A comparative study of mental health problems among 11-17 year old Indian school children living in areas with persistent political violence and children of the same age group living under standard conditions using self-rated Strength and Difficulty Questionnaire

Monidipa Banerjee[1], ***Altaf Ahmad Bhat**[1], **Anindita Chatterjee**[1]

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Abstract

Objectives: To compare behaviour abnormalities in children living in disturbed areas with persistent political violence and children of the same age group living under standard conditions.

Method: A comparative study was carried out in 11-17 year old school children of grades 9-12 from private schools Srinagar, Kashmir and age matched children of same grades from Kolkata city private schools. All participating schools had English as the medium of instruction. Data was collected and analyzed by the Child Guidance Clinic Team, Tertiary Hospital, Kolkata, from the private English Medium schools in Srinagar and Kolkata. The self-rated version of Strength and Difficulty Questionnaire (SDQ) was given to the students and answers collected. Data was analyzed using SPSS version 16.1. Questions were in the Likert scale 0 (not true), 1 (somewhat true) and 2 (certainly true).

Results: Three hundred and eight students participated in the study. Group 1 comprised 154 students from Kashmir Srinagar area and Group 2 comprised 154 students from Kolkata city schools. There were 79 boys and 75 girls in Group 1 and 74 boys and 80 girls in Group 2. Among Group1 participants, 42% had a total SDQ score between 20–40 compared to 17.5% in Group 2 that can be classified as abnormal by published cutoffs ($p < 0.05$). In Group 1, the common problems in those with abnormal SDQ score were emotional problems in 47 (30.5%), conduct problems in 63 (40%) and peer relationship problems in 28 (18%). Males were more likely to have higher ratings in emotional, hyperactivity, conduct and total SDQ scores than girls. Girls rated higher in peer relation problems and had low (abnormal) pro-social scores in group 1. Both genders had significantly higher total abnormal SDQ scores in more than one domain of mental health when compared with group 2 using the two tailed test for comparison.

Conclusion: There is a higher prevalence of mental health issues among 11-17 year old Indian school children living in disturbed areas with persistent political violence, as compared to those living under standard conditions.

(Key words: Political disturbance, school children, Strength and Difficulty Questionnaire, behaviour problems, mental health)

[1]*Department of Paediatrics, Peerless Hospital and BK Roy Research Centre, Kolkata, India*
**Correspondence: dr.altaf_bhat@rediffmail.com*

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Introduction

Terror activities in a particular region over a period of time present as emotional disorders in children, and those with direct exposure to traumatic events often present as post-traumatic stress disorder[1]. A severe traumatic event during childhood can have devastating effect on the development of the brain and all functions mediated by it[2]. Currently, there is limited data on the prevalence of mental health problems among adolescents, especially in the Kashmir region of India.

Method

Children attending private English medium schools who were exposed to frequent disturbances such as restriction of movements, curfews, strikes, terror activities, presence of heavily armed forces, stone pelting, etc. were selected from the urban area of Srinagar, Kashmir. Consent was obtained from the school principal for interview of a cross section of children in the 9th to 12th grades, born after January 1997. Children selected had good comprehension, were regular candidates for academic class and were able to understand English. Majority of children in these schools belonged to middle class families. A control group of similar socioeconomic strata, same age group, with good comprehension of the English language, from a different part of country was selected. Consent from school principal was obtained in both groups. Participants (aged 11-17 years) from the private schools in the city of Srinagar, Kashmir, were assigned to Group 1. Pretested questionnaires were administered to the target students. Contemporary age matched children of the same grades, selected from Kolkata city private schools were assigned to Group 2. The same pretested questionnaire was administered to the second group.

Children who were orphans, or who had any significant behaviour derailment as per teacher feedback, were excluded from the study.

The Strength and Difficulties Questionnaire (SDQ) is widely used to assess mental health problems, including emotional and behavioural problems among children and adolescents[3]. Conclusions on the presence or absence of mental health problems as measured by SDQ is ideally computed from the combined reports from parents, teachers, and self-report by child[4]. However, self-reports may be a sufficient screening tool for adolescents aged 11 years or older[5]. The clinical usefulness of SDQ in identifying mental health problems in adolescents has been established, with a reliability and validity that is as good as that of Child Behaviour Checklist[6].

The self-rated SDQ possesses 25 items in the following 5-item scales: emotional problems, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behaviour. Each item is scored on a 3-point scale (0 not true; 1 somewhat true; 2 certainly true) and the sum of all answered items in a scale creates its total score (possible range 0–10), whereas the sum of all answered items in the first 4 scales creates the total overall score (possible range 0–40). The higher the total score, the larger are the difficulties. The SDQ total scores could be considered as "normal" (range, 0–15), "borderline" (range, 16–19), and "abnormal" (range, 17–40), indicating the presence of general psychopathology. For the subscales, abnormal scores were taken as follows: emotional scale and hyperactivity/inattention range, 7 to10; conduct problems range, 5 to 10; peer relationship problems range, 6 to10; and pro-social behavior range 0 to 4. The abnormal SDQ score in any area indicates substantial risk of a clinically significant problem in that area[7].

The information provided by respondents is used to predict how likely a young person is to have emotional, behavioural or concentration problems severe enough to warrant a diagnosis according to the ICD-10 or DSM-IV classifications. For each diagnostic grouping, there are three possible predictions: 'low risk', 'medium risk' and 'high risk'. All adolescents were informed about the aims and procedures of the study. Self-completion of SDQ questionnaires was successfully done by children in both groups. The data collector was present on all occasions for any clarification. Each student filled in the questionnaire independently, without influence from any friend or teacher.

An F-test was used to test if the variances of two populations are equal. This test can be a two-tailed test or a one-tailed test. The two-tailed version tests against the alternative that the variances are not equal. The one-tailed version only tests in one direction. Two-tailed test is a statistical test in which the critical area of a distribution is two sided and tests whether a sample is either greater than or less than a certain range of values. If the sample that is being tested falls into either of the critical areas, the alternative hypothesis will be accepted instead of the null hypothesis.

Results

The relevant details of the 2 groups are shown in Table 1

Table 1: ***Details of the 2 Groups***

Variable	**Group 1** *(n=154)*	**Group 2** *(n=154)*
Gender		
Male	79	74
Female	75	80
Grade of student		
Grade 9	40	40
Grade 10	40	40
Grade 11	40	40
Grade 12	34	34
Socioeconomc status	Middle Class	Middle Class

Gender wise distribution of clinical ranges of SDQ scores among participants of the two groups is shown in Table 2.

Table 2: ***Gender wise distribution of clinical ranges of SDQ scores among participants of the two groups***

	Group 1 *(n=154)*			**Group 2** *(n=154)*			
	Male *n=79* No. (%)	**Female** *n=75* No. (%)	**Total** *n=154* No. (%)	**Male** *n=74* No. (%)	**Female** *n=80* No. (%)	**Total** *n=154* No. (%)	**Significance of scores between groups 1&2**
Emotional problem score							
Normal	53 (34)	54 (35)	107 (69)	72 (46)	67 (43)	139 (90)	Score differs
Borderline abnormal	26 (16)	21 (13)	47 (30.5)	02 (1.2)	13 (8.4)	15 (9.7)	significantly
Hyperactivity/inattention score							
Normal	54 (35.0)	59 (38.0)	113 (73.0)	60 (38.9)	65 (42.2)	125 (81)	Score does
Borderline abnormal	23 (14.0)	16 (10.0)	39 (25.0)	14 (09.0)	15 (09.7)	29 (18.8)	not differ significantly
Conduct problem score							
Normal	45 (29.0)	46 (29.0)	91 (59.0)	60 (38.9)	69 (44.8)	129 (83.7)	Score differs
Borderline abnormal	34 (22.0)	29 (18.0)	63 (40.0)	14 (09.0)	11 (07.1)	25 (16.2)	significantly
Peer relationship problem score							
Normal	63 (40.0)	63 (40.0)	126 (81.0)	63 (40.0)	71 (46.0)	134 (87)	Score differs
Borderline abnormal	16 (10.0)	12 (18.0)	28 (18.0)	11 (07.1)	10 (06.4)	21 (13)	significantly
Pro-social score							Score does
Normal	70 (45.0)	72 (46.0)	142 (92.0)	65 (24.0)	74 (48.0)	139 (90)	not differ
Borderline abnormal	09 (05.8)	03 (01.9)	12 (07.7)	09 (05.8)	06 (03.8)	15 (9.7)	significantly
Total score							
Normal	41 (26.0)	47 (30.0)	88 (57.0)	61 (39.0)	66 (42.8)	127 (82.4)	
Borderline abnormal	38 (24.0)	28 (18.0)	66 (42.0)	13 (08.4)	14 (09.0)	27 (17.5)	

We did the two tailed test. The observed differences between the sample means are convincing enough to say that the emotional problem score, conduct problem score and the total problem score between disturbed (group 1) and normal area (group 2) students differ significantly. The observed difference between the sample means is *not convincing* enough to say that the hyperactivity score between disturbed (group 1) and normal area (group 2) students differ significantly

We noted that the total SDQ score (42%) was high in group 1 compared to the total SDQ score (17.5%) in group 2. This suggests twice as much prevalence of mental health problems in children in group 1 ($p < 0.05$). The SDQ score across the three domains viz. emotional problems (30.5%), conduct problems (40%) and peer relationship problems (18%) is significantly high in Group 1 ($p < 0.05$).

Observed difference between the sample means is *convincing* enough to say that the emotional problem score, conduct problem score, peer relation problem score and the total SDQ score between disturbed (group 1) and normal area (group 2) students differ significantly. The observed difference between the sample means is *not convincing* enough to say that the hyperactivity problem score and the pro-social score between disturbed (group 1) and normal area (group 2) students differ significantly ($p > 0.05$).

There is a statistically significant gender difference. Total abnormal SDQ score is higher in males in group 1 (24% vs 18%) whereas in group 2 the total abnormal SDQ score is equal between both sexes. In group 1, males are more affected in emotional problems (16% vs 13%) and conduct problems (22% vs 18%) and females are more affected in peer–relation problems (18% vs 10%) and pro-social (1.9% vs 5.8%) problems. In group 2, there is a statistically significant gender difference only in emotional problems (F>M; 8.4% vs 1.2%)

Discussion

Conflict zone refers to political instability that disrupts essential services such as housing, transportation, communication, sanitation, water and health care which require the response of people outside the community affected[7]. Research suggests that for every battle death, many more people die as a result of other factors connected to conflict[8]. Children who were directly or indirectly affected by conflict developed greater incidence of post-traumatic stress disorder and fear[9,10].

In a study in Brazil prevalence of a total abnormal SDQ score (20-40) was 18% and it was 20% in Iran[11,12] . In a study in Andhra Pradesh, India 22.4% of children had abnormal SDQ scores[13]. In our study we find higher prevalence of mental health issues in more than one domain with significantly higher percentage of total abnormal SDQ values (42%) in Group 1, which is double of that in the control group (17.5%).

Major limitations to this study are that reports from parents and teachers were not taken and that sample population was from middle class, not very representative of the general population.

Conclusion

There is a higher prevalence of mental health issues among 11-17 year old Indian school children, living in disturbed areas with persistent political violence, as compared to those living under standard conditions.

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