



Factors Affecting Mental Abnormalities among High School Children in Tribal, Rural and Urban Mysuru, Karnataka

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ABSTRACT

Background: The period of adolescence is phase of rapid growth, change, relocation and self-discovery, which are defining qualities of stressful experience. Family plays a pivotal role in the personality development and socialization of the child. The objective of this study was to identify the factors influencing on mental abnormalities among high school children

Materials and method: It was a Community based cross-sectional study. High school children aged 14 years to 16 years in tribal, rural and urban Mysuru were included. Sample size was rounded off to 180. Probability proportional to size (PPS) sampling was applied. MINI KID tool was used with pre tested and semi structured questionnaire. Approval of institutional ethical committee was taken before the start of the study.

Results: Among rural high schools participants in the age group of 15years, 27.2% had mental abnormalities. 70% of study participants of urban schools whose father and mother had poor relationship and 40% of study participants belonging to socio-economic Class II rural schools had mental abnormalities.

Conclusion: Good relation with father, mother and good relation between father and mother were having some association with mental abnormalities among high school children.

Key words: Mental abnormalities, Anxiety, Depression, family

INTRODUCTION

Adolescence is a journey from the world of the child to the world of the adult which is the time of physical and emotional change as the body matures and the mind becomes more questioning and independent. The period of adolescence is one of rapid growth, change, relocation and self-discovery, which are defining qualities of stressful experience.¹ Few children do extremely well and cope up this extremely tricky situation but few fail to do so. During adolescence, the onset of psychological disorders may be fast (days or weeks) or slow (months or years) depending in part on the nature of social adversities. What the exact negative psychological effects are and why the time of

onset varies following exposure to negative circumstances, remain almost entirely unknown. Adolescence is the best chance to correct the growth lag, malnutrition and any risk behavior forming a very crucial step to ensure health, creating prosperity and fulfilling human rights. No doubt adolescents are the future of the nation, forming a major demographic and economic force making them extreme point of interest which should not be neglected. Family plays a pivotal role in the personality development and socialization of the child at various developmental stages which is also considered as oldest institution in history of mankind. Any major disturbance in the functioning of the family can have adverse effects on the children.²

Family disruption in the form of parental separation, abandonment, death of a parent and divorce can have both short term and long term effects on the child. Children are likely to suffer a variety of physical and psychological problems when relationship between parents and relation among parents get strained expressed more during adolescence. Intense anger, fears about the future, loyalty conflicts, depression, social withdrawal, health problems, lack of social competence, academic problems, drug abuse are some of the short term problems identified.³ Child mental health is greatly influenced by many environmental factors and life events such as adverse family circumstances, maternal separation or deprivation, birth of a sibling, parental divorce, bereavement, physical handicap, urbanism and maternal depression which stresses on the socio-cultural events assuming to have etiological significance.⁴ There are relatively fewer studies regarding tribal health especially in this age group. Children with mental disorders face major challenges with stigma, isolation and discrimination, as well as lack of access to health care and education facilities. So with this background the study was started with objective to know the magnitude of mental abnormalities among high school students and possible factors influencing mental abnormalities among high school students of Mysuru district.

METHODOLOGY

It was a Community based cross-sectional study. Study participants were high school children aged 14 years to 16 years in tribal, rural and urban Mysuru. All those students who were willing to participate in the study belonging to age group of 14-16 years were included in the study and students suffering from any kind of chronic disease requiring prescribed medication, students who had taken any such screening tests before and past history of diagnosed mental illness were excluded from the study. Study Period was from November 2014 and May 2016, i.e., one and a half years. According to the Study conducted by Srinath et.al, the reported prevalence of mental disorders in adolescents is 12.5% in Urban and rural Bangalore.⁴ Sample size was around 168 and was rounded off to 180. Probability proportional to size (PPS) sampling was applied from nine tribal high schools of Hunsur, HD Kote and Periyapatna, eight rural high schools of rural Mysuru and thirteen urban high schools of Mysuru were included. A Pre tested semi structured proforma was included to elicit sociodemographic profile of students and factors influencing mental abnormalities. To evaluate mental health MINI KID (Mini International Neuropsychiatric

Interview) screening and diagnostic tool was used. Data was entered in excel sheet and analysed using SPSS v 22. Institutional ethical committee clearance was obtained before the start of study and written informed consent was obtained. P value significance was defined as less than 0.05 and Chi square test was applied for association.

RESULTS

Among the study participants in tribal area, 44 (23.7%) had anxiety disorders, 3(1.6%) had mood disorders, 6(3.2%) had suicidality and 4(2.2%) were diagnosed with ADHD. Among the study participants in rural area, 36(18%) had anxiety disorders, 8(4%) had mood disorders, 13(6.5%) had suicidality and 4(2%) were diagnosed with ADHD. Among the study participants in urban area, 50 (25.8%) had anxiety disorders, 9(4.6%) had mood disorders, 12 (6.2%) had suicidality and 8 (4.1%) were diagnosed with ADHD.

Among rural high schools participants in the age group of 15years, 28(27.2%) had mental abnormalities (p value <0.05). Among the urban high schools, 37 (41.1%) females had had mental abnormalities (p value 0.004). 53(28.6%) of study participants among the urban high schools whose parents were staying together had mental abnormalities (p value 0.004). 83.3% of study participants among urban schools who had poor relation with father had mental abnormalities (p value 0.011). 7 (70%) of study participants of urban schools whose father and mother had poor relationship had mental abnormalities (p value 0.01). 6(40%) of study participants belonging to socio-economic Class II rural schools had mental abnormalities (p value 0.007) (Table 1).

DISCUSSION

Summary of present study findings: Among the study participants, urban high school participants had highest prevalence of anxiety disorders around 25.8% and suicidality around 6.2% and rural high school participants had highest prevalence of mood disorders around 4%. While establishing the association between mental abnormalities, factors like age and socio-economic class had statistically significant association among rural participants. Among the urban high school participants, female participants, poor relation with father, poor relation between father and mother had higher mental abnormalities compare to and this association was statistically significant and among tribal high school participants no factors were found to be significant. (Table 1)

Table 1: Association between mental abnormalities and socio-demographic variables

Character	Tribal		P Value	Rural		P Value	Urban		P Value
	Absent	Present		Absent	Present		Absent	Present	
Mental abnormalities									
Age group									
14 yrs	72 (86.7)	11 (13.3)	0.68	48 (81.4)	11 (18.6)	0.04	74 (63.8)	42 (36.2)	0.14
15 yrs	64 (72.7)	24 (27.3)		75 (72.8)	28 (27.2)		55 (77.5)	16 (22.5)	
16 yrs	11 (73.3)	4 (26.7)		24 (64.9)	13 (35.1)		05 (71.4)	02 (28.6)	
Gender									
Male	62 (79.5)	16 (20.5)	0.52	74 (76.3)	23 (23.7)	0.44	81 (77.9)	23 (22.1)	0.00
Female	85 (78.7)	23 (21.3)		73 (71.6)	29 (28.4)		53 (58.9)	37 (41.1)	
Class/Standard									
8 std	33 (86.8)	5 (13.2)	0.21	6 (75)	2 (25)	0.43	53 (63.9)	30 (36.1)	0.35
9 std	42 (82.4)	9 (17.6)		77 (77.8)	22 (22.2)		55 (71.4)	22 (28.6)	
10 std	72 (74.2)	25 (25.8)		64 (69.6)	28 (30.4)		26 (76.5)	8 (23.5)	
Fathers occupation									
Unemployed/Retired	7 (70)	3 (30)	0.63	-	-	0.87	-	2 (100)	0.09
Unskilled workers	46 (83.6)	9 (16.4)		26 (68.4)	12 (31.6)		28 (68.3)	13 (31.7)	
Semi-Skilled workers	90 (76.9)	27 (23.1)		89 (75.4)	29 (24.6)		31 (59.6)	21 (40.4)	
Skilled Workers	2 (100)	-		11 (73.3)	4 (26.7)		38 (73.1)	14 (26.9)	
Semi-professional	2 (100)	-		18 (72)	7 (28)		35 (77.8)	10 (22.2)	
Professional	-	-		2 (100)	-		2 (100)	-	
Mother occupation									
Home maker	52 (76.5)	16 (23.5)	0.83	123 (73.7)	44 (26.3)	0.15	122 (71.3)	49 (28.7)	0.09
Unskilled workers	-	-		-	-		2 (28.6)	5 (71.4)	
Semiskilled workers	48 (78.7)	13 (21.3)		5 (71.4)	2 (28.6)		8 (66.7)	4 (33.3)	
Skilled Workers	46 (82.1)	10 (17.95)		14 (87.5)	2 (12.5)		2 (50)	2 (50)	
Semi-professional	-	-		3 (75)	1 (25)		-	-	
Type of family									
Nuclear	51 (77.3)	15 (22.7)	0.55	84 (70.6)	35 (29.4)	0.33	118 (70.7)	49 (29.3)	0.38
Joint	45 (76.3)	14 (23.7)		33 (82.5)	7 (17.5)		13 (56.5)	10 (43.5)	
Three generation	51 (83.6)	10 (16.4)		30 (75)	10 (25)		3 (75)	1 (25)	
Total family Members									
Up to 5 members	69 (81.2)	16 (18.8)	0.58	122 (73.1)	45 (26.9)	0.55	109 (69.9)	47 (30.1)	0.38
6 members & above	78 (77.2)	23 (22.8)		25 (78.1)	7 (21.9)		25 (65.7)	13 (34.3)	
Parents staying together									
Yes	143 (79.4)	37 (20.6)	0.60	144 (73.8)	51 (26.2)	0.72	132 (71.4)	53 (28.6)	0.00
No	4 (66.7)	2 (33.3)		3 (75)	1 (25)		2 (22.2)	7 (77.8)	
Relation with father									
Good	142 (79.8)	36 (20.2)	0.36	146 (74.5)	50 (25.5)	0.11	133 (70.7)	55 (29.3)	0.01
Poor	5 (62.5)	3 (37.5)		1 (33.3)	2 (66.7)		1 (16.7)	5 (83.3)	
Relation with mother									
Good	146 (78.9)	39 (21.1)	0.79	143 (73.3)	52 (26.7)	0.22	133 (69.6)	58 (30.4)	0.22
Poor	1 (100)			4 (100)			1 (33.3)	2 (66.7)	
Relation between father and mother									
Good	142 (79.8)	36 (20.2)	0.36	139 (73.5)	50 (26.5)	0.48	131 (71.2)	53 (28.8)	0.01
poor	5 (62.5)	3 (37.5)		8 (80)	2 (20)		3 (30)	7 (70)	
SES (Modified B.G. Prasad)									
I(6000 and above)	-	-	0.24	-	5 (100)	0.01	8 (89.9)	1 (11.1)	0.12
II(5990-3000)	8 (89.9)	1 (11.1)		9 (60)	6 (40)		15 (65.3)	8 (34.7)	
III(2999-1800)	14 (82.4)	3 (17.6)		44 (67.7)	20 (33.3)		37 (75.6)	12 (24.4)	
IV(1799-900)	43 (70.5)	18 (29.5)		69 (81.2)	16 (18.8)		61 (70.2)	26 (29.8)	
V(899)	82 (82.9)	17 (17.1)		23 (76.7)	7 (23.3)		13 (50)	13 (50)	

Figures in the parenthesis indicate percentage

Among rural high schools participants in the age group of 15years, 28(27.2%) had mental abnormalities (p value <0.05). Most of the mental abnormalities were in the age group of 14 years according to study done by Bansal et al. ⁵ which used Childhood Psychopathology Measurement Schedule as measuring tool however Kim-Cohen *et al.* in their follow up study from New Zealand reported that

50% of adult psychiatric disorder cases had onset by the age of 15 years.⁶ Few factors which influence increased prevalence among this age group could be because of increasing burden of studies in higher classes, emotional disturbances related to changes occurring during adolescence and parents' perception of any resultant undesired change in behaviour as abnormal. In the present study 41.1%

females in urban high school had mental abnormalities (p value-0.004), compared to 28.4% in rural and 21.3% in tribal high schools. Most studies worldwide showed female predominance explained by higher female vulnerability due to biological factors, stress and social pressure. Girls reported higher anxiety on all anxiety subscales than boys findings which are consistent with many of the previous studies which is similar to studies done by Birmaher et al. using 85 item questionnaire⁸ and Essau et al where girls showed more prevalence in which Spence anxiety scale was used.⁹

In the present study, among the urban high schools 40.4% fathers who were semi-skilled workers, 31.6% of study participant's father who were unskilled workers in rural high schools and 23.1% of study participant's father were semi-skilled workers in tribal high school had mental abnormalities. According to Hudson et al. poorer is one's socioeconomic conditions, higher is risk for mental disability and psychiatric hospitalization,¹⁰ and one of the major component in socioeconomic condition is fathers occupation.¹¹

Among the urban high schools 28.7% of study participant's mother who were home makers, in rural high schools 26.3% of study participant's mother who were home makers and in tribal high schools 23.5% of study participant's mother who were homemakers had mental abnormalities (p value <0.05). Arun et al. study revealed working status of mother was statistically significant for suicidal ideas and other mental abnormalities.¹² Sharma et al. also reported correlation of mother's working status. Students whose mothers are working find it difficult to cope with problems of student life.¹³ Mothers are the first point of approach compared to fathers for any trivial issues during adolescence and her availability for the solving any issues will be markedly important.

Among the urban high schools 29.3% belonged to nuclear families having more number of mental abnormalities compared to joint and three generation family. This is similar to Verghese A and Beig A which also revealed more cases of mental abnormalities in nuclear families.¹⁴ In present study, rural and tribal high schools distribution of family structure was of no significance as illness was distributed in both nuclear, joint family and three generation family. It corroborates with the findings of Lal N and Sethi BB¹⁵ and Deivasigamini¹⁶ where similar results were observed. Among the urban high schools 77.8% of study participants whose parents were not staying together had mental abnormalities (p value 0.004). 25% of study participants among the rural high schools whose parents were not staying together had mental abnormali-

ties and 33.3% of study participants among tribal high schools whose parents were not staying together had mental abnormalities. Pillai et al. study also found that almost half of the students suffered from psychological problems had poor family environment.¹⁷

70% of study participants of urban schools whose father and mother had poor relationship had mental abnormalities (p value 0.01) and 20% of rural schools and 37.5% of tribal school study participants whose father and mother had poor relationship had mental abnormalities (p value >0.5). Emery et al. have found that there are consistent and important association between inter parental conflict, adolescents self-esteem and problem behavior.¹⁸ Grith and Fincham reported a higher prevalence rate of 79% association between inter parental conflicts with adolescent problem behavior.¹⁹

In the present study 29.5% of urban study participants belonging to SES Class IV, 33.3% of rural study participants belonging to SES Class III and 29.8% tribal study participants belonging to SES Class IV socioeconomic scale according to modified B.G. Prasad had mental abnormalities. The prevalence increased as the socio-economic status lowered, the highest prevalence was seen in lower class. Similar results were observed by in Bansal et al. with prevalence was significantly higher ($P<0.001$) in the middle income group.⁵ This could be due to probable maladjusted behaviours adapted more in lower SES group because of lack of awareness and circumstances faced by this group of people.

Strengths and limitation

The present study carried out among high school children participants has its own strengths. To identify mental abnormalities a standardized screening and a diagnostic tool MINI-KID was used, Probability proportionate to size was used to select the participants so that all had equal chance of representation and a large number of schools were enrolled in the study covering tribal, rural and urban areas. The present study is not devoid of limitations. The present study carried out interviewing only the study participants however there could be simply denial of any illness as mental abnormalities are still associated with lot of stigma especially in rural areas. It would have been more appropriate if either of parents were interviewed as they would have noticed even the subtle changes in this age group and finally teacher being in close monitor in these high schools, interviewing them definitely would have added one more dimension.

CONCLUSION

This study was a community based cross sectional study carried among high school participants among urban, rural and tribal schools of Mysuru, Karnataka. Few factors like Age, gender, mother's occupational status, parents not staying together with children and poor relation between father and mother had association with mental abnormalities. The present study stresses the importance of family. Relation with father, mother, relation between father and mother could have association with development of adolescence stressing the importance of mental health screening and health education to family members regarding how family can help in positive mindset.

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