Research Article

A cross-sectional study of psychosomatic condition in children of 8–15 years of age in Rajkot Taluka – A parental perspective

Shridhar V Rawal

Department of Community Medicine, Dr. M K Shah Medical College Research Centre, Ahmedabad, Gujarat, India

Correspondence to: Shridhar V Rawal, E-mail: shree802000@yahoo.co.in

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ABSTRACT

Background: There is wide gap of information about the prevalence of different conditions of mental health in general population except anxiety and depression. And that too among children and adolescents. Hence, a study about one of the important conditions, psychosomatic condition was carried out in this age group, i.e., 8–15 years, a combination representing both child and adolescent population. Considering the difficulties in child inquiries and for unanimity of method among adolescents included in the study, parents' questionnaire was used. **Objectives:** The objectives of this study were as follows: (1) To find the prevalence of psychosomatic condition in the age group of 8–15 years in the study area and (2) to find the prevalence of psychosomatic condition in relation to their sex, education, socioeconomic class, and birth order. **Materials and Methods:** A cross-sectional study using parents' questionnaire with sampling by probability proportion to sample size method. Chi-square is used to detect if there is any significant difference. **Results:** The psychosomatic condition is found to be more prevalent in girls (9.42%) as compared to males (7.89%). This is significantly more in rural and slum community (31.25% and 23.08%) than urban area (4.59%). In urban area, psychosomatic condition is found to be higher in males. However, the overall difference between girls and boys for the reporting of this condition was found to be statistically non-significant. **Conclusions:** The reporting for psychosomatic condition in children is more in rural and slum areas. In these areas also, girls are more reported for the condition. It is most reported at 11–13 years of age. The condition is more common in the joint families, specifically in rural area. Education and birth order do not have any significance to the reporting of psychosomatic condition.

KEY WORDS: Psychosomatic Condition; 8–15 Years; Prevalence; Education; Socioeconomic Class; Birth Order

INTRODUCTION

Since Socrates and Hippocrates, physicians have concerned themselves with the enigmatic interaction between psyche and soma. Gaub, a professor in Leiden in mid-1700s, wrote, "The reason why a sound body becomes ill or an ailing body recovers very often lies in the mind. Contrariwise the body can both beget mental illness and heal its offsprings."

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The term psychosomatic since then has been used to categorize a number of disorders in which there appears to be a loss or alteration of physical function secondary to psychological factors.

Kaplan's short textbook of psychiatry defines the condition as a group of diseases that include physical symptoms (e.g., pain, nausea, and dizziness) for which signs on an adequate medical examination cannot be found. The symptoms are serious enough to cause significant emotional distress.[1]

The school-age children, i.e., 6–14 years, constitute 22% of the population. The psychosexual development heralds by 8 years of life and the significant spurt continues till the 15th year. In this background, a study of psychosomatic

condition in 8–15-year-old children is most likely to be useful to understand the psychological needs of this age group.

MATERIALS AND METHODS

The study was carried out in Rajkot Taluka. Probability proportion to sample size was used and sample was taken from urban, rural, and urban slum areas. Ward area in urban and villages in urban were selected by systematic random sampling and slum areas were selected by simple random sampling. The total sample of 356 was divided in 283, 42, and 31 for urban, rural, and urban slum areas.

Parent symptom questionnaire developed by Conners (U.K.) was used. Parents were asked to rate the presence and severity of symptoms on 4-point scale (0,1,2,3). Scoring is achieved by summing up the item weights to give a total symptom score.

A pilot survey was carried out using questionnaire translated in local language. After analyzing responses by parents, the translation of original pro forma was modified. Validation of these modifications was done with the help of a senior faculty of the department of psychiatry. The modified version was retranslated in English by the third person. The questions were randomized to avoid any sort of leading questions. The entire modified version was again translated in local language.

Data were analyzed for the variables of age, sex education, type of family, socioeconomic class, and birth order distribution in the study area. Epi-Info and SPSS 19.0 were used for data entry and analysis.

Ethical Permission

The study was subjected to ethical permission by the institutional ethics committee.

RESULTS

The highest number of children reporting (9/31) of this condition is at age of 11 years. This forms 19.14% of total children with this condition. In the age group of 12 years, proportionately more (25%) children are reported for the condition. Overall, maximum cases are in age of 11–14 years. Mean ± standard deviation is 12.11 ± 1.88 years with the median at 11.94 years [Table 1].

The psychosomatic condition is found to be more prevalent in girls (9.42%) as compared to males (7.89%). This is significantly more in rural and slum community (31.25% and 23.08%) than urban area (4.59%). In urban area, psychosomatic condition is found to be higher in males. However, the overall difference between girls and boys for the reporting of this condition was found to be statistically non-significant ($\chi^2 = 0.26$, df = 2, $P = 0.6114$) [Table 2].

The overall findings suggest a marginal decline in prevalence of psychosomatic condition with increase in the level of education. However, the difference between the educational level and prevalence of psychosomatic condition is found to be statistically non-significant ($\chi^2 = 0.76$, df = 2, $P = 0.6842$). When this overall observation is reflected in urban and slum reporting, the rural data show remarkably high reporting in

Table 1: Distribution of psychosomatic condition in children according to age

Age group (years)	Children reported with psychosomatic condition *n* (%)	Children without psychosomatic condition *n* (%)	Children studied in the given age group *n* (%)
8–9	3 (5.35)	53 (94.65)	56 (100)
9–10	0 (0.00)	66 (100)	66 (100)
10–11	4 (6.15)	61 (93.85)	65 (100)
11–12	9 (19.14)	38 (80.86)	47 (100)
12–13	6 (25.00)	18 (75)	24 (100)
13–14	3 (10.00)	27 (90)	30 (100)
14–15	4 (10.25)	35 (89.75)	39 (100)
15–16	2 (5.12)	37 (94.88)	39 (100)
Total	31 (8.47)	335 (91.53)	366 (100)

Table 2: Distribution of psychosomatic condition in children according to their sex

Sex	Children reported with psychosomatic condition in different localities *n* (%)*			Difference in the reporting of children having psychosomatic condition in relation to sex variable *n* (%)		
	Urban	Rural	Slum	Total affected	Total not affected	Total
Male	12 (6.74)	4 (15.38)	2 (8.33)	18 (7.89)	210 (92.11)	228 (100)
Female	5 (4.59)	5 (31.25)	3 (23.08)	13 (9.42)	125 (90.58)	138 (100)
Total	17	9	5	31 (8.47)	335 (91.53)	366 (100)

*, % for localities reflect the proportion of children affected in that locality out of the children of particular sex studied in that locality

the children with secondary education (27.27% of children in secondary group) [Table 3].

The reporting of psychosomatic condition is higher in joint family children (13.26%) compared to nuclear family children (6.71%). The trend is unique for all localities. The difference is statistically significant when tested for the major contributors, i.e., nuclear and joint family (*$\chi^2 = 3.92$, df = 1, $P = 0.0477$ when uncorrected, $P = 0.048$ in M-H test and $\chi^2 = 3.91$). It is remarkable that 44.44% of rural joint family children reported for this condition. The third-generation families are very few (only five in rural area). Similarly, only nine families were reported as broken families [Table 4].

In overall observation, the reporting of psychosomatic condition increased from higher to lower socioeconomic class. This is also supported with the fact that any child of Class I families, irrespective of their residential locality was not reported for this condition. Apart from very low number reported from slums, rural and urban area children show this trend for the condition. On comparison, well to do (Class-I to III) and poor (Class-IV and V) do not have significant statistical difference (with Yate's correction, $\chi^2 = 2.71$ with df = 1 and $P = 0.09$) [Table 5].

Although the highest rate of the prevalence of psychosomatic condition is reported among the youngest 4th born children, the families with 4th birth order child are only 3. Increasing rate with higher birth order is reported in all areas barring 4th born children. The condition is non-prevalent in "only child" or single child. The difference for reporting of children with birth order 1–3 was also statistically non-significant ($\chi^2 = 3.23$, df = 2, $P = 0.2$) [Table 6].

Table 3: Distribution of psychosomatic condition in children according to their educational status

Educational status	Children reported with psychosomatic condition in different localities *n* (%)*			Difference in the reporting of children having psychosomatic condition in relation to educational status variable *n* (%)		
	Urban	Rural	Slum	Total affected	Total not affected	Total
Illiterate	0 (0)	1 (16.67)	2 (25)	3 (9.67)	28 (90.33)	31 (100)
Primary	13 (16.88)	5 (20)	3 (25)	21 (8.50)	226 (91.5)	247 (100)
Secondary	4 (1.9)	3 (27.27)	0 (0)	7 (7.95)	81 (92.05)	88 (100)
Total	17	9	5	31 (8.47)	335 (91.53)	366 (100)

*% for localities reflect the proportion of children affected in that locality out of the children of particular literacy group studied in that locality

Table 4: Distribution of psychosomatic condition in children according to the type of their families

Type of family	Children reported with psychosomatic condition in different localities *n* (%)*			Difference in the reporting of children having psychosomatic condition in relation to the type of their family variable *n* (%)		
	Urban	Rural	Slum	Total affected	Total not affected	Total
Nuclear	10 (4.98)	4 (15.39)	3 (4.11)	17 (6.71)	237 (93.29)	254 (100)
Joint	7 (8.86)	4 (44.44)	2 (7.41)	13 (13.26)	85 (86.74)	98 (100)
Subtotal	17	8	5	30*	322*	352 (100)
Third generation	0	0	0	0 (0.00)	5 (100)	5 (100)
Broken	0	1	0	1 (11.11)	8 (88.89)	9 (100)
Total	17	9	5	31 (8.47)	335 (91.53)	366 (100)

*% for localities reflect the proportion of children affected in that locality out of the children of particular type of family studied in that locality

Table 5: Distribution of psychosomatic condition in children according to their socioeconomic class

Socioeconomic class of the family of the child	Children reported with psychosomatic condition in different localities *n* (%)*			Difference in the reporting of children having psychosomatic condition in relation to their socioeconomic class variable *n* (%)		
	Urban	Rural	Slum	Total affected	Total not affected	Total
Class I	0	0	0	0 (0.00)	45 (100)	45 (100)
Class II	7	5	0	12 (7.31)	152 (92.69)	164 (100)
Class III	5	2	1	8 (10.52)	68 (89.48)	76 (100)
Class IV	4	2	2	8 (12.7)	55 (87.3)	63 (100)
Class V	1	0	2	3 (16.67)	15 (83.37)	18 (100)
Total	17	9	5	31 (8.47)	335 (91.53)	366 (100)

*% for localities reflects the proportion of children affected in that locality out of the children of the families of particular socioeconomic class in that locality

Table 6: Distribution of psychosomatic condition in children according to their birth order

Birth order	Children reported with psychosomatic condition in different localities *n* (%)*			Difference in the reporting of children having psychosomatic condition in relation to their birth order variable *n* (%)		
	Urban	Rural	Slum	Total affected	Total not affected	Total
1	7 (4.22)	4 (21.04)	2 (14.29)	13 (6.53)	186 (93.47)	199 (100)
2	6 (9.68)	3 (17.65)	3 (16.67)	12 (12.37)	85 (87.63)	97 (100)
3	4 (11.43)	1 (33.33)	0 (0.00)	5 (11.63)	38 (88.37)	43 (100)
4	0	1	0	1 (33.33)	2 (66.67)	3 (100)
Total	17	9	5	31 (9.06)	311 (90.94)	342 (100)
Single child	0	0	0	0 (0.00)	24 (100)	24 (100)
Total	17	9	5	31 (8.47)	335 (91.53)	366 (100)

*% for localities reflects the proportion of children affected in that locality out of the children of particular birth order in that locality

DISCUSSION

Psychosomatic condition is difficult to assess as despite complaints of multiple symptoms by a patient, no clinical sign can be detected on examination or investigation. In the present study, the condition is screened by asking somatic symptom history of the past 1 month. This study reports an overall prevalence of psychosomatic condition at 8.46%. The prevalence (21.42%) observed in rural children was significantly high, followed by the reporting for the slum children with a rate of 13.51% and minimum with urban children with prevalence rate of 5.92%.

The present study reports maximum affected children in the age group of 11–14 years. It also shows higher prevalence of psychosomatic condition in females (9.42% vs. 7.89%). Rural girls are reported to the extent of 31.25%. This may be seen in context of puberty-menarche and change from primary to secondary education in India.

In the present study, the psychosomatic condition was more prevalent among illiterates (9.67%). Despite marginal differences in which education seems to play a protective role against psychosomatic symptoms, the difference was found to be non-significant on statistical analysis.

The analysis of the type of family suggests higher prevalence of psychosomatic condition in children of joint families, i.e., 13.26% in the present study. These are again more reported for rural area. It also identifies high prevalence in lower socioeconomic classes. Class-I families did not report any case compared to increasing reporting with lower socioeconomic classes.

Hardy[2] reported 19% prevalence of psychosomatic condition that is higher compared to the present study. The report of overall prevalence of 1.87% by Anita *et al*. is quite low.[3]

In the present study, slum children showed higher prevalence of psychosomatic symptoms compared to non-slum urban children.

Swartz *et al*. in his article have mentioned that psychosomatic condition is more associated with rural residence.[4]

Hardy[2] found the female: male ratio to be 1.82 for this condition. Swartz *et al*.[4] and Neitzert *et al*.[5] also noted higher prevalence among girls. Similar reports of girls outnumbering for the symptoms are from Galal *et al*.[6] and Garrick *et al*.(1988).[7] However, the predominance of urban male children with symptoms is another finding by Anita *et al*.[3]

Pikó[8] also noted higher prevalence in secondary school students. He suggested father's unemployment or low level of social support from father as a contributor for psychosomatic condition, which supports the study findings. It is apparent that low social status related to less education and less income plays a role. Kaplan in the Textbook of Psychiatry accepted the role of social factors in occurrence of this condition.[1]

Swartz *et al*.[4] have also noted that psychosomatic condition was also associated with less education. A study by the WHO reported by Gureje *et al*.,[9] in 1997, also found modest association of low education with psychosomatic condition.

Low SE class is accepted as a contributor of psychosomatic condition Kaplan.[1] However, the level of economic development was not found to be associated with psychosomatic condition by Gureje *et al*.[9]

Birth order analysis finds that not a single child, of 24 "only" children in the study sample, is reported for psychosomatic condition.

Brown and Smith had come to conclusion that birth order had no relation with somatization.[10]

Strength and Limitations of the Study

The study is using a pilot tested and validated questionnaire which is internationally used. The study attempts to find the hidden problem of psychosomatic condition among children.

The study is statistically designed to include a limited sample size. It is based on assumption that the perception of parents about their children behavior represents the prevalence of psychosomatic condition. A study using larger sample size and in multiple locations may give better population statistics of the problem.

CONCLUSIONS

The reporting for psychosomatic condition in children is more in rural and slum areas. In these areas also, girls are more reported for the condition. It is most reported at 11–13 years of age. The condition is more common in the joint families, specifically in rural area. Education and birth order do not have any significance to the reporting of psychosomatic condition.

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