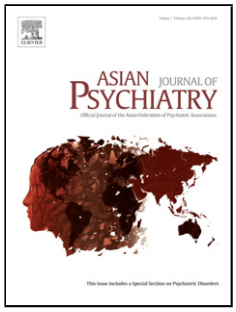

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<AT>Assessment of mental health status among school going adolescents in North East India: A cross sectional school based survey

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<ABS-HEAD>Abstract

<ABS-P><ST>Background</ST> Adolescent emotional responses and behaviors are often passed off as growth pangs and academic stress, thereby missing those that need deeper understanding and mental health interventions. **Aim:** The aim of the study is to understand mental health status among the school adolescents in Tezpur, Assam. **Materials and Methods:** The present study was a cross sectional study that used convenience sampling in selection of the schools. A total of 10 schools were selected for the purpose of the study. 1403 adolescents were selected for data analysis. Socio-Demographic Performa and Strengths and Difficulties Questionnaire [SDQ] were administered to the participants. **Results:** The results indicated that five predictors (gender, education, family type, academic performance, socio economic status in the family) explained 9.79% of the variance ($F = 5.040$, $P < .000$) in total difficulty levels: (Academic performance; $\beta = 0.08$; $t = 3.15$; $P = .002$) and (Socio economic status; $\beta = .07$, $t = 3.02$, $P = .003$). **Conclusion:** In the study less than one tenth of the participants have some mental health issues and this calls for concern. Schools should have standing operation procedures in place to periodically screen adolescents for mental health related issues.

Keywords: emotional and behavioral difficulties, school going adolescents, strength and difficulties questionnaire.

Introduction

The state of Assam is home to 6.5 million children and adolescents; out of which 88.1% of them are school going. This is not a number that can be ignored, for, the mental health status of this population determines to a large extent the direction of future growth of the country. According

to the Census India (2011), percent distribution of estimated population of adolescents by age-group is the following: 10-14 yr s= 10.5 % (male- 10.7%; female- 10.3%), 15-19 yrs = 10.3% (male-10.7%; female-9.8%). In India the prevalence rate of child and adolescent psychiatric disorders in the community has been found to be 6.46% and in schools it has been found to be 23.33% [1]. A study in Srilanka found the prevalence of emotional and behavioral problems among school going adolescents to be 13.8% in which 8.8% of children showed internalizing problems and 8.8% externalizing problems [2]. Studies have shown a median prevalence estimate of 4.0% with a range from 0.2% to 17% for major depression [3]. In a recent Indian study it was found that 10.1% of adolescents had emotional symptoms in the abnormal range, with 9% at risk for emotional symptoms, 13% for conduct problems, 12.6% for hyperactivity/inattention and 9.4% for peer problems [4]**.** Psychiatric disorders have significant adverse impact on children and adolescents that affect their wellbeing and psychosocial functioning. It also has an impact on parents and families. A better understanding of the these issues among the adolescents can help family, school and mental health system to take appropriate steps to remedy, prevent problems and promote better physical, mental and emotional health. In this context a study to understand the mental health status of adolescents is necessary to promote better understanding and interventions. The present study assessed mental health status among school going adolescents in Tezpur. Assam, India.

Aim of the Study

The aim of the study is to assess the mental health status of school going adolescents in Tezpur, Assam.

Objectives

1. To find out the prevalence of emotional problems, conduct problems, Hyperactivity-inattention, Peer problems and Pro-social behavior among school going adolescents.
2. To find the gender difference in mental health status (emotional problems, conduct problems, Hyperactivity-inattention, Peer problems and Pro-social behavior) among school going adolescents.

Methodology

The researcher used as a cross sectional survey design to conduct this study in the schools in Tezpur, Sonitpur district. There are 12 government schools, 8 private schools and 3 central government schools in Tezpur class between VIII to XII. Convenience sampling was used in selection of the schools .A total of 10 schools were selected for the purpose of the study and written/oral consent was obtained from concerned authority. School going adolescent from class VII to XII were selected through total enumeration method and their consent was obtained. Those respondents who did not complete the tools were excluded from final analysis along with those who did not meet the age criteria (13-17 years). Out of ten schools, 1538 adolescents participated in the study. Data from 135 adolescents was excluded either because they were incomplete or because they did not meet the age criteria. Finally, data from 1403 adolescents were selected for analysis. The study was under taken with the approval of the scientific committee and ethical committee of Lokopriya Gopinath Bordoloi Regional Institute of Mental Health (LGBRIMH).

Statistical plan: Analysis and interpretation of the data was done through the use of Statistical Package for Social Sciences (SPSS) version 20.

Tools for data collection

1. Socio-Demographic proforma: A Socio-demographic Performa was constructed for the purpose of this study with domains like age, sex, family details, academic performance and other details.

2. Strengths and Difficulties Questionnaire [SDQ]: SDQ is a brief standardized, structured questionnaire for screening psychiatric disorders in children and adolescents ranging from 11 to 17 years of age [5]. The strength and difficulties questionnaire (SDQ) contains 25 questions that consist 5 subscales of emotional, hyperactivity, relationship, and conduct problems and pro-social behaviors with 5 items in each. The sum of the first four subscales consist the total difficulty score (13). The questionnaire has 3 forms: parent-report, teacher-report and self-report. Self-reported questionnaire were used for the study.

Results

The mean age of participants was 14.81 years (SD = 1.117). There were more males than females (52.3% vs 47.7%). Majority of the participants were from class IX (35.2%) and majority of the participants were from Hindu religion (85.5%) from semi-urban area (91.9%) with 66% of the participants from upper socio economic status. About 3/4th of the participants lived in nuclear families. Majority of the participants (52.7%) reported average academic performance.

Analysis of data (Table 1) revealed that 11% of the participants scored in borderline range and 10.2% fell under abnormal range in the domain of emotional problems. In Conduct disorder, 15.7% respondents were at a borderline level and 15.1% had scores indicating abnormal range. In hyperactive behavior, 8.1% participants scored in borderline range and 5.7% had abnormal range. In peer problems, 21.4% in the borderline range and 5.2% participants reported severe problems with the peers. The findings indicate that prevalence of mental health problems among school going adolescents in this study is 31.6% (borderline range is 23.8% and 7.8% in abnormal range).

The table [2] shows the gender comparisons in the domain of Strength and difficulty questionnaire (SDQ). An independent samples t test indicated that the scores on the domain of Emotional problems were significantly higher for the female [M=4.20, SD=2.14] than the male respondents [M=3.33.04, SD= 1.96], t=7.82.454, p=.000. Males scored higher in the domain of conduct problem [M=2.96, SD= 1.68] than the female respondents [M=2.83, SD= 1.56], t=1.530, p=.126. In the domain of Hyperactivity significant gender difference was found where male scored higher [M=3.48, SD= 1.89] than the female respondents [M=3.27, SD= 1.87], t=2.069, p=.039. Significant gender difference was found in problems with peers where male scored higher [M=2.83, SD= 1.70] than the female respondents [M=2.44, SD= 1.61], t=4.344, p=.000 .Further in the domain of Pro-social behavior significant gender difference was found. Female respondents scored higher [M=7.79, SD= 1.75] than their male counterparts [M=7.47, SD= 1.79], t=3.390, p=.001. In the total score of SDQ female participants scored slightly higher [M=12.71, SD= 4.87] than male participants [M=12.59, SD= 4.76], t= .476, p=.635, but this difference was not statistically significant. On the basis of the results obtained it can be said that female participants had higher levels of emotional and pro-social behavior and males had high level of hyperactivity, conduct problems and peer problems.

Age was found to have a significant positive correlation with emotional problems [r=.101, p≤0.01] and Hyperactive[r=.130, p≤0.01], while positive correlation which was statistically not significant was found with Conduct problems [r=.020] (Table 3).
Multiple regression analysis examined if the following five variables predicted the level of total problems on SDQ [Table 4]; gender, education, family type, academic performance and socio economic status in the family. Among the five variables, academic performance and socio economic status significantly predicated the level of overall difficulties in SDQ. The results indicated that two predictors explained 9.79% of the variance ($F = 5.040$, $P < .001$) in total difficulty levels: (Academic performance; $\beta = 0.08$; $t = 3.15$; $P = .002$) and (Socio economic status; $\beta = .07$, $t = 3.02$, $P = .003$).

Discussion

The finding of the study shows 11.0% of the respondents score in borderline range and 10.2% of the respondents fall under abnormal range in the domain of emotional problems. A significant gender difference was found in domain of emotional problem. Female respondents reported more emotional problem as compared to males. Similar finding has been reported by Pathak et al. [6] who found that behavioral and emotional problems were more among girls than boys across all age groups. Further, Rimal and Pokharel [7] also reported that girls were significantly more likely to have emotional problems than boys which is similar to our finding. Conduct disorder was at a borderline level for 15.7% respondents and at an abnormal level 15.1% of respondents. Male scored higher in the domain of conduct problem as compared to females in the present study. This finding is also consistent with that of Rimal and Pokharel's study [7] where conduct problems were significantly higher in males than females. Among Indian studies, Sarkhel [8] reported prevalence of conduct disorder (CD) to be 4.58%, and Deivasigamani (9) reported the prevalence of CD to be 11.13%, which relatively a little higher in our study. In hyperactive domain of SDQ 8.1% respondents scored in borderline range and a 5.7% had abnormal range. It was also found that in the domain Hyperactivity, males scored higher than females. Cury et al. [10] reported the prevalence of hyperactivity to be 8.25% which is closer to our finding. In India, Ali and Eqbal [11] found that 4.23% of the students had hyperactivity, while another Indian study it to be 11.32% [12]. Gender difference in hyperactive has also been reported by many studies. These studies have found boys to be having more hyperactive symptoms than girls (13, 14). In our study, 21.4% of the respondents had peer problems that were in the borderline range and 5.2% participants have severe problems with the peer. In this domain too males scored higher than females. Studies have reported that peer relationship problems is the most common problem in youth and peer problems are more in males than females [14-17]. Findings from our study indicate that prevalence of mental health problems among school going adolescents is 31.6% (borderline range is 23.8% and 7.8% in the abnormal range).

Multiple regression analysis shows that academic performance and socio economic status significantly predicated the level of overall difficulties in SDQ. Bhola et al. [4] stated that parental marital discord, financial difficulties in the family and physical punishment by parents as predictors of total difficulty (SDQ) levels in college going students.

There were certain limitations in the present study, firstly, only the self-reported of Strength and Difficulties Questionnaire was used. Secondly, parental and teacher's reports were not used to corroborate the findings from the self-report. Purposive sampling method was used for selection for school. Although convenience samples provide time advantages, they may be biased and may not represent the entire population.

<ABS-P><ST>Conclusion</ST> In the study less than one tenth of the participants some mental health issues and call for concern. The prevalence of mental health problems among school going adolescents in this study is 31.6% (borderline range is 23.8% and 7.8% in the abnormal range).Assessment of the prevalence mental health problems in adolescents is critical to developing health policy and interventions that reduce their impact on population health. Every country and culture has children and adolescents struggling with mental health problems. Most of these young people are unable to access appropriate resources for recognition, support, and treatment. The findings of the study indicate that inter sectorial approach is required in prevention of mental health problems and promotion of well-being. Schools should have standing operation procedures in place to periodically screen adolescents for mental health related issues.

<H1>**Conflict of Interest**

Nill

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<Table>Table 1**: Mental health Status of Participants N= 1403**

Variable	**Normal** **n (%)**	**Borderline** **n (%)**	**Abnormal** **n (%)**
Emotional problems	1106 (78.8%)	154 (11.0%)	143 (10.2%)
Conduct problems	971 (69.2%)	220 (15.7%)	212 (15.1%)
Hyperactivity	1210 (86.2%)	113 (8.1%)	80 (5.7%)
Peer problems	1030 (73.4%)	300 (21.4)	73 (5.2%)
Over all	960 (68.4)	334 (23.8%)	109(7.8%)

Table: 2 Gender difference in mental health status (SDQ)

	Male		Female		df		
SDQ DOMAIN	**Mean**	**SD**	**Mean**	**SD**		**t**	**P value**
Emotional problems	3.33	1.96	4.20	2.14	1400	7.821	.000 **
Conduct problems	2.96	(1.68)	2.83	1.56	1400	1.530	.126
Hyperactivity	3.48	1.89	3.27	1.87	1400	2.069	.039*
Peer problems	2.83	1.70	2.44	1.61	1400	4.344	.000**
Pro-social behavior	7.47	1.79	7.79	1.75	1400	3.390	.001**
Total	12.59	4.76	12.71	4.87	1400	.476	.635

<PA>P* < .05, ***P* < .001**

Table: 3 Person correlations between age, Emotional problems, Conduct problems and Hyperactive

	Emotional problems	Conduct problems	Hyperactive
Age	.101**	.020	.130**

***P* < .001

<Table>Table 4**: Predictors of total difficulties score level on the SDQ**

Variable	**Regression Coefficient**	**SE**	**β**	**t**	**P**

Gender	0.01	.03	.00	.32	.745
Education	0.02	.01	.03	1.41	.159
Family type	0.04	.03	.03	1.41	.156
Academic Performance	0.08	.02	.08	3.15	. 002**
Socio economic status	-0.07	.02	-.08	-3.02	.003**

P< .01**

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