

Original Research Article

A cross sectional study of behavioral problems of secondary school children and related socio-demographic factors

Monika S. Masare*, Seema S. Bansode-Gokhe, R. R. Shinde

Department of Community Medicine, Seth GS Medical College and KEM Hospital, Mumbai, Maharashtra, India

Received: 16 March 2017

Accepted: 19 April 2017

***Correspondence:**

Dr. Monika S. Masare,

E-mail: monikas.mm@gmail.com.

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ABSTRACT

Background: School-going children form an important vulnerable segment of the nation's population. Children in the school-going age group of 5 to 16 years constitute a total of 30% of the total population. School age is a dynamic period of physical growth and development, when the child undergoes rapid mental, emotional, and social changes. Therefore, school-going children are susceptible groups for psychiatric disorders especially behavioural problems. The present research was carried out with an objective to study the behavioural problems of secondary school children and its relation to the various socio-demographic and socio-economic factors.

Methods: This cross sectional observational study was conducted on 304 secondary school children studying in 8th and 9th standard in the regarding socio-demographic profile and Strength and difficulties questionnaire. The analysis was done using Microsoft Excel and SPSS software.

Results: In this study, the prevalence of abnormal behavioral according to self-rated SDQ was found to be 1.6% while prevalence of borderline abnormal behavior was 11.2% and majority 87.2% of study subjects were normal having no behavioral problem. The combined borderline and abnormal behavioral problems were more prevalent in the age group of 12-13year (64.1%) and 13-14 years (30.8%), also more prevalent among girls (69.2%) compared to boys (30.8%). The prevalence of behavioral problems was higher among students studying in 9th standard (74.4%, 29/39) and studying in Hindi medium (61.5%). The incidence was found to be more in students who belongs to nuclear families (79.5%) and also was more among those who were first born compared to middle born and last born children. Majority of fathers were working as semiskilled (41.4%) and skilled (32.9%) workers, among the father's alcohol users (45.06%) were high compared to the tobacco users (31.9%).

Conclusions: Socio-demographic factors and occupation of father and alcohol consumption among them was found to be significantly associated with the behavioural problems of the study subjects.

Keywords: Behavioural problems, Metropolitan city, Socio-demographic profile, Strength and difficulties questionnaire

INTRODUCTION

School-going children form an important vulnerable segment of the nation's population. Children in the school-going age group of 5 to 16 years constitute a total of 30% of the total population. School age is a dynamic

period of physical growth and development, when the child undergoes rapid mental, emotional, and social changes. Therefore, school-going children are susceptible groups for psychiatric disorders especially behavioral problems. Behavioral problems can occur in children of all ages and very often start early in life.

The importance of early detection of emotional and behavioral problems is recognized worldwide and a number of researches have been conducted in developed countries. However, there has been little systematic research into childhood behavioral problems in developing countries.¹

Community studies on emotional/ behavioral disorders in children and adolescents conducted in India have yielded disparate point prevalence estimates (2.6% to 35.6%). Child and adolescent mental health is an essential component of overall health and its importance is gaining increased recognition. The provision of adequate and good-quality comprehensive school health services would help to target this important and large population group both in terms of timely identification and treatment of the morbidity present in them, as well as using them as change agents carrying health education messages to their friends, families, and the community.

School health services aim toward a healthy child by providing comprehensive health care but lack in services directed toward provision of mental health. The Renuka Ray committee, which proposed the school health services in India, had also mentioned inclusion of mental health services.²

In India, the attempts to research in the field of mental health of school children is minimal. No study has been carried out to find the behavioral problems of children at the school level, which is the crucial era of child's life. Same is with the understanding and finding behavioral problems by parents and teachers. Therefore, present study was conducted to assess the mental health with prime focus on behavioral problems of secondary school children and parent's / teacher's perception of their behavioral problems and also to study socio-demographic factors influencing the behavior and to suggest recommendations based on the findings of the study.

METHODS

The present one year cross sectional observational study carried out on 304 secondary school children studying in 8th and 9th standard of both sexes in the municipal schools of a metropolitan city.

There are total 7 secondary schools run by the municipal corporation in the field practice area of a tertiary care hospital of a metropolitan city. Out of these 7 municipal schools, 5 schools were of Marathi medium, 2 schools were of Hindi medium. The study subjects in these schools were selected by systematic random sampling. The student who didn't gave consent for participation in the study as well as who were selected for the study, but remain absent during interview were excluded from the study.

Study procedure was divided into three phases-

Preparatory phase

First the permission to conduct the study was obtained from the education officer in-charge of primary and secondary education department. Permission to conduct the study in selected schools was obtained from the respective Principals of the schools.

Approval for conduction of study was taken from institutional ethical committee. Semi-structured proforma was prepared regarding socio economic and demographic characteristics and certain factors affecting behavior of children and to assess the behavioral problems of children standard Strength and difficulties questionnaire was used. The proforma was restructured accordingly after the analysis of pilot study data was done.

Data collection

Principal of each school under study was contacted, the purpose of the study was explained to them and permission for conduction of study was sought. Permission regarding approaching parents of the selected students in parents-teachers meeting was also sought. The selected students were identified and rapport was formed and the purpose of study was explained to them.

For contracting parents of the selected students parent teacher meeting were attended. The purpose of study was explained to the Parents (either mother/ father whoever attended the meeting). The consent regarding interviewing their children was obtained. Then selected study subjects were interviewed by Face to Face interview after taking consent for participation and confidentiality was maintained throughout. The data was collected with the help of socio-demographic questionnaire and Strength and difficulty Questionnaire.

Analytic phase

Data was entered in Microsoft excel sheet by investigator. Statistical analysis was done by using SPSS version 17 software. Descriptive statistics for Socio-demographic factors was done using Microsoft office.

RESULTS

Out of 304 study subjects, majority of the study subjects were between the age group of 12-15 years (87.2%) and remaining were of age above 15 years (12.8%) consisting of almost equal numbers of males (52.30%) and females (47.70%). 57.23% of students from Marathi medium school and 42.77% were from Hindi medium school. 40.1% were studying in 8th standard and 59.9% were studying in 9th standard. Majority the study subjects in the given study were Hindus (84.9%) and remaining were from Muslims, Buddhist and other religions. 61.8% study subjects were from nuclear family and 38.2% were from joint family. 46.0% of the study subjects were first born to their parents while 28.0% and 26% were middle born

and last born among their siblings. Majority of parents including father and mother had completed their secondary school education, while illiteracy was more among mother (36.2%) (Figure 1).

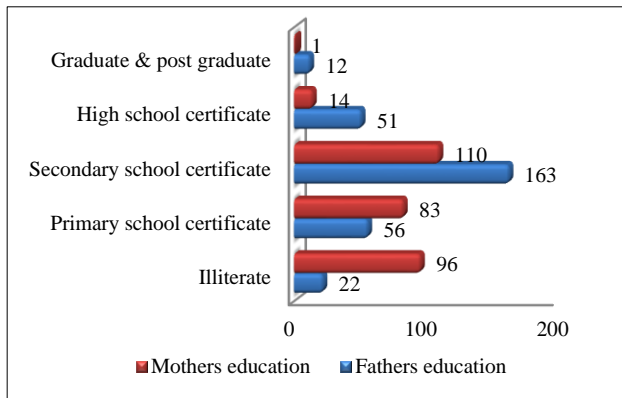


Figure 1: Distribution of study subjects according to their parent's educational attainment.

Figure 2 show the distribution of study subjects according to their Father's occupation. Majority of fathers of the study subjects were working as semiskilled (41.4%) and skilled (32.9%) workers and most of the mothers were housewives (94.7%). Among the fathers of study the proportion of alcohol users (45.06%) was high compared to the tobacco users (31.9%).

Most of the families 165 (54.7%) belongs to the upper lower class and 131 (43.1%) belongs to lower middle class of socioeconomic status according to modified Kuppuswamy's classification. The study subjects of all the age groups prefer to play with friends (38.8%) while similar proportion of study subjects like to watch TV serials, cartoon programs and movies in their spare time and very few children (6.4%) were interested in reading books and novels.

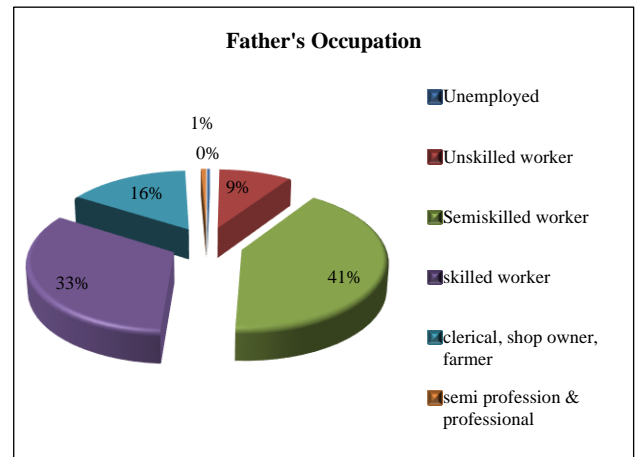


Figure 2: Distribution of study subjects according to their father's occupation (n=304).

Table 1. Prevalence of behavioural problems in study subjects.

Behavioural Problems Scale		Problems Score	No. of study subjects	
			Frequency (n)	Percentage (%)
Emotional symptoms	Normal	0-5	296	97.4
	Borderline	6	3	1.0
	Abnormal	7-10	5	1.6
Conduct problems	Normal	0-3	291	95.7
	Borderline	4	8	2.6
	Abnormal	5-10	5	1.6
Hyperactivity symptoms	Normal	0-5	261	85.9
	Borderline	6	33	10.9
	Abnormal	7-10	10	3.3
Peer problem	Normal	0-3	239	78.6
	Borderline	4-5	60	19.7
	Abnormal	6-10	5	1.6
Pro-social behavior	Normal	6-10	236	77.6
	Borderline	5	51	16.8
	Abnormal	4-0	17	5.6
Total difficulties	Normal	0-15	265	87.2
	Borderline	16-19	34	11.2
	Abnormal	20-40	5	1.6

The prevalence of abnormal emotional symptoms was found to be 1.6% while 1% study subjects had borderline emotional problems on self-rated SDQ. The frequency of conduct problem was found to be 1.6% as 5 study subjects had abnormal conduct according to the scale, while 2.6% study subjects were borderline on the conduct

problem scale. The incidence of borderline hyperactivity was 10.9% whereas prevalence of abnormal symptoms was 3.3%. The prevalence of peer problems was found to be 1.6% in abnormal category and 19.7% in borderline while rest, 78.6% study subjects reported to be normal, having normal relations with their peers.

Table 2: Relationship between socio-demographic factors and total difficulties in behaviour of the study subjects.

Socio-demographic factors	Total difficulty scale				P value
	Normal		Abnormal		
	Frequency	Percentage	Frequency	Percentage	
Age group					
12-13 years	96	36.2	25	64.1	0.004
13-14 years	132	49.8	12	30.8	
>15 years	37	14.0	2	5.1	
Sex					
Male	144	54.3	12	30.8	0.006
Female	121	45.7	27	69.2	
School medium					
Marathi	159	60.0	15	38.5	0.01
Hindi	106	40.0	24	61.5	
Studying standard					
8 th standard	120	43.3	10	25.6	0.021
9 th standard	145	54.7	29	74.4	
Religion					
Hindu	223	84.2	35	89.7	0.893
Muslim	32	12.1	3	7.7	
Buddhist	7	2.6	1	2.6	
Others	3	1.1	0	0.0	
Type of family					
Nuclear family	157	59.2	31	79.5	0.015
Joint family	108	40.8	8	20.5	
Ordinal position					
First born	116	43.8	24	61.5	0.016
Middle born	73	27.5	12	30.8	
Last born	76	28.7	3	7.7	
Socioeconomic status					
Lower	3	1.1	4	10.3	0.009
Upper lower	142	53.6	23	59.0	
Lower middle	119	44.9	12	30.7	
Upper middle	1	0.4	0	0.0	
Tobacco consumption among father					
Yes	89	33.6	8	20.5	0.102
No	176	66.4	31	79.5	
Alcohol consumption among father					
Yes	112	42.3	25	64.1	0.01
No	153	57.7	14	35.9	

Majority of study subjects (87.2%) reported to have normal pro-social behavior, and the frequency of abnormal pro-social behavior was 5.6% and 16.8% having borderline pro-social behavior problems. The

incidence of abnormal behavioral according to self-rated SDQ was found to be 1.6% while prevalence of borderline abnormal behavior was 11.2% and majority (87.2%) of

study subjects were normal having no behavioral problems (Table 1).

Table 2 shows the relationship between different socioeconomic and demographic factors and the total difficulties in behavior of the study subjects. For studying the factors influencing the behavioral problems of study subjects by applying Chi square test and Fisher's Exact test we merged borderline the behavior category into abnormal category. It shows significant association (p value ≤ 0.01) between the behavioral problems of the study subjects and their age, gender, studying standard, studying language medium, type of the family in which they were living and their ordinal position among the siblings. Occupation of the father and alcohol consumption among them was also found to be significantly associated with the behavioral problems of their children. The factors like religion, educational attainment of father and mother, occupation of mother were not found to be significantly associated with the behavioral problems among the study subjects.

DISCUSSION

In current study, strength and difficulty questionnaire was used as study tool, consists of five components i.e. emotional symptoms, conduct problems, hyperactivity scale, peer problems indicating difficulties in behavior and these four scales were used to assess behavioral problems among study subjects, while fifth component pro social behavior which is a positive attribute indicates strength of study subjects. Each of these components had five attributes, revealing the behavioral problems among the study subjects. However total difficulty score was calculated by summing the four scales i.e. emotional symptom scale, conduct problem scale, hyperactivity scale and peer problem scale except pro-social behavior scale. The score ranges between 0-40 and then categorized into three categories of normal, borderline, and abnormal respectively.

In present study, the prevalence of abnormal behavioral according to self-rated SDQ was found to be 1.6% (n=5/304) while prevalence of borderline abnormal behavior was 11.2 (n=34/304) and majority 87.2% (n=265/304) of study subjects were normal having no behavioral problems.

The results of our study were not comparable with the different studies may be because of the difference in study instrument used and study subjects, involvement of specialist in child psychiatry and involvement of the parents during the interview session.³⁻⁶

In present study, the combined borderline and abnormal behavioral problems were more prevalent in the age group of 12-13year (64.1%, n=25/39) and 13-14 years (30.8%, n=12/39). So, the age group of study subjects was significantly associated with behavioral problems

according to total difficulty scale of SDQ (p value=0.004).

The relationship between gender of the child and behavioral problems in the total difficulties according SDQ was found to be significantly associated by Chi Square test. (p Value=0.006). As prevalence of combined abnormal and borderline behavioral problems were more among girls (69.2%. n=27/ 39) compared to boys (30.8%, n 12/39), this is because we studied the age group of Secondary school children (12 years to 15 and above) and it could be attributed to the age at menarche, hormonal and psychosexual changes during this period. It is seen that the prevalence of behavioral problems was more among the students studying in Hindi medium (61.5%, n=24) and which was statistically significant, (p Value=0.01).

The prevalence of behavioral problems was higher among students studying in 9th standard (74.4%, 29/39) can be because of the higher stress of studies. The problems can also be attributed psychosexual changes occurring in these age groups. The studying standard was significantly associated with the abnormal behavior as shown by chi square test, (p Value= 0.021). No studies are available to compare the association between the behavioral problems and studying medium and studying standard.

It was found that the religion was not significantly associated with the behavioral problems of study subjects. A significant association was found between the type of family and the behavioral problems among study subjects according to total difficulty scale of SDQ, as the prevalence was found to be more in the study subjects who belongs to nuclear families (79.5%. n=31/39) compared to the joint families, it can be due to lack of social virtues like co-operation, sympathy, sacrifice, affection, spirit of selfless service, obedience and broadmindedness and other advantage of joint family like social control.

In joint family, there is a close supervision over the anti-social and unsocial activities of the young member which considerably lacks in nuclear families. The results of present study were comparable with the different studies.^{5,7} Ordinal position of the study subjects among their siblings was significantly associated with the abnormal behavior of the study subjects, as the prevalence of abnormal behavior was more among those who were first born compared to middle born and last born children.

Fathers and mother's education was not significantly associated with the behavioral problems of the study subjects. The association between father's occupation and behavioral problems among study subject was found to be significant. Most of the mothers were housewives, hence in this study mothers occupation was not significantly associated with the behavioral problems of study subject.

The relationship between tobacco consumption among fathers and their behavioral problems was not found to be significant. While behavioral problems in study subjects were high those having history of alcohol consumption among their fathers, 25 (64.1%) out of total 39 study subjects having abnormal behavior had reported alcohol consumption among their fathers and the association was found to be significant. It was found that prevalence of behavioral problems was higher among study subjects belonging, upper lower class (59.0%, n=23/39) of socioeconomic status and 7 study subjects were from lower class, 3(42.85%) were having behavioral problems according to total difficulty scale of SDQ.

Hence association between socioeconomic statuses between behavioral problems found to be highly significant. 35 (89.7%), out of 39 subjects reported to be having problems in doing their homework too and association between behavioral problems and problems in doing homework was found to be highly significant.

13 (33.3%) who prefers to play with their friends and 22 (56.4%) study subjects who prefers to watch TV in their leisure time were having behavioral problems and there was no significant association between leisure activity preferences among study subjects and the behavioral problems among them. The results of various studies were consistent with the results of present study.^{2,8}

Limitations

With the cross-sectional design of this study is unable to assess the behavioral problems in depth and state any causality. A well-designed longitudinal study is needed for the assessment of the behavioral problems of school children in depth. The sampling unit for the present study was schools, which was most feasible method of recruiting and assessing children in a metro city therefore the findings of this study is limited only to school attending children and not generalized for children not attending the schools. The selection of study area was not done systematically, it was a convenient sample implicating that the generalization of the results may be limited. Even though utmost efforts were taken to build rapport and confidence in the respondents, the sensitive nature of the study questions might have led to deliberate under reporting by the respondents.

CONCLUSION

Though the study shows lesser prevalence of abnormal behavior among the study subjects, the borderline problems in behavior were high. Significant association was found between the behavioral problems of the study subjects and their age, gender, studying standard, studying language medium, type of the family in which they were living and their ordinal position among the siblings. Occupation of the father and alcohol consumption among them was also found to be

significantly associated with the behavioral problems of their children.

The public health significance of this study is that it provides a conceptual framework for addressing mental health promotion goals and also provide suggestions for school-based mental health activities, thereby bringing a holistic development amongst the children, who will be the future of the nation.

Recommendations

- Support of child and adolescent mental health research is needed, particularly in developing countries, including prevalence and longitudinal studies
- Good parenting practices can help the child and benefit the family as a whole. Measures that focuses on new ways of parenting, or that involves family, school and community, can be effective.
- Awareness programmes and ongoing training sessions for teachers and parents should be considered as part of any child and adolescent mental health service development.
- Mental health counselor, child psychologists should be appointed at the school's level, to take care of problem behavior and early restoration of the abnormalities.
- For maintaining the mental health resilience of school children, practices of yoga, pranayama and regular mediations should be encouraged at the school level.
- Child guidance clinics, learning disability clinic, school health clinics etc., should be encouraged at the health care facility for taking care of the mental health problems of the school children.

ACKNOWLEDGEMENTS

Authors would like to thank the department of community medicine and administration of Seth GS Medical College and KEM Hospital, Mumbai, Maharashtra, India as well authors would like to give thanks to education officer in-charge of primary and secondary education department and principals of the schools, for permission to conduct the study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Masare MS, Gokhe SSB, Shinde RR. A cross sectional study of behavioral problems of secondary school children and related socio-demographic factors. *Int J Res Med Sci* 2017;5:2760-6.