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Are Tribal Adolescents Mentally Healthy? An Introspect with a Community Based Cross Sectional Survey in a District of West Bengal

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ABSTRACT

Background: Literatures reported psychosocial and behavioural problems among adolescents in different parts of India but research among tribes was quite less in spite of marginalised section. The study was conducted to screen for the prevalence of psychosocial symptoms and strengths and to find out factors with increased score among the tribal adolescents of a district of West Bengal.

Methods: This community based cross sectional, descriptive study was done among 190 tribal adolescents with a pre designed, semi structured proforma including strength and difficulties questionnaire (SDQ). Anthropometric measurements were recorded. Census was done for selection of participants.

Main findings: Out of 190 adolescents, 60.0% were male and six females were married. The illiteracy rate was two times in mothers. Proportion of overweight was significantly more in older adolescents ($p<.05$). Two thirds (66.8%) were at substantial risk of development of clinically significant mental health problems. Peer problems were most prevalent one. 26.8% had definite and 7.9% had severe difficulty problems. Parenteral fight had upset 92.6% adolescents and nearly half were unable to cope with their study. Economic difficulty, living in a happy family, inability to cope up with study and tension by parents expectation had significant association with increased total difficulty score ($p <.05$).

Conclusions: This study revealed high prevalence of mental problems and distress by multiple events.

Key words: Mental health, adolescents, tribes, strength and difficulty questionnaire, youth self-report measure

INTRODUCTION

The emotional and behavioural responses of adolescents are generally passed off in the process of growth pangs and academic stress and in between the adolescents were missed who need deeper understanding and mental health interventions. Child and adolescent mental health is of utmost importance in healthy development of societies. Children and adolescents tend to participate in the global culture more quickly than adults. In India, Scheduled Tribe (ST) constitute about 8% of the total population with varying percentages in different States.[1] The proportion in West Bengal is 5.5% and more than 11 lakhs are adolescents.[2] Tribal adolescents are prone to develop many diseases including mental morbidities. The reason attributed can be lack of basic amenities and health facilities. Adolescence is a period of transition cum gateway from childhood to adulthood. World Health Organization (WHO) defines 'adolescence' as age group ranging from 10 to 19 years.[3]A series of physiological, psychological, cognitive and behavioural changes take place in adolescence where intermittent periods of stress and strain has forced

people to knock the doors of psychiatrist. India is a unique country owing to its huge population and heterogeneity in terms of various dimensions. India is one of the first countries in the developing world to formulate a National Mental Health Programme. India presents a unique case in terms of its large population and 50% of them are children and adolescents. It is seen that 10% of 5-15 years has a diagnosable mental health disorder and this accounts for around 50 million children are in acute need of specialist service. Severe mental problems are noted in nearly 20 million adolescents. A major concern is that around 90% children with mental morbidity are not receiving any treatment. In India, health care providers neglected this aspect for more than last six decades. National policy makers have not cared to address the mental health needs of adolescents.[4] The focus must be searching for suitable tool to screen for mental health problems. The prevalence of major mental disorders (depression, conduct disorder, social anxiety, panic disorder) among adolescents have varied from 12 to 16.5 per cent.[5,6] A cohort study in Chandigarh depicted the incidence rate of psychiatric disorder to be 0.18 per cent per year among the 10-17 year old adolescents.[7] A study in an urban school for assessing the behavioural problems showed that 8.7% had an abnormal Strengths and Difficulties Questionnaire (SDQ) score and 53 (15.3%) had a borderline abnormal SDQ score.[8]Therefore this present study was undertaken to screen for behavioural problems, measure the prevalence of both psychosocial problems (emotional problems, conduct problems, hyperactivity–inattention and peer problems), strengths (pro social behaviour) and to estimate the association between socio-demographic, mental health assessing responses with significant and non-significant total difficulty score among the tribal adolescents.

METHODS

After obtaining institutional ethical clearance, the Performa was pre tested on ten tribal adolescents residing in a tribal community of Nadia district, West Bengal. After that, final modification of Performa was done. An observational, descriptive epidemiological study using cross-sectional survey design was conducted for three months among tribal adolescents who satisfied the inclusion criteria. The adolescents aged 11 -17 years, conversant in Bengali was included under study. Anonymity and confidentiality was ensured. All the resident tribal adolescents who were present during study were considered as study respondents. First house by the side of the local club of that community was chosen as the starting house. After entering into the house, enquiry was made about presence of any adolescent, aged 11-17 years. . Data collection was done from 10 am to 12 noon, 2 days a week. The adolescents complying with inclusion criteria were interviewed. If in the first visit, the adolescent was not present, then one more visit in Sunday afternoon was made to find the absentee. The objectives and importance of the study was explained to all participants and their guardians. A total of 203 adolescents were approached, consent was given by 197 guardians. Out of 197 participants, complete information was obtained from 190 subjects. A local female resident of tribal community worked as social worker helped in the data collection. Written consent was obtained from the guardian. Data was collected from each participant by direct interview. Anthropometric examination was recorded. The guardian or the care giver had been asked for some information. Data on socio-demographic attributes was collected. B G Prasad's socio economic scale was used for determination of social class. [9] Anthropometric measurements were done with standardised instruments. Overweight was defined as a Body mass index at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex and obesity was defined as a BMI at or above the 95th percentile for children and teens of the same age and sex. [10]

The problem behaviours of the study population was screened by use of Strength Difficulties Questionnaire (SDQ), a short, user friendly, easy to use measure of competencies. The questionnaire consists of 25 screening items that measure both psychosocial problems (emotional problems, conduct problems, hyperactivity–inattention, and peer problems) and strengths (pro social behaviour) in children and youths aged 2-17 years. The present study used youth self-report measure for 11-17 years, baseline version. Each item on the SDQ is scored on a 3-point ordinal scale with 0 = not true; 1 = somewhat true; and 2 = certainly true, with higher scores indicating larger problems (except in the case of pro-social behaviour). The SDQ total difficulties score was computed by summing the four problem behaviour subscales. [11] SDQ impact supplement scoring was done differently on a 4 point ordinal scale. The interpretation of SDQ scoring was done as per training manual of Australian mental health outcomes and classification network. [12]

Statistics

Numerical data was presented as mean ± standard deviation or percentages. Graphs and charts were done for presentation of relevant variables. Fisher's exact chi square test or Yates corrected chi square value was determined to find association. $p < .05$ was considered significant. Odds ratio, confidence

interval was calculated. For statistical analysis, SPSS 22.0(licensed) and STAT CALC EPI INFO version 6 was used.

RESULTS

Analysis of socio demographic and anthropometric variables showed that, the total number of the respondents was 190, out of which, 60.0% were male. The mean (SE) age of the subjects was 14.21 years(0.125). Most (78.4%) of the students read in class VII to class X. Six were not enrolled. The illiteracy rate was nearly double in mothers (14.2% vs. 28.0%). Fathers of six adolescents were unemployed and 40.0% mothers were homemakers. According to updated B G Prasad's scale, 93.2% belonged to either lower middle or lower social class.

Table 1: Age and sex specific BMI (n=190)

Variables	BMI percentile (%)				P vale
	<5th	5th -85th	85th–95th	>95th	
Age group					
11-14 yrs	9 (7.9)	94 (82.5)	8 (7.0)	4 (2.6)	**0.006**
15-17 yrs	0 (0.0)	57 (76.0)	12 (16.0)	6 (8.0)	
Sex					
Male	6 (5.5)	89 (80.9)	11 (10.0)	4 (3.6)	0.781
Female	3 (3.8)	62 (78.5)	9 (11.4)	5 (6.3)	

Table 2: Prevalence of psychosocial problems by SDQ subscales (n=190)

SDQ Subscale	Clinically significant problems		
	Unlikely	Significant	Substantial Risk
Emotional symptoms scale	144(75.8)	23 (12.1)	23 (12.1)
Conduct problem scale	106(55.8)	32 (16.8)	52 (27.4)
Hyperactivity scale	115(60.5)	26 (13.7)	49 (25.8)
Peer problem scale	18 (9.5)	89 (46.8)	83 (43.7)

x^2=186.30, p=<0.001; Figures in bracket indicate percentage

Table 3: Prevalence of mental health assessing responses (n=190)

Responses	Present (%)	Absent (%)
Distressed by parenteral fights	176 (92.6)	14 (7.4)
Economic difficulty	111 (58.4)	79 (41.6)
Upset by loss of parent	16 (8.4)	174 (91.6)
Often beaten at home	51 (26.8)	139 (73.2)
Has a happy family	174 (91.6)	16 (8.4)
Tense by parent's expectation	77 (40.5)	113 (59.5)
Often gets physical punishment	33 (17.4)	157 (82.6)
Unable to cope with study	93 (48.9)	97 (51.1)
Teased at school	45 (23.7)	145 (76.3)

Seven adolescents were married, six were female. Out of 190, 63.2% lived in kutcha house. Anthropometric profile analysis showed that the weight ranged from 25 to 63 kg. The mean (SE) weight and BMI was 40.45 kg (0.586) and 17.50 kg/m^2(0.16).

Overweight was prevalent in 15.4% adolescents. Proportion of overweight was significantly more in older adolescents (p<.05), but the difference between sexes was not significant. (Table 1)

Two in every three adolescents (66.8%) were either at substantial risk of development of clinically significant mental health problems or have significant problems while screening of by SDQ. The mean (SE) SDQ score was 17.93(0.340). Prevalence of psychosocial symptoms was measured with help of different subscales of SDQ. Peer problems were most common while the emotional symptoms expressed were less. The minimum score obtained for the emotional, conduct problem and hyperactivity subscales was 0 and maximum score was 8, 10 and 10 respectively. The mean score of hyperactivity and peer problem scale was more than rest two scales (5.31, 5.34 vs. 3.52 and 3.76). When the adolescents were screened for the strengths and prosocial scale was used, it was seen that, the risk of development of clinically significant or substantial risk problems was pretty less than unlikely significant ones (6% vs. 94%). On analysing the response to the question coined as "Overall, do you think that you have difficulties in any of the following areas: emotions, concentration, behaviour or being able to get along with other people?", it was seen that one hundred and twenty four adolescents were either not having any or minor difficulties, whereas 26.8% had definite and 7.9% had severe problems. The responses on individual SDQ impact items were not disheartening except the response on the difficulties upset or distress them (21.6%). It was seen that, 92.6% were upset by parenteral fight though more than 90% told that they had a happy family. More than half had economic difficulty and nearly half were unable to cope with their study. (Table 2, Table 3)

The study did not find any difference of significance between the socio demographic variables and the mental problems as per total difficulty scores obtained. It was seen that, some of the mental health assessing responses had significant association in risk of development of clinical problems. These factors were economic difficulty, living in a happy family, inability to cope up with study and tension by parents expectation (p<.05). The weight status of the adolescents had significant association with the obtained total difficulty score, too (p<.05). (Table 4, Table 5)

Table 4: Mental health problems and socio demographic variables

Variables	Mental problems as per TDS (Number)			Statistics
	Unlikely	Significant High risk	High risk	
Age group (Years)				
11-14 (114)	33	34	47	0.066
15-17 (76)	30	27	19	
Sex				
Male (111)	38	36	37	0.881
Female (79)	25	25	29	
Type of family				
Nuclear (110)	39	31	40	0.393
Joint (80)	24	30	26	
Mother's literacy				
Illiterate/Primary (117)	43	39	45	0.558
>Primary (63)	20	22	21	
Father's literacy				
Illiterate/Primary(80)	30	23	27	0.851
> Primary (110)	33	38	39	
Social class				
Upper/upper middle/middle (13)	4	5	4	0.096
Lower middle/lower(177)	59	54	62	
Parent's marital status				
Married and together (174)	58	52	62	0.317
Married not together/ Divorced/separated/widow(16)	5	9	2	

*TDS=Total difficulty score

Table 5: Mental health problems and assessing responses

Responses (number)	Mental health problems as per *TDS		P value
	Unlikely significant	Significant	
Distressed by parenteral fights (176)	58(33.0)	118(77.0)	0.880
Economic difficulty (111)	29(26.1)	72(73.9)	**0.045**
Upset by loss of parent (16)	5 (31.0)	11 (68.8)	0.058
Often beaten at home (51)	15 (29.4)	36 (70.6)	0.526
Has a happy family (174)	62 (35.6)	112 (64.4)	**0.051**
Tense by parent's expectation (77)	18 (23.4)	59 (76.6)	**0.023**
Often gets physical punishment (33)	7 (21.2)	26 (78.8)	0.140
Unable to cope with study (93)	22 (23.7)	71 (86.3)	**0.019**
Teased at school (45)	12 (26.7)	33 (73.3)	0.073

DISCUSSION

Merki MB (1990) highlighted that mental health is one side of a triangle along with physical and social health. The increase in the mental health problems attributed to disrupted family structures, growing youth unemployment and unrealistic educational and vocational demand of parents for their children. [13] There was paucity in research regarding the status of mental health among the tribal adolescents. Therefore, the present study had attempted to fill the gap and throw some light on this vulnerable issue.

A study of Bangalore among 374 school going adolescents consisted of 182 boys and 172 girls of 11-16 years age group. The sex composition was in favour of boys in our study, but the age distribution and mean age (13.4 years) of that study was quite similar to present one. The most common abnormal scores were on the hyperactivity, conduct problems and emotional problems subscales accounting for 12.1%, 16.7% and 12.4% respectively. A total of 6.2% of the population tested had abnormal scores on the peer problems subscale. Only 4.4% of the total population scored abnormally on the prosocial subscale. The prevalence was more in all scale, especially to mention in peer problem scale (43.7%) in present study that might be due to the population itself, the tribes, but the result was similar in terms of prosocial subscale. This study showed that 10.36% of the participants studied had an abnormal SDQ score, quite less than tribal adolescents (66.8%). The results revealed abnormal SDQ scores were more among females than among males. The difference was most pronounced on the emotional symptoms subscale. There was no significant difference in scores obtained between different gender in our study. In assessment of impact content, only 19.2% children had definite to severe difficulties in daily life with only 2% manifesting as severe difficulty. In our study, 26.8% had definite and 7.9% had severe problems. Overall 25% claimed the difficulty to be existent for more than 1 year, quite less than ours (43.2%).Of the children

affected by their difficulties, 5.4%, 4.2%, 5.9% and 4.5% were affected a great deal in their home life, friendships, classroom learning and leisure activities respectively, reflecting more proportion than current research. The difference in most of the proportions in between scores, mental health components, impact content was mostly due to their difference in their culture, upbringing, economic condition, social stratus etc. [8]

A cross sectional among 170 tribal adolescent girls of a school of Odisha, revealed quite close socio demographic profile in terms of social class majority (81.25%) belong to low economic status, age group distribution, type of family, father's occupation. But the literacy status of the parents of study subjects was better than Orissa study. Emotional issues like depression (21%), suicidal tendency (3%) and feeling of loneliness (33.3%) were noted. Insomnia was seen in 24.4% subjects. Moreover it was noted that peer relation was not so good among them. [9] A cross sectional study in 1403 adolescents from North-east India by strengths and difficulties questionnaire (SDQ) indicated that five predictors (gender, education, family type, academic performance, socio economic status in the family) explained 9.79% of the variance in total difficulty levels. In present study, no association of statistical significance was found between the mentioned variables and TDS. [14] A study from three private urban secondary schools found statistically significant ($p < 0.05$) independent variables associated with SDQ scores were gender, level of overall health, feeling safe at home, at school, or with friends. Our study found economic difficulty, living in a happy family, inability to cope up with study and tension by parent's expectation as significant variables. [15]

A study of Jharkhand among 780 tribal school going adolescents revealed higher mean age (17.44years) as the subjects were 13-17 years old. The prevalence of emotional, conduct problems, hyperactivity and peer problems were less compared to our study and the reason attributed might be geographic difference. [16] The rural study from Gujarat revealed similar picture as in our study in context with mean age, gender distribution, self-reported SDQ scores. The mean age of the students was 14.2 years. Highest level of abnormal score was seen in peer problem and least in pro-social behaviour score similar as in present study. The abnormal SDQ score were statistically more among girls, Muslim students, students in primary school, those with problematic families and those attending morning schools. [17] In a study done by Bansal, parenteral fights, beating at home and inability to cope up with studies had significant association with General Health Questionnaire-12 scores indicative of distress. On analysing with Becks depression inventory, it was noted that, punishment in school, parenteral fights and teasing at school was associated with high scores. Our study found economic difficulty, living in a happy family, inability to cope up with study and tension by parent's expectation as significant variables. [18] Prevalence of conduct disorder in Sarkhel study and Deivasigamani study reported was 4.58% and 11.13%. Dhoundiyal et al. had reported SDQ scores of 35%, 31.3% and 30.8% in the normal, borderline and abnormal band in a study conducted involving mixture of rural and urban girls, similar to present study. [19, 20, 21] An Iranian study among 2000 parents revealed that, 26% of youth had psychiatric problems, and conduct disorder (34.7%) was the most common problem in youth followed by peer relationship problems (25.4%), emotional problems (24.5%), hyperactivity (23%) and impairment of pro social behaviour (5.7%) and the result was close to current study. [22]

CONCLUSION

The in-depth analysis of the present study findings reflected the fact that there is a high prevalence of most of the clinically significant mental health problems. The literacy status of parents was more than national average. The living status and the economic status is a matter of concern. The ignorance and lack of health education make these people more prone to develop different types of morbidities. This study also revealed a grave fact after assessment of some responses and it was seen there was increase in the proportion of distress by multiple events. Finally it is concluded that many of these problems can be diminished to moderate extent there is by inner will, dissemination of adequate knowledge and active involvement by the local Governmental administration.

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