Cross sectional survey of students of four classes from 9th to 12th studying in government schools.

Subjects and Methods: Ten government schools in Bareilly City were randomly selected through lottery method. In each school, for each of the four classes, a section was randomly selected again by the lottery method. Forty students were selected from each school reaching sample size of 470. DAS scale 21 questionnaires were used.

Statistical Analysis Used: The data entry was done in MS Office Excel 2007. The analysis was done in the form of frequency tables, charts cross tables. For statistical significance, Chi square test and correlation was found between various factors.

Results: The prevalence of DAS was 65.53%, 80.85%, and 47.02%, respectively. Overall, comorbidity between depression and anxiety was 57.65%. Extremely severe depression was very less (3%). The prevalence of DAS was higher in females. For depression and anxiety, the peak age was 18 years. Conclusions: The prevalence of DAS was high among school going adolescents in Bareilly City. There is a need for early and effective identification of DAS that can prevent many psychiatric disorders at their nascent stage.

Keywords: Adolescent, Depression, Anxiety, Stress, Bareilly City

Introduction

Mental illnesses account for a significant share of the disease burden in all civilizations. Depression, anxiety, and stress are among the most common causes of illness and disability in children. Teenagers are predisposed to a range of mental health difficulties due to the physical, psychological, and behavioral variations during this time. Poor academic performance, lack of communication with friends and family members, substance misuse, feelings of abandonment, homicidal thoughts, and suicide ideation are all signs of these three diseases [1,2].

For at least two weeks, depression is defined by persistent unhappiness and a loss of interest in activities that you generally love, as well as incapacity to function in everyday life. Anxiety is a sensation of tension accompanied by concerned thoughts and bodily changes such as elevated blood pressure. Anxiety disorders are characterized by recurrent intrusive thoughts or concerns.

Nearly 20% of children suffer from a diagnosable mental illness. In addition, numerous mental health illnesses emerge during adolescence. Before reaching adulthood, between 20-30% of children will experience at least one significant depressive episode. For a quarter of people, mood disorders such as depression first appear throughout adolescence. Anxiety disorders and impulse control disorders (such as conduct disorder or attention deficit/hyperactivity disorder) affect 50-75 percent of adolescents during their adolescence. As children enter puberty, existing mental health issues become more complex and acute. Adolescents with untreated mental health issues are more likely to perform poorly in school, drop out, have strained family connections, abuse substances, and engage in risky sexual practices [3].

Being away from home, grade, stream of study, academic performance and examination-related concerns, and cyber bullying have all been connected to depression in previous studies. According to earlier studies, sex, grade level of pupils, and kind of school (public or private), family type, not living with parents, educational level of parents, and high academic stress were all factors of anxiety.

Globally, depression is one of the leading causes of illness and disability. Even in developed nation's depression is a known health burden among children, adolescents, and adults. One in four children in the age group of 13-15 years in India suffers from depression, which affects 86 million people in the South-East Asia region, the World Health Organization. In adolescents, major depression is projected to rank second-most cause of human illness by the year 2020 [4,5].

To battle the burden of juvenile mental health concerns, researchers must investigate the extent and risk factors of symptoms of depression, anxiety, and stress. Nevertheless, anxiety and depression in early teens commonly go undetected and untreated, particularly in developing countries like India, due to limited access to psychological and psychiatric care as well as the enormous societal stigma regarding mental health concerns. Keeping these points in mind, an attempt will be made to assess the depression, anxiety and stress among school students in Bareilly City, Uttar Pradesh.

Materials and Methods

The A cross sectional research was carried out among school students in Bareilly city from February 2022 - April 2022. The study was approved by the Institutional Review Board, Institute of Dental Sciences, Bareilly. Prior beginning the research, the production lines head provided written approval for it to be carried out there. Sample size has been scientifically estimated using G Power V 3.1 Software which yielded a minimum sample size of 470 School students. School students who were aged 10-19 years and whose parents will give consent to allow their children to participate were included in the study. School going children whose parents are not willing to give consent and who are likely to take transfer during the study period and those who did not want to take part in this research were eliminated.

Table 1: Gender-wise distribution of participants havingdepression, anxiety, and stress (*n*=470).

Gender	Number of students	Prevalence of DAS (%)
Males	257	85 (33.07)
Females	213	85 (39.9)

DAS: Depression, anxiety and stress.

Table 2: Comorbidity between differentdisorders (*n*=470).

Comorbidity	*n* (%)
Overall	170 (36.17)
Depression and anxiety	271 (57.65)
Depression and stress	144 (40)
Stress and anxiety	200 (50)

Multistage sampling technique was used for all the study units until the required sample size is attained.

The complete information about the study will be informed to the participants as mentioned in the participant information sheet. Signed informed consent form will be obtained from all the participating subjects after explaining the complete procedure in their vernacular language. A pre-designed semi-structured, self-administered questionnaire was used to assess socio-demographic profile like age, gender, religion etc. and associated factors like pressure to perform, relations with parents etc. Depression anxiety stress scale (DASS)-21 was used to detect depression, anxiety and stress.

Statistical Analysis

Data was entered on Microsoft excel software and statistical analysis was done using a licensed version of SPSS 21. Descriptive analysis was done by calculating proportions, means and standard deviation.

Results

Out of 470 students, the maximum number of students participating in study was from 9th class (28.72%), and minimum number of students was from 12th class (22.76%). There were 257 male (54.68%) and 213 female (45.31%) participants in the study. The maximum number of students were from the age group of 16 years, i.e., 180 (38.29%) and minimum from the age group of 19 years, i.e., 3 (0.63%) students. Table 1 shows gender-wise distribution of participants having DAS. Table 2 shows that overall comorbidity between all three disorders, i.e., DAS was 36.1%. Distribution of participant and 12th class having the DAS is shown in Table 3. On comparison of DAS among participants of 9th, 10th, 11th, 12th classes, it can be seen that depression was higher in 12th class, anxiety was higher in 10th class, and stress was higher in 9th class. While comparing DAS among participant of nonboard (9th + 11th) and board classes (10th + 12th), it was found that it was higher in board classes than in nonboard classes. It was found that all types of depression (75.59%) and stress (53.52%) were higher in board classes

Table 3: Distribution of participants of 9th, 10th, 11th and 12th class having the depression, anxiety, and stress (*n*=470).

Students of class	DAS	Normal (%)	Mild (%)	Moderate (%)	Severe (%)	Extremely severe (%)
Class 9th (*n*=135)	Depression	55 (40.74)	21 (15.56)	40 (29.63)	14 (10.37)	5 (3.7)
	Anxiety	37 (27.41)	31 (22.96)	52 (38.52)	14 (10.37)	1 (0.74)
	Stress	32 (23.7)	37 (27.41)	51 (37.78)	9 (06.67)	6 (4.44)
Class 10th (*n*=106)	Depression	28 (26.42)	27 (25.47)	32 (30.19)	14 (13.21)	5 (4.72)
	Anxiety	18 (16.96)	21 (19.81)	39 (36.79)	15 (14.15)	13 (12.26)
	Stress	50 (47.17)	30 (28.30)	10 (09.43)	15 (14.15)	1 (0.94)
Class 11th (*n*=122)	Depression	55 (45.08)	20 (16.39)	34 (27.87)	12 (09.84)	1 (0.82)
	Anxiety	27 (22.13)	36 (29.51)	26 (21.31)	21 (17.21)	12 (09.84)
	Stress	72 (59.02)	29 (23.77)	11 (09.02)	9 (07.38)	1 (0.82)
Class 12th (*n*=107)	Depression	25 (23.30)	23 (21.36)	43 (40.78)	12 (11.65)	4 (02.91)
	Anxiety	21 (19.42)	29 (27.18)	25 (23.30)	12 (11.65)	20 (18.45)
	Stress	49 (45.63)	40 (37.86)	6 (05.83)	12 (10.68)	0
DAS: Depression, anxiety and stress						

than of nonboard classes (57.2% and 41.63%,respectively).Among students of classes 11th and 12th, according to their stream, it was found that depression and anxiety were maximum in medical students (78.57%), and stress was more in commerce students (48.89%). It was found that extremely severe depression was highest among medical students (03.57%); mild depression was also more in them (28.57%). Moderate depression was more in arts students (43.42%). Extremely severe (17.10%) and moderate anxiety (27.63%) were higher in arts students. Mild anxiety was higher in medical students (42.86%). Severe anxiety was higher in commerce students (16.67%). Extremely severe stress was present only in commerce students (01.11%); severe stress was higher in nonmedical students (60.71%). Mild stress was higher in arts students (35.53%).

Self-satisfaction with academic performances in participants with DAS was 67.08%, 86.07%, and 40.5%, respectively whereas the parent's satisfaction with academic performances of their wards with DAS was 66.86%, 80.47%, and 43.19%, respectively. Poor socioeconomic conditions and father's occupation (nonworking) were directly related with higher level of DAS. With increase in the education level of parents, level of DAS in their children decreased. As the parents love decreased, level of depression and stress in the participants increased. DAS was found to be more among students whose mothers were not alive. The level of anxiety was found higher in the participants belonging to the joint families. Students staying away from home in hostels and paying guest accommodations had higher levels of depression and stress. It was found that the prevalence of depression and stress was more in students who were bullied by batch mates. It was also found that the prevalence of DAS was more in students who felt overburdened with test schedules. The level of stress was higher among the participants who were not self-satisfied with their academic performance and whose parents were not satisfied. Participants, who took alcohol and smoked, showed higher prevalence of DAS.

Discussion

In our study, we found that the prevalence of DAS was more in students who feel overburdened with test schedules. The level of stress was higher among the participants who were not self-satisfied with their academic performance and whose parents not satisfied. Similar results have been reported by other studies, namely, Kaur and Sharma, Moreira and Furegato, Liu and Lu and Gray-Stanley et al. [6-12].

A study done by Deb et al. revealed that 63.5% of the higher secondary students in Kolkata experience academic stress, and the parental pressure for better academic performance was found to be mostly responsible for academic stress as reported by 66.0% of the students. It was found that the prevalence of DAS was higher in females than in males. The study by Kaur and Sharma in Chandigarh also found that girls were more academically frustrated than the boys. The study conducted in Bengaluru by Sharma and Kirmani found that girls had higher scores on beck depression inventory than boys. A comprehensive review of almost all general population studies conducted to date in the United [13,14].

States of America, Puerto Rico, Canada, France, Iceland, Taiwan, Korea, Germany, and Hong Kong reported that young women predominated over men in lifetime prevalence rates of major depression. In India, similar findings were obtained by Verma et al. Academic stress is a type of stress that arises due to academic factors such as heavy school schedule, unrealistic expectation and demands of parents and teachers, low academic performance, poor study habits, and not having enough time to deal with school's multiple priorities. Academic stress is recognized as a risk factor for depression and suicidal behavior. The experience of school-related stress such as poor academic performance, negative feedback from parents and teachers about school work; daily hassles in the school environment, stressful life events, and negative affect states during school work were all leads to increase in depression. Poor academic grades generally predict high educational stress; the discrepancy between expected and actual grades may play a more important role in the development of psychological distress and other mental health problems [15-20].

In our study, DAS increases as the intake of alcohol increases. Higher DAS was found among those who drink alcohol and those who were occasional smokers. Severe depression and extremely severe stress were more in males as compared to females. A study done in Chennai in 1986 revealed that 23.25% had contemplated suicide earlier and that 91.9% of them were aged 30 years or less. A strong association of suicidal tendency with alcohol was reported in 10.42% of the sample. The suicide rate was more in males as compared to females. It might be due to the reason that males are not emotionally very strong as compared to females and shared less of their problems as compared to female.

The prevalence of DAS increases as the parents love decreases, lack of parental affection takes toil on mental peace of children. In a review done by Zgambo, et al. in 2012, it was seen that children and adolescents who live without parents exhibit higher levels of depressive symptoms than those who live with parents around them. Depression is decreased by higher levels of parental care and lower levels of parental indifference. Greenberger et al. stipulate that strong positive family relationships lessen the symptoms of depression. Many other factors, such as loss of loved ones, conflicts with parents, teachers, and peers, and significant physical diseases may have important effects on adolescent suicidality.In our study, as the level of parent's education increases, the level of prevalence DAS among adolescents decreases. There is a direct relation between the parents' mental health and their children's health.

A cross-sectional study by Olfson et al. in 2003, on parental depression and child mental health reported that children of parents with depression were approximately twice as likely as children of parents without depression to have a variety of mental health problem. The prevalence of depression and stress was more among the participants who were bullied by their batch mates or seniors. According to the study conducted by Khawaja et al. in 2015 in Pakistan showed that physical abuse ($P = 0.05$), verbal abuse ($P = 0.003$), injury ($P = 0.02$), and bullying ($P < 0.001$) were significantly associated with psychological stress.

As the age increases, the prevalence of DAS was also found to be increasing. The peak of the prevalence of depression was in the 18th year of age. Tepper et al. argue that depressive symptoms do

not differ between boys and girls but intensify with age. This trend of increasing DAS may be due to different social and developmental challenges faced by teens. In our study, depression and stress were prevalent in participants who belong to poor families. Direct and indirect effects of relative poverty had bad effect on the development of emotional, behavior, and psychiatric problems. Poverty has multidimensional phenomenon, encompassing inability to satisfy basic needs, lack of control over resources, lack of education and poor health [21-28].

Conclusion

According to study, the overall prevalence of DAS among school going adolescents in Chandigarh was high. DAS in this population have been shown to be associated with increased risk of suicidal behavior, homicidal ideation, tobacco use, and other substance use. The burden of mental disorder is great as they are prevalent in all societies. They create a substantial burden for affected individuals and their families and produce significant economic and social hardships that affect society as a whole.

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