ORIGINAL ARTICLE

ASSESSMENT OF MENTAL HEALTH OF INDIAN ADOLESCENTS STUDYING IN URBAN SCHOOLS

Bharath Kumar Reddy K.R\textsuperscript{1}, Asthik Biswas\textsuperscript{1}, Harini Rao\textsuperscript{1}

1. Raju Multispeciality Hospital, Bangalore, India

Abstract

**Aim:** This study aims to assess a community of Indian adolescents studying in Urban schools using the Strengths and Difficulties Questionnaire (SDQ) for behavioral difficulties and mental health disorders. **Method:** All high school pupils attending three urban schools in Bangalore were eligible to participate. The self-report version of the SDQ was administered to the pupils in the classroom whose parents consented. **Results:** Thirty participants (8.7\%) had an abnormal SDQ score and 53 (15.3\%) had a borderline abnormal SDQ score. Abnormal SDQ scores were more common among females (9.7\%; mean score = 11.86; sd = 5.4) than among males (7.6\%; mean score = 10.96; sd = 5.26). The difference was most pronounced on the emotional symptoms subscale (females received a mean score of 4.03 [sd = 2.1] compared to a mean male score of 2.90 [sd = 2.1]). **Conclusions:** Mental health problems are widespread among Indian adolescents. The SDQ is a useful preliminary assessment tool of the mental health profile of Indian adolescents and highlights the need for childhood mental health promotion in schools. The SDQ could also be used in a primary care setting to screen adolescents for mental disorders.

**Keywords:** Psychiatry, Behaviour, Mental Disorders, Adolescence, Questionnaires, Schools, Ireland

**Corresponding Author:** Dr. K. R. Bharath Kumar Reddy, Raju Multispeciality Hospital CMR Layout, Lingarajapuram, Bangalore - 560084, India

**Tel:** +919845138419

**Email:** bharathreddykr@yahoo.co.in

Introduction

Adolescence is a period of physical, psychological, emotional and personality change, which can lead to stress, and emotional and behavioral problems. Studies have shown that there is a 10\% overall prevalence of mental disorders among five- to 15-year-olds and this figure may be as high as 25\% among children and adolescents who attend primary care services in the UK. Standardized assessment of mental health difficulties in a primary care setting is commonplace in the US; however, this practice is not prevalent in developing countries.

The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997)\textsuperscript{3} is a useful tool that could be applied in a community setting to assess emotional and behavioural problems. It has been found to effectively
predict the presence of conduct, hyperactivity, emotional, and psychiatric disorders. Previously, it has been used in Britain to screen a community cohort for child psychiatric disorders and it identified over 70% of individuals with conduct, hyperactivity, depressive and some anxiety disorders. Numerous studies have been conducted to examine the rates of psychiatric disorders among young people worldwide and these describe increase in particular psychiatric disorders, such as conduct and emotional problems. There is little epidemiological data on the prevalence of psychiatric disorders among Indian adolescents. In this project we propose to assess a community of Indian adolescents, using the SDQ for behavioral difficulties and mental health disorders.

With the advancement in modern technology and the competitive world, most students especially adolescents who are concerned about their future and career are stressed out and prone for behavioral and mental hardships.

**Aim**
To know the prevalence of behavioral and mental health disorders among Adolescent school going children in an Indian urban setup by using a simple test like the Strengths and difficulties Questionnaire (SDQ) to develop a single solution to overcome these disorders.

**Methods**

**The Study Population**
The study was carried out in three schools in urban Bangalore. The study population consisted of High School children attending 3 schools, aged between 11 and 16 years.

**The Strengths and Difficulties Questionnaire**
The SDQ is a user-friendly screening questionnaire, which can be used to assess behavioural problems and mental health disorders. It can be administered to the parents and teachers of four- to 16-year-olds and to the 11- to 16-year-olds themselves. Goodman, Ford, Simmons, Gatward and Meltzer reported the scale’s internal reliability to be acceptable, with a Cronbach alpha coefficient of 0.73. The questionnaire consists of 25 questions subdivided into five categories: conduct; hyperactivity; peer problems; emotional; and, prosocial, with five questions in each scale. Each of the categories is given a score and then summed to get a total difficulties score, except the prosocial score, which is assigned a separate score. The scores can then be used to make separate predictions for conduct–oppositional disorders, hyperactivity–inattention disorders, and anxiety–depressive disorders.

**The Screening Procedure**
Permission was sought from the principals of each of the selected schools to recruit students for the study. An information sheet and consent form was sent to each parent. The consent form was to be signed by a parent or guardian and returned to the school. The questionnaires were distributed to the pupils as a group in their classrooms during a pre-arranged time. Each pupil who had returned a consent form was given a copy of the questionnaire for completion. The pupils were asked to read the questionnaire and answer it to the best of their ability. Every effort was made to ensure that the pupils had privacy when completing the questionnaire. Researchers were available to answer any of the pupils’ questions or to clarify instructions. The pupils were also asked to include their class and age which was also kept confidential.
Statistical Analysis
Data were analyzed using the Statistical Package for the Social Sciences (SPSS) and established cut-off scores indicated high risk for mental health problems.

Results
A group of 354 pupils aged 11 to 16 years, which consisted of 182 boys and 172 girls attending the three participating schools, participated in the screening study. The mean age of the study population was 13.4 years. Abnormal and borderline abnormal scores are shown below (table 1).

Table 1. Age distribution

<table>
<thead>
<tr>
<th>Age</th>
<th>Number (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 years</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td>13 years</td>
<td>112</td>
<td>31.6</td>
</tr>
<tr>
<td>14 years</td>
<td>120</td>
<td>33.9</td>
</tr>
<tr>
<td>15 years</td>
<td>82</td>
<td>23.2</td>
</tr>
<tr>
<td>16 years</td>
<td>35</td>
<td>9.8</td>
</tr>
<tr>
<td>Total</td>
<td>354</td>
<td>100</td>
</tr>
</tbody>
</table>

Total number of subjects: 354

Gender distribution

Table 2. Problems faced by adolescents according to the SDQ-questionnaire self assessment

<table>
<thead>
<tr>
<th></th>
<th>Normal (%)</th>
<th>Borderline (%)</th>
<th>Abnormal (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Problems</td>
<td>79.7</td>
<td>7.9</td>
<td>12.4</td>
</tr>
<tr>
<td>Conduct Problems</td>
<td>66.9</td>
<td>16.4</td>
<td>16.7</td>
</tr>
<tr>
<td>Hyperactivity Problems</td>
<td>76</td>
<td>11.9</td>
<td>12.1</td>
</tr>
<tr>
<td>Peer Problems</td>
<td>77.4</td>
<td>16.4</td>
<td>6.2</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>89.8</td>
<td>5.8</td>
<td>4.4</td>
</tr>
</tbody>
</table>
The most common abnormal scores were on the hyperactivity, conduct problems and emotional problems subscales accounting for 12.1%, 16.7% and 12.4% respectively. A total of 6.2% of the population tested had abnormal scores on the peer problems subscale. Only 4.4% of the total population scored abnormally on the prosocial subscale.

**Sex Differences**
Abnormal SDQ scores were more common among females (10.2%) than among males (8.2%). The difference was most pronounced on the emotional symptoms subscale, with females receiving higher score. Males, however, had higher (more abnormal) mean scores on the conduct problems subscale, as well as lower (more abnormal) mean scores on the prosocial subscale.

**Table 2. SDQ scoring values**

<table>
<thead>
<tr>
<th></th>
<th>Normal</th>
<th>Borderline</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total difficulties score</td>
<td>0-15</td>
<td>16-19</td>
<td>20-40</td>
</tr>
<tr>
<td>Emotional symptoms score</td>
<td>0-5</td>
<td>6</td>
<td>7-10</td>
</tr>
<tr>
<td>Conduct problems score</td>
<td>0-3</td>
<td>4</td>
<td>5-10</td>
</tr>
<tr>
<td>Hyperactivity score</td>
<td>0-5</td>
<td>6</td>
<td>7-10</td>
</tr>
<tr>
<td>Peer problems score</td>
<td>0-4</td>
<td>5</td>
<td>6-10</td>
</tr>
<tr>
<td>Prosocial behaviour score</td>
<td>6-10</td>
<td>5</td>
<td>0-4</td>
</tr>
</tbody>
</table>

**Assessment of Difficulties**
Only 19.2% children had definite to severe difficulties in daily life with only 2% manifesting as severe difficulty. The rest had minor to no difficulty in coping with problems of daily life. Of all the difficulties faced by these children, 25% claimed the difficulty to be existent for more than 1 year. A significant number (47.7%), faced these difficulties for less than a month. A significant 26.1% (92) of the children were distressed trying to cope with the difficulties, with a significant 7.7% (27) who faced a great deal of distress.

The difficulties were found to interfere with home life in 18.4% of the children. It interfered with friendships in 19.2% children. Difficulties interfered with classroom learning in 19.5% children. It interfered with leisure activities in 12.4% children. Of the children affected by their difficulties, 5.4%, 4.2%, 5.9% and 4.5% were affected a great deal in their home life, friendships, classroom learning and leisure activities respectively. The difficulties of these children made it harder for family and friends including teachers in 39.5% of them, with 30.5%, 5.9% and 3.1% claiming the to affect others a little, quite a lot and a great deal respectively.
Discussion

The main objective of this study was to provide a generalised assessment of Indian adolescents aged 11 to 16 years using the SDQ. This study showed that 10.36% of the participants studied had an abnormal SDQ score, which would suggest that they were likely to suffer from some degree of mental health issues. Normative data has not been published for India but has been published in Britain (n=4,228). Some 5.2% of British males and 5.1% of British females aged 11-15 received abnormal scores on the SDQ. This would indicate that the Indian participants were perhaps more at risk of developing mental health difficulties than those in developed countries contrary to the popular belief. However, socio-economic differences and the fact that the British study had a bigger cohort would have to be taken into account when comparing these two groups.

SDQs are a useful tool to identify participants who may have emotional problems (females more than males in this study) and conduct problems (males more than females in this study). However, it has been shown that, on the whole, SDQs completed by parents and teachers are better indicators than SDQs completed by adolescents themselves. The socio-economic class of the participants is not known, nor is the population norm of the geographical area. Prior research indicates that respondents to questionnaires and those who agree to participate in research tend to be of a higher social class. As a consequence, there could have been an under- or over-representation of psychopathology in the study sample.

This was a school-based sample. Among those registered with the school, a number will be absent on any one day. The dropouts and absent adolescents are likely to be from a vulnerable section of society and have potentially high levels of emotional and behavioral problems. Additionally, the schools who participated in the study were all mainstream schools and special schools for those who have intellectual and physical disabilities were not included. Students in these settings are known to have higher rates of emotional and behavioural problems when compared to the general population. As a consequence, the prevalence rates indicated in this study is the tip of the iceberg and are liable to be an inaccurate estimate of the true prevalence of psychiatric disorders in young adolescents in the community.

Conclusion

Mental health problems are common among the general adolescent population in India. Early detection and effective intervention will result in better wholesome development of the future citizens of our country. From the analysis of all the data and results it can be concluded that the SDQ gives a practical assessment of the mental health profile of young Indian adolescents. It is a short, simple questionnaire, which could be utilised in a general practice setting to screen adolescents for mental distresses.

Acknowledgement

Dr. Harini Rao and Dr. Asthik Biswas for helping in collecting data from all the schools and in tabulation of data.

References


