



# A study on psychological assessment of adolescent girls in rural schools of West Bengal

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## ABSTRACT

Since the adolescent population constitutes one-sixth of the total global population, their physical and mental health have become a serious concern. Depression is becoming the most common mental health problem. According to the WHO, depression is projected to become the second leading cause of disability after heart disease. Anxiety and its manifestations are influenced by cultural beliefs, practices and associated with substantial negative effects on children's social, emotional and academic success. Specific effects include poor social and coping skills, loneliness, low self-esteem, and difficulty forming friendships. The objectives of the present study were to assess the psychological health profile of students using DASS21 Scale. This cross sectional study was done among 435 rural school students selected by random sampling. Statistically significant association of depression with absence of sibling, self-reported scholastic performance, relationship with parents and peers were found.

**Keywords:** Psychological health, rural students, DASS21 scale

## INTRODUCTION

Adolescence (10-19 years) is a critical time of development and it signifies a period of high risk for depression. Depressed mood has been referred as a common experience during adolescence and often dismissed or ignored as signs of adolescence or teenage behaviours.<sup>1</sup> The pre-pubertal age depression rate for boys and girls are similar, and doubled in females after puberty.<sup>2,3</sup> Depressed girls are more likely to have internal symptoms such as feeling lonely and unhappy, crying and hating themselves. Significant relationship between baseline depressive symptoms and health risk behaviour among rural adolescent population was found.<sup>4</sup>

Girls tend to perceive higher levels of stress than boys, especially in relation to interpersonal stressors, e.g. peers and family relationship.<sup>5,6</sup> The transition into adolescence seems to be the starting point for an increase in psychological problems like depression

and anxiety, especially among girls.<sup>7,8</sup> Occurrence of different levels of depression among adolescence has varied and some studies have indicated that approximately 25% to 40% of adolescent girls experience significant depressed mood, compared with 20% to 35% of boys.<sup>9</sup> Despite differences in overall developmental trends, anxiety and depression share symptoms and have substantial co-occurrence.<sup>10</sup> Evidence indicates that the cumulative effect of stressful events meets the criterion for a risk factor. Relations between stressors, especially those in an interpersonal context (e.g. peers, Family) and symptoms of depression in childhood and adolescence have been well established.<sup>9,10</sup> The same association is found between stress and symptoms of anxiety.<sup>9,11</sup> In this regard, girls appear to be more vulnerable to the negative psychological effects of interpersonal stress, than boys.<sup>5,7</sup>

Keeping this background in mind the present study was undertaken among adolescent girls attending



two girls' school in Tarakeswar Block, Hooghly District which is rural field practice area of Department of Community Medicine, Medical College, Kolkata with the following objectives:

1. To know the socio demographic profile of the adolescent girls.
2. To assess the psychological status of the adolescent girls.
3. To find out the relationship between socioeconomic profile and psychological status of these girls.

## MATERIALS AND METHODS

**Study design and setting:** An observational cross sectional study was performed between October 2012 September 2013 in two rural schools at Tarakeswar Block, Hooghly District, West Bengal which is the rural field practice area of Department of Community Medicine, Medical College, Kolkata.

**Sampling methodology and sample size:** Data was collected by random sampling technique. Students of class VIII, IX, X who were willing to participate in the study and were present on the day of data collection, were included in the study. Absentees and unwilling and those who were sick on the day of examination students were excluded.

**Tools and techniques:** A predesigned and pretested questionnaire was used for data collection. There are 4 girls' schools in Tarakeswar Block. Among them 2 girls' schools were randomly selected. Then class VIII, IX, X were selected randomly. After getting permission from the Headmistress, all the students of those classes, who present on the day of survey, were included. One day was fixed in each school to maintain uniformity of the questionnaire and to prevent percolation of information. Subsequently many other visits were made for examination of the girls of different classes. Total 464 students were interviewed. Due to incompleteness of response by 29 students, finally 435 schedules were used for analysis.

**Ethical issues:** Informed verbal consent was taken from each patient and they were ensured about the confidentiality.

**Data analysis:** Data was tabulated in Microsoft Excel 2010 spread sheet & analysed by appropriate statistical methods in SPSS 16 software. Discrete

data was analysed using Pearson's Chi-square test for normal distribution, values <0.05 were considered significant.

**Confounders in this study:** The confounding factors of this study were school type, medium of teaching, socio economic background and mothers' employment status, adolescents' perceptions of quality time with their parents.

**Internal and external validity:** DASS21 scale was used for data collection. It was a validated scale. For data collection purpose in the present setting the tool was translated in to local language. Then it was pretested among 45 adolescent students from a similar school. Necessary modifications were done. The final study tool was then translated to English and again retranslated to local language for validity and reliability. As the study was a cross-sectional one, the findings cannot be universally generalized but can be applicable for the study population of the present setting.

## RESULTS

The study included 435 students from two schools. Largest proportion of the students was in the age group 10-14 years i.e. 262 (60.22%), while the least proportion was in the age group 18-19 years i.e. 6 (1.39%). Mean age of the students was 14.36 ± 1.28 years with a range from 13-18 years. All the participants were unmarried females. 140 (32.18%) students were in class VIII while 166 (38.17%) and 129 (29.65%) studied in class IX and X respectively. Most i.e. 351 (80.68%) of the students belonged to Hindu religion while 84 (19.32%) students belonged to Muslim community. More than 90% of the girls belonged to lower middle and poor socio economic status i.e. Class IV & V of Prasad' Scale (40.45% and 51.72% respectively). Most (69.43%) of the students belonged to nuclear families. Most of girls (39.08%) had only one sibling while 29.19 % girls had no sibling. 107 (24.59%) students' fathers had their own business and 93 (21.37%) were in service. Largest proportion of students' mothers were found to be educated up to middle school i.e. 143 (32.89%), followed by primary 111 (25.53%), secondary 102 (23.44%), higher secondary 52 (11.95%), graduate 18 (4.13%), while 9 (2.06%) mothers were illiterate. (Table 1)

**Table 1 Socio demographic profile of the study population (n=435)**

Socio demographic profile		Number	Percentage	
Religion	Hindu	351	80.68	
	Muslim	84	19.32	
Socio Economic Status	Upper Middle(5118-8529)	23	5.31	
	Lower Middle(2559-5117)	176	40.45	
	Poor(853-2558)	11	2.52	
	BPL(<853)			
Occupation of Father	Farmer	55	12.64	
	Shopkeeper	48	11.07	
	Business Service	107	24.59	
	Self-employed	93	21.37	
	Others	41	9.42	
Education of Mother	Illiterate	9	2.06	
	Primary	111	25.53	
	Middle School	143	32.89	
	Secondary	102	23.44	
	Higher	52	11.95	
	Graduate	18	4.13	

Among 86 girls who were depressed, mild depression was found in 59(13.56%) girls while 27(6.22%) girls were moderately depressed. Among 83 girls who had anxiety, mild anxiety was found in 66 (15.17%) girls

while 17(3.92%) girls were moderately anxious. Among 83 girls who had stress, 59(13.56%) girls had mild stress while 28(6.43%) girls were moderately stressed. (Table 2)

**Table 2 Distribution of the study population according to mental health status (n=435)**

Mental health profile	Number	Percentage
<b>Depression</b>		
Normal(0-9)	349	80.22
Mild(10-13)	59	13.56
Moderate(14-20)	27	6.22
<b>Anxiety</b>		
Normal(0-7)	352	80.91
Mild(8-9)	66	15.17
Moderate(10-14)	17	3.92
<b>Stress</b>		
Normal(0-14)	348	80.01
Mild(15-18)	59	13.56
Moderate(19-25)	28	6.43

(Ref: Depression Anxiety Stress DASS21 Scale).



Statistically significant association of depression was found with absence of sibling, self-reported

scholastic performance, relationship with parents and peers ( $p < 0.05$ ). (Table 3)

**Table 3 Association of various determinants and depression (n=435)**

Variables	Normal Number (%)	Depressed Number (%)	Significance
<b>Presence of Siblings</b>			
Sibling present	269(87.33)	39(12.67)	P<0.01
Sibling absent	80(62.99)	47(37.01)	
<b>Self-reported Scholastic Performance</b>			
Good	312 (96.59)	11(3.41)	P<0.01
Average	28(44.44)	35(55.56)	
Poor	9 (18.36)	40(81.64)	
<b>Relationship with Parents</b>			
Good	323(84.77)	58(15.23)	P<0.01
Average	19(54.28)	16(45.72)	
Poor	7(36.84)	12(63.16)	
<b>Relationship with Peers</b>			
Good	263(83.75)	51(16.25)	P<0.01
Average	41(75.92)	13(24.08)	
Poor	45(67.16)	22(32.84)	

## DISCUSSION

Since the adolescent population constitutes one-sixth of the total global population, their health issues both in terms of physical and mental health have become a serious concern. Depression is becoming the most common mental health problem affecting students these days. According to the World Health Organization, depression is projected to become the second leading cause of disability after heart disease.<sup>12</sup> A recent review by Dyrbye et.al.<sup>20</sup> in 2006 reported mild or moderate symptoms of depression in up to 25% in student populations in the U.S. and Canada. Kessler et.al.<sup>12</sup> in 2008 found comorbidity between anxiety, depressive and substance use disorders as very common, with a third to a half of persons with any mental disorder meeting criteria for another mental or substance use disorder at some point of time in their lives. The findings of the present study demonstrate that 19.78% Adolescent girls are unable to cope with the stressful life events and become victims of depression. Loneliness, (29.19% of the adolescents were only children and 69.43% from

nuclear families), and high expectations of the parents for better academic performance were thought to be the main causes of depression. Although, result may vary to compare the situation with regard to any mental health issue because of usages of different study tools in different geographical locations to measure the same aspect. In present study DASS21 rating scale has been used whereas Beck's Depression Inventory II scale used by Dev et.al.<sup>19</sup> Findings of two latest studies disclosed that depression was much higher among adolescents and youth in three European countries and in US compared to the findings of the present study. For instance, Mikolajczyk et.al.<sup>21</sup> in 2008 found highly prevalent depressive symptoms among students in all three European countries like 34.0% in Poland, 39.0% in Bulgaria and 23.0% in Germany and it is mainly related to academic burdens. One recent study in Kolkata<sup>22</sup> revealed that about half of the adolescents who participated reported that the parents are unable to provide quality time with their children, which perhaps results in adolescents who



feel lonely becoming more dependent on peer group members to overcome depression. It is worth reiterating that measures such general and specific prevention education, self-help strategies and resources, and psychosocial support networks and services, and can be embedded in educational

settings. Schools offer an ideal setting for universal prevention activities with potential to reach large numbers of children and adolescents. Additionally, the school environment is likely to facilitate the acquisition of competencies in Indian children as it is viewed as a place of learning.

Author	Year of publication	Place	Prevalence of depression (%)
Mishra A et.al. (13)	2001	Delhi	9.86% depression in 12-16 years girls
Kaltiala et.al. (14)	2001	Finland	11.2% mild depression among girls 9% moderate depression 2.1% severe depression
Costello E.J et.al. (15)	2003	USA	Adolescent depression 5%-10%
Sihvola, E.at.al. (16 )	2007	Latin America	Adolescent depression 0.9% to 7.8%
Ritakallio, M.et.al. (17)	2008	Finland	Adolescent depression from 6% to 14%
	2010	Kolkata	Adolescent depression from 1.2 to 9.2%
Deb et.al. (19)	2010	Kolkata	Mild depression 28.2% Minimal depression 14.5% Severe depression 25% Moderate depression 32.3%
Present Study	2013	Tarekswar West Bengal	Mild depression 13.56% Moderate depression 6.22%

At school adolescents can be taught how to manage stress and anxiety and can practice skills. Mental health promotion with adolescents' parents is essential as parent-adolescent relationships has strongly advocated for a systematic, large-scale, multifaceted, and ongoing public health campaign to educate parents about adolescence by expertise from health care, government organizations, community groups, education systems and the mass media and would be directed towards improving parents' knowledge of, and attitudes towards the common issues of adolescents. Parent education is specifically required in the Indian context to deal with the phenomenon of educational pressure and the comparison of the performance of one's own child with the best ranked students. Before such measures are introduced in India, however, further research is

required to understand the ways in which culture and anxiety interact and to unpack risk and protective factors for the development of anxiety specifically in Indian adolescents. But time is of the essence. **Strength and weakness of the study:** The strength of the study was that the findings revealed that adolescent high school girls in this part of India were in special need of health intervention on correct knowledge and positive attitude. The limitation of the study was that it needed to be repeated at regular intervals to monitor the problem by integrated health service.

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