



Behavioural and emotional problems in school going adolescents

Rambha Pathak¹, Ravi C Sharma², U C Parvan³, B P Gupta⁴, Rishi K Ojha⁵, NK Goel⁶

1. Department of Community Medicine, MM Institute of Medical Sciences & Research, Mullana, Ambala

2. Department of Psychiatry, Indira Gandhi Medical College, Shimla

3. Department of Community Medicine, Indira Gandhi Medical College, Shimla

4. Department of Community Medicine, Gian Sagar Medical College, Banur, Punjab

5. Alchemist Hospital, Panchkula

6. Department of Community Medicine, Government Medical College and Hospital, Chandigarh

RESEARCH

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Corresponding Author:

Dr Rambha Pathak

Assistant Professor

Department of Community Medicine

MM Institute of Medical Sciences &

Research, Mullana Ambala, Haryana, India

rambha_p@yahoo.com

Abstract

Background

Adolescents are highly vulnerable to psychiatric disorders. This study aimed to explore the prevalence and patterns of behavioural and emotional problems in adolescents. It was also aimed to explore associations between socio-environmental stressors and maladaptive outcomes.

Method

A school based cross-sectional study was conducted between January and July 2008. A stratified random sampling was done. 1150 adolescents in 12 to 18 year age group in grades 7 to 12 in 10 co-educational schools (government run and private) were the subjects of the study. Behavioural and emotional problems were assessed using Youth Self-Report (2001) questionnaire. Family stressors were assessed using a pre-tested 23 item questionnaire. Univariate and multivariate analysis were performed. Multiple logistic regression analysis was also done.

Results

Prevalence of behavioural and emotional problems in adolescents was found to be 30%, with girls exceeding boys in all age groups. Internalizing syndrome was the

most common (28.6%) psychiatric problem. On stepwise regression analysis, a perceived lack of emotional proximity to mother had the highest odds (3.489) followed by addiction in father (2.642) and marital discord in parents (1.402). Type of school, type of family, socioeconomic status, relationship with father, mother's employment and educational status were not found to be significantly associated

Conclusion

An alarming number of our adolescents suffer from emotional and behavioural problems which have their roots in the family environment. These data suggest urgency in establishing a school based mental health service.

Key Words

Adolescents, Youth self report, behavioural and emotional problems and screening.

Background

Adolescence is marked by immense turmoil in emotional and behavioural spheres.¹ WHO defines adolescence as the period of life between the ages of 10-to 19 years.¹ The adolescent struggles to develop his individuality while still conforming to societal norms². Rapid urbanization and modernization have exposed them to changes in society. The resultant breakdown in family structure, excessive or minimal control confuses the adolescent and makes him/her especially vulnerable to maladaptive patterns of thinking and behavior³. Healthy adulthood depends upon successful resolution of these emotional and behavioural problems.⁴ Treading on this tightrope, most adolescents go through to adulthood normally. All adolescents may not be so fortunate, to get the ideal societal support for this smooth transition. Some develop maladaptive patterns in emotional and behavioural spheres. This augers ill for the individual's future resulting in depression, delinquency and suicides among other problems.⁵



Of late there has been a rise in the prevalence of mental illness and maladaptive behaviours among adolescents⁴. WHO estimate shows that up to 20% adolescent have one or more mental or behavioural problems⁴. Studies conducted in different parts of the world show that prevalence of behavioural and emotional problems in adolescents ranges from 16.5%⁵ to 40.8%⁶ and in India it is in the range of 13.7%⁷ to 50%⁸. As adolescents form one fifth of India's population⁹, this means a sizable disease burden on the society. Lack of data on the subject precludes an assessment of the magnitude of the problem which is essential for effective health care planning. This study has been planned to assess prevalence and pattern of maladaptive behavioural and emotional problems among school going adolescents. The association between socio-environmental factors and the emotional and behavioural problems in this age group was also studied.

Method

The present study was conducted in Chandigarh, Union territory. Only high schools and higher secondary schools were taken for the study. As per data collected from office of director of education, Chandigarh, the Chandigarh municipal area has 130 schools in the category of high schools and higher secondary schools catering to a total of 23696 students. To ascertain similar environment for boys and girls, only co-educational schools (n=114) were taken-up for the study and boys-only or girls- only schools were excluded (n=16). Among co-educational schools, 87 were government and 27 were private schools with a total number of 16700(70%) and 6996(30%) students respectively. Students of government and private schools represent different socioeconomic strata due to high cost of education in private schools. Hence, students from both types of schools were included in the study.

Literature review indicated that the prevalence rate of emotional and behavioural problems among adolescents in India ranges from 13.7% to 50%⁷. Since no such figure is available for Chandigarh, the required sample size was calculated presuming prevalence of 27.28% (median of reported prevalence worldwide). At this level of disease prevalence, the required sample size came out to be 1088. Assuming a non response rate of 10% it was planned to include a sample of 1200 students.

The study population was selected by stratified random sampling. The number of students in government and private strata was selected by probability proportionate to size (PPS) sampling technique. 850 students from government schools and 350 students from private schools were taken for the study. A list of all the government and private co- educational school was prepared and 7

government and 3 private schools were randomly selected to get the required sample size. An average of 120 students was taken from each of the selected schools. For equal representation of all the classes from 7th to 12th, 20 students were taken from each class. To meet the required sample size only one section of each class was selected for the study. These students were selected by simple random sampling.

Behavioural and emotional problems were assessed by the Youth Self-Report TM (2001) developed by T.M. Achenbach and L.A. Rescorla¹⁰. It is a questionnaire used widely to screen adolescents with psychiatric problems. The content, criteria and construct validity of this questionnaire has been supported by four decades of research consultation, feedback and revision, as well as by findings that all items discriminated significantly ($P < .01$) between demographically matched referred and non-referred children¹⁰. In various studies conducted in world, the sensitivity and specificity of this questionnaire has been found to vary from 85%-100% and 30%-40% respectively¹¹. This questionnaire is valid for ages 11-18 years. It is based on the widely used Rutter's Child Behaviour Checklist. Although it is a part of multi-axial assessment of psychological functioning of an adolescent, it can be used to provide data on adolescent's emotional and behavioural problems. It contains competence scale score and problem scale score. For this study only problem scale score was taken.

The YSR identifies emotional/behavioural problems in three groups (comprising of subgroups)—internalizing (withdrawn depressed, anxious depressed and somatic complaints) externalizing (rule breaking behaviours and aggressive behaviours) and neither internalizing nor externalizing (social problems, thought problems and attention problems). The Problems identified by YSR have been found to be very consistent with DSM-IV diagnostic categories¹⁰.

The YSR was translated by a team of professionals from English to Hindi and then retranslated from Hindi to English to note any deviation in meaning. After serial modifications in language and review, the research team arrived at a questionnaire which retained the exact sequence, content, construct and the import of the original question as far as possible rather than a verbatim translation. Thus, the *pro forma* was available in English as well as Hindi. Students were allowed to use either of the two as per their convenience. Pretest of the questionnaire was done in classes V to XII assuming that the students of these classes are in adolescent age group. It was observed that the students below class VII had left most of the item in the questionnaire even after best efforts on the part of



the researcher. Thus, based on pretest results and the difficulties reported by students and researchers in filling the form and interoperating the responses it was decided to administer this *proforma* in class VII and above. The students of these classes were in the age group of 12 to 18 years old so this group was included for the study. The study was conducted after obtaining written permission from Director of Education, Chandigarh and the principals of the ten schools selected for the study.

Table-I: Demographic profile and prevalence of behavioural/Emotional problems among study subjects

Approval of ethical committee of the institute was sought

Characteristic	Total	Boys N (%)	Girls N (%)
Total Eligible respondents	1123	607(54.1%)	516(45.9%)
Age Distribution			
12-14 years	114	54(8.9%)	60(11.6%)
14-16 years	403	209(34%)	184(35.7%)
16-18 years	520	287(47.3%)	233(45.2%)
18-19* years	96	57(9.4%)	39(7.6%)
School Type Difference			
Government run schools	731	402(45%)	329(55%)
Private run schools	392	208(53%)	184(47%)
Behavioural & emotional problems			
12-14 years	18(15.8%)	8(14.8%)	10(16.7%)
14-16 years	123(31.3%)	62(29.7%)	61(33.2%)
16-18 years	168(32.3%)	82(28.6%)	86(36.9%)
18-19 years	32(33.3%)	15(26.3%)	17(43.6%)
Overall	341(30.4%)	167(27.5%)	174(33.7%)

before conducting the study. Informed and written consent was obtained from parents on a printed *pro forma* distributed a day prior to filling the questionnaire. On the day of administering the questionnaires, children were addressed by their teachers followed by the research team and were offered to participate or opt out of the study. The questionnaires were anonymous and had no mark of identity. The completed Youth Self Report questionnaires (112 questions) were scored according to the Manual for the ASEBA School-Age Forms and Profiles (2001) to identify emotional and behavioural problems. The scores (0 for not true, 1 for sometimes true and 2 for always true), for each item in the questionnaire were entered in EXCEL sheet (MS Office 2003)

For assessing the family environment, an indigenous 23 items questionnaire was developed by a senior adolescent psychiatrist (co-author). Some items comprised factual information about family-size, type, income, educational background, employment, chronic illness in adolescents and addiction in family. Other questions were designed to

assess child's self esteem, satisfaction with his academic performance, parents' satisfaction with child's academic performance and child's perception of closeness and proximity to one of the parents. There were separate items for assessing child abuse. This questionnaire was also written in both languages, pretested and suitably modified before forming a part of the questionnaire set.

All statistical analysis was done using SPSS for WINDOWS™, version 16.0. To assess the association of socio-environmental factors with psychiatric morbidity, chi-square test and multiple logistic regressions were carried out.

Results

The study was conducted from January 2008 to July 2008. 1150 school-going adolescents in 12 to 18 year age group participated in the study. 50 students refused to participate. Responses of 27 students were excluded due to omission of more than 8 problem item in YSR. Thus, 1123 respondents (516 girls and 607 boys) were the subjects for the study. The study shows that the overall prevalence of behavioural and emotional problems across age and sex categories was 30.4%. There was a significant increasing trend in prevalence from onset of adolescence till 17 years of age after which a decline was noted. (Table 1)

In the present study, a higher prevalence of behavioural/emotional problems (33.7%) was observed in adolescent girls as compared to boys (27.5%). Also, whereas prevalence in boys shows a peak around 14-15 years followed by a steady decline to 26.3% by 18-19 years of age, girls show a continuous rise in psychiatric problems with age, 43% girls having problems by 18-19 years.

On analysis of pattern of emotional and behavioural problems in adolescents, it was found that internalizing syndrome (28.6%) was the most common problem amongst them followed by the neither internalizing nor externalizing (19.5%) group. In internalizing group, most (22.08%) of the students were noted to be anxious/depressed. Social problem was observed to be the most frequent (9.3%) among neither internalizing nor externalizing group. Aggressive behaviour was the commonest (11.8%) among externalizing group. (Table-II) Internalizing problems mainly anxiety and depression were commoner in females than males. 24.8% females were anxious / depressed compared to 19.7% males. More boys (18.4%) than girls (12%) were found to suffer from externalizing disorders. 13.3% males had aggressive behavioural problem as compared to 9.7 % females.



Problem of rule breaking or delinquency was twice more in boys as compared to girls. On assessing the association of various socio-environmental factor and emotional and behavioural problem among adolescents it was observed that the children of parents with addiction of alcoholism or illicit drugs, developed up to three times as many behavioural and emotional problems as compared to children of parents without addiction. Parents who were consuming six or more standard drinks in one sitting at least once a week were considered as addicted to alcohol.¹²

Table II: Pattern of emotional and behavioural problems among boys and girls

Psychiatric disorders	Male	Female	Total
Internalizing syndrome	157(25.8%)	165(32%)	322*(28.67*)
a)Anxious/depressed	120(19.7%)	128(24.8%)	248(22.08%)
b)Withdrawn/depressed	21(3.0%)	19(3.7%)	40(3.5%)
c)Somatic problems	16(2.6%)	18(3.5%)	34(3%)
Neither internalizing nor externalizing	128 (21%)	91(17.6%)	219*(19%*)
a) Social	62(10.2%)	42(8.1%)	105(9.3%)
b) Thought	42(6.9%)	27(5.2%)	69(6.1%)
c) Attention	24(4%)	22(4.3%)	46(4.1%)
Externalizing syndrome	112(18.4%)	62(12.0%)	174*(15.5%*)
a) Rule	31(5%)	12(2.3%)	42(3.7%)
b) Aggressive	81(13.3%)	50(9.7%)	132(11.8%)

*-comorbidity

These problems were more (41%) among physically abused adolescents. Chronic illness in adolescents was also identified to be significantly related to problem under study. Although only 3% students in our study had chronic/debilitating illness but amongst them 73.5% suffered from the psychiatric problem as compared to their healthy counterparts (31%).

The questionnaire tested the student’s perception of his academic performances as well as their parents’ perception about the same. 75% of the adolescents who thought they were academically poor were found to be suffering from behavioural/emotional problems. 43% of the adolescents who thought that their parents were unhappy with their studies had developed the above mental health problem. On univariate and multivariate analysis, both of these factors were found to be significantly related to behavioural and emotional problems (p< 0.001). Significantly more (34.4%) adolescents belonging to families with marital discord were found to be suffering from behavioural and

emotional problems as compared to adolescents of families with good inter-parent relationship.

Adolescents who perceived that they are not loved enough by their mothers showed behavioural and emotional problems twice more than those who felt loved by their mothers. This difference was found to be highly significant both on univariate and multivariate analysis. (p< 0.001).Adolescents with low self esteem (30.7%) as judged from their opinion about their appearance, academic performance and overall opinion about self suffered more(65%) behavioural and emotional problems as compared to those who did not report feelings of low self esteem(14%).

Factors like type of school, type of family, socio-economic status, mother’s employment status, presence of chronic illness in family members, educational status of mother and relationship with father were not found to be significantly associated with behavioural and emotional problems.

The final model of Multiple Logistic Regression analysis showed seven important independent factors which have strong association with behavioural and emotional problems. *Relationship with mother* had the highest odds (3.489) followed by *addiction in father* (2.642) and *inter-parent relationship* (1.402). (Table-III)

Table III: Socio-environmental factors associated with Behavioural and emotional problems in adolescents in the final model of multiple logistic regression

Socio-environmental factors	B	S.E.	P value	Exp (B)
Self Esteem	-.667	.169	.000	.513
Academic performance	-1.31	.172	.000	.269
Family discord	.338	.168	.044	1.402
Addiction	.972	.160	.000	2.642
Illness in adolescent	-1.19	.168	.000	.899
Relation with mother	1.25	.193	.000	3.498
Constant	-1.34	.229	.000	.261

Discussion

In the present study, the prevalence of behavioural and emotional problems among 12 to 18 years school- going adolescents was found to be 30.4%. Robert's et al in a meta-analysis of 52 studies done in 20 countries of the



world, found that prevalence of psychopathology among adolescents (12 to 18 years) varies from 6% to 41%⁶. In a study on school-going adolescents of Delhi, 50% of the students were found to have problems of emotional maladjustment⁹. Similar study done in adolescents of Bangalore city reported that 20 % of the children had psychiatric problems¹³. Thus a third of our adolescents, by even the most conservative estimate, are suffering silently without even being recognized, except for some localized studies.

The morbidity pattern was found to be different in males and females. The prevalence in boys dropped after 17 years but it continued to rise among girls. The rise in emotional and behavioural problems from 12 years up to 17 years is reported in previous studies⁷. Further rise in prevalence of behavioural and emotional problems with age among girls, who are known to have puberty an average of 2 years before boys hence have more years of adjustment to somatic problems, is intriguing. It seems that gender biases and imposition of restrictions on Indian girls have led to rise in psychiatric problems with age.

We report here that 75% of students feeling that they lag behind in their studies (23% of study subjects), have emotional and behavioural problems. Other authors have also reported that achievement pressure was an important factor in causation of psychiatric problems¹⁴⁻¹⁹

An interesting finding in our study is the relation of adolescents' bonding with his mother and prevalence of behavioural and emotional problems. This applied to both sexes of adolescents. Adolescents' perception of a secure bonding with the mother was found to be significantly associated with the problem under study but no significant difference in prevalence of the same was found among boys and girls when the bonding with mother was insecure. We can therefore infer that a loving family with marital harmony protects against mental ill health. However relationship between father and adolescent was not found to be significantly associated with the problem under study. Various other researchers have also emphasized the importance of the adolescents' relationship with mother. Palosaari et al¹⁶ found that girls who had good bonding with their mothers had high self-esteem and therefore lesser psychiatric problems. Lack of ability to talk to the mother, has been shown to be significantly associated with development of depression in children of 12 to 17 years of age^{18, 19}. This affects the female child more than male child.

In the present study, parental discord was found to be related with emotional and behavioural problem among adolescent. Inter-parent conflict has been reported to be a factor significantly related to suicide among adolescents by many authors¹⁷⁻²⁰. They have also found that 16-year-old adolescents of divorced parents had more somatic complaints and lower self-esteem than children of intact families.¹⁸

Alcoholism was found to be the single most common addiction and a three times higher prevalence of behavioural and emotional problems in adolescents from families with addiction. Youngsters whose parents abused alcohol probably didn't rely on their parents; they took more support from friends and siblings. Similar findings have been observed by other authors.¹⁵

Nearly twice the number of adolescents who gave history of physical abuse in our study suffered from behavioural and emotional problems. Many authors have closely related physical abuse or punishment to development of psychiatric morbidity¹⁸ Abused children were seven times more likely to develop a major depressive disorder. Abused boys were shown to have equal chances of developing depressive disorder as the abused girls.

Our study has a few important limitations. Multi informant studies comprising of responses of parents (Child Behaviour Checklist), teachers (Teacher Report Form), and the adolescent himself (YSR), with cross informant comparisons are ideal for screening for mental health of the propositus¹¹ followed by psychiatric clinical evaluation³ for a definitive diagnosis. We have used only a single informant report form for our study. Keeping Indian scenario in mind, the above decision was taken. In government schools, one teacher caters to large number of students with an equally cramped academic curriculum to cover; there is little possibility of knowledge of family, emotional make-up, and behavioural details of each student. Also there is little likelihood of compliance if a teacher is made to answer 100 odd questions about 40 or more students; the truthfulness and usefulness of such a work would also be suspect. With variable educational levels of parents, it would again preclude the use of written questionnaires being filled by parents.

We did not subject adolescent to a detailed psychiatric assessment following positive result in questionnaire based psychiatric assessment. Psychiatric referral of school students involves parental communication, consent and costs apart from burden on outpatient psychiatric services. For confidentiality, none of the questionnaire wore any marks of identification so individual identification or



communication of result to teachers or parents could not be done.

Adolescence is characterized by self doubt, concealment and modification of fact which is known limitation of all self reported questionnaire based studies. Questionnaire still form any important part of population based study and is a valuable screening tool.

Conclusion

A sizeable population of our adolescents need support in coping with emotional and behavioural problems. Though many children of families with problems may be normal, knowledge of the family environment and problems in the adolescents-identifies the adolescent-family dyad that may need attention. It indicates towards the need for a multipronged intervention to prevent these problems in adolescents. School based mental health services can handle the problem in most effective way by providing help to the sufferers at earliest. It also seems imperative to have a post of counsellor in every school. The academic achievement and assistance for the same may also be required as that is found to be an important determinant. A community intervention for addiction may also be required and school can become the base using innovative programs like student drama club, street plays etc. thus educating the family as well as the school children against addiction too.

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests

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