COMPARING THE URDU VERSION OF STRENGTH AND DIFFICULTIES QUESTIONNAIRE (SDQ) AND THE CHILD BEHAVIOR CHECKLIST (CBCL) IN A SAMPLE OF 5-11 YEAR OLD SCHOOL CHILDREN IN KARACHI, PAKISTAN

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ABSTRACT

Objectives: This study aims to compare two widely used instruments in child mental health research, the Strength and Difficulties Questionnaire (SDQ) is a brief behavioral screening questionnaire that can be completed in about 5 minutes by the parents and teachers of 4-16 year olds.

Design: Cross sectional and correlation study

Place and duration of study: This study was conducted in schools of Karachi between January to June 2006.

Subjects and Method: The Urdu version of SDQ has been translated and was downloaded from the website (www.sdqinfro.com), the SDQ has been validated in Pakistan. The CBCL was translated by a team of expert through a rigorous seven step process of translation. Both the SDQ and CBCL were completed by 556 parents of school children aged 5-11 attending schools in various towns of Karachi.

Results: Given the non normal nature of some of the distributions , correlations were calculated using Spearman's rho co efficient. Scores from the SDQ and CBCL were moderately corelated and equally able to screen out children with emotional and behavioral problems. SDQ had a certain advantage over CBCL as it is much shorter and can be completed in much lesser time than the longer CBCL.

Conclusion: The study shows that like the original English version and other similar studies , the SDQ-Urdu and the Urdu CBCL are equally valuable tools for the most clinical and research purpose.

Key words: Child Psychopathology, Psychometrics, questionnaires, Pakistan.

INTRODUCTION

In Pakistan the current scarcity of child mental health services mirrors the scarcity of epidemiological studies partly due to the lack of appropriate assessment tools. There has been only one study carried out in Lahore to establish the prevalence of emotional and behavioural problems in school children using the Rutter rating scales. This found a prevalence of 9.3%, with antisocial problems being the commonest[1]. There is a need to conduct community based studies that compare the instruments developed in western countries to determine how they apply to developing countries like Pakistan.

This study is the first of its kind in Pakistan that has attempted to compare two widely used instruments in child mental health research. In psychiatric research and clinical work with children and adolescents there is a need for validated instruments to screen their emotional and behavioral problems. The Strengths and Difficulties Questionnaire (SDQ) is a brief behavioural screening questionnaire that asks about 25 attributes, some positive and others negative [2]. The 25 items are divided between five scales of five items each, generating scores for Conduct Problems, Inattention-Hyperactivity, Emotional Symptoms, Peer Problems, and Prosocial Behaviour; all scales but the last are summed to generate a Total Difficulties score. The SDQ has been shown to be of acceptable reliability and validity, performing at least as well as the longer-established Rutter Questionnaires and Child Behaviour Checklist.[2-3] Originally published in English the SDQ has subsequently been translated into over 50 languages. The SDQ is widely used in epidemiological, developmental and clinical researches, as well as in routine clinical and educational practice. Since the same is true of the longer established CBCL it is clearly important to compare the properties of the two measure. The aim of the study was to compare the first ever comparison between the Urdu version of SDQ and CBCL.

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SUBJECTS AND METHOD

Setting

The study was conducted in Karachi, Pakistan. Its population at the time of the survey was estimated to be 15 million. Karachi is divided into 18 towns each having its own union council and district "Nazim" (mayor).

Sampling Strategy

The sampling unit was schools. Since the educational setup of Karachi is very diverse, data was collected from private and community schools. Community schools are run by non governmental organizations (NGOs) and mostly have a low fee structure and cater for lower socio economic class. Sindh Education Foundation (SEF) was established in 1992 as a semi-autonomous organization with the main aim to provide education to disadvantaged communities. A town-wise list of all the community schools in Karachi was obtained from them. SEF advised us to select nine towns assuring that school authorities in these towns were most likely to cooperate with us. From each of these nine towns one community school was selected. In seven of these towns we were also able to identify a private school. Two of the private and three community schools selected declined to take part in the study, asserting that the topic might upset parents or was irrelevant to their pupil. We contacted three other community schools in the same towns of which two agreed to participate, of the two other private schools contacted in the same towns both agreed to participate. Hence a total of seven private and eight community schools agreed to participate. From each school 100 children were selected, 20 from each class. If there were less than 20 children in a class all were selected and if there were more than 20 then 20 were selected from the class attendance register using alternative odd-even serial number to select children from each class (grade 1-5). A total 1488 children were selected consent forms and information sheets were sent to their parents. The consent forms were collected by the teachers. Six hundred and seventy five parents gave consent to participate in the study. The response rate was 45.3%. Those who agreed to participate in the study were called on a later date to the school for data collection. Active parental consent was required before a child could be considered for inclusion in the study. Consequently, children of those parents who did not give consent were excluded. Children were eligible for the study if they were over 5 year of age and had not yet reached their 12 birthday.

Protocol and Instruments

Screening of all children was carried out by means of parental questionnaire.

Socio-demographic Parent Performa (SDPP)

This 13-item Performa was developed based on existing literature and expert discussions. It elicited details like, child age, gender, type of schooling ,parental education, parental occupation, age of parents, residential area, informant, name of the head of the household, family income, family type, physical illness/disability, languages spoken at home.

Measures

Child behavior checklist (CBCL)

The Child Behavior Checklist (CBCL) was designed by Thomas M. Achenbach and Craig Edelbrock to address the problem of defining child behavior problems empirically [4]. The CBCL consists of 20 social competence items and 118 items on the behavioural/emotional problem scale. The parents are asked to rate the children's behaviour problems on a 0±2 scale (0 "not true'', 1 "somewhat or sometimes true'' and 2 "very true or often true'') for the previous 6 months. The social competence score can be subdivided into three areas, Activities, Social, and School scales, and the sum of scores on these scales yields a total competence score. The behaviour problem scores can be divided into three broad-band dimensions, Internalising, Externalizing, and a Mixed category, which form a total behaviour problem score (excluding items 2 and 4). The Internalising scale consists of three subscales, Withdrawn, Somatic Complaints, and Anxious/Depressed syndromes. The Externalizing scale consists of Delinquent and Aggression syndromes, and the Mixed category includes Thought, Social, and Attention problems.

Urdu translation of CBCL

The Urdu translated version of CBCL was administered to all parents of children. The questionnaires were translated and adapted into Urdu, using a seven-step procedure.

These steps include translation and back-translation by a panel of experts. The panel of experts comprised of faculty members from the departments of Psychiatry, Neurosurgery AKU and The Department of Psychiatry, Medical college of Virginia, Richmond, Virginia USA. All having a good command over Urdu and English. Key-informant interviews with the target population, comprised of men and women who were parents of children between the ages of 6 and 16 years. Minimum primary school education and ranging from house hold servants to house wives to clerical staff. Structured focus group discussions with parents, to obtain better cultural understanding of difficult concepts.

STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ) is a brief mental health-screening questionnaire that measures 25 attributes, some positive and others negative[2]. The 25 items are grouped into five sub scales

of five items each, generating scores for conduct, hyperactivity, emotional, peer problems, and prosocial behaviour. All scales excluding the last are summed to generate a Total Difficulties score. Category bands and total difficulties scores can be classified as normal, border line and abnormal. SDQ can be completed by the parents or the teachers of 4-16-year-olds. Besides common areas of emotional and behavioural difficulties, it also inquires whether the informant thinks that the child has a problem in these areas and, if so, asks about resulting distress and social impairment [5]. The SDQ has been shown to be of acceptable reliability and validity, performing at least as well as the longer-established Rutter Questionnaires and Child Behaviour Checklist[3]. Originally published in English the SDQ has subsequently been translated into over 40 languages, including Urdu, the national language of Pakistan. (www.sdqinfo.com). The Urdu version of SDQ has been translated and validated in Pakistan.[6]

Statistical analysis

Given the non normal nature of some of the distributions, correlations were calculated using Spearman's rho co efficient.

RESULTS

A total of 640 parents filled out the SDQ Urdu version only while 569 out of these filled out CBCL (translated) as well (table 1). No significant difference was found between the socio demographic characteristics of the responders who filled out both the questionnaires and those who filled out just the SDQ. Majority of the children on whom these questionnaires were filled were males (53%), most belonged to community schools (57.7%) and came form lower socioeconomic status households(76.9%). About half of the mothers were uneducated (49.8%) while about one third (31.6%) fathers were un educated (table 2). We looked at the correlation of total as well as subset scores of the two questionnaires. Since the data for CBCL did not follow a normal distribution we used spearman's rho coefficient (γ) as a test of correlation. We found positive and moderate correlations between the total and subset scores of SDQ and CBCL. In only one subset i.e. Prosocial (SDQ) and Social (CBCL) the correlation was weak but still positive. All correlations were significant at $p < 0.001$ (Table 3).

Table 1

Frequency of SDQ and CBCL parent sample from private and community schools.

School type	Parent SDQ	Parent CBCL
Private school	290	216
Community Schools	350	353
Total	640	569

Table 2

Socio-demographic variables (n=640)

	n (%)
Gender	
Male	339 (53)
Female	301 (47)
School type	
Private school	271 (42.3)
Community School	369 (57.7)
SES [1]	
Lower	492 (78.6)
Middle	113 (18.1)
Upper	21 (3.3)
Mother education	
Not educated	319(49.8)
< 10 years of schooling	85(13.3)
10-12 years of schooling	161(25.2)
Graduate degree/higher	75(11.7)
Father education [2]	
Not educated	202(31.6)
<10 years of schooling	120(18.8)
10-12 years of schooling	166(25.9)
Graduate degree/higher	151(23.6)

[1] missing data n=626

[2] missing data n= 639

DISCUSSION

The findings of the present study show that as was the case of the English , Finish and German version , the Urdu version of SDQ and CBCL co related moderately with each other. A number of studies have compared the longer established CBCL to SDQ. A pervious study has shown that the original English versions of the SDQ and CBCL were highly co related and generally performed similarly, though SDQ seemed superior as a measure of inattention/hyperactivity[3]. Similar findings have been obtained for the German and Finnish population.

The equivalence is striking as the SDQ is only about a fifth of the length of the CBCL. Other studies have shown that , other things being equal the shorter the scale the less reliable it is, in this case the brevity of the SDQ did not reduce its validity.

Results of this correlation study suggest that the translated version of CBCL can be similarly useful in

Table 3

Table showing correlation of total as well as subset SDQ and CBCL scores.

	CBCL Total	CBCL Internalizing	CBCL Externalizing	CBCL Attention	CBCL Social
SDQ Total	γ=0.615 p<0.001	–	–	–	–
SDQ Emotional	–	γ=0.523 p<0.001	–	–	–
SDQ Conduct	–	–	γ=0.585 p<0.001	–	–
SDQ Hyperkinetic	–	–	–	γ=0.497 p<0.001	–
SDQ Pro social	–	–	–	–	γ=0.240 p<0.001

screening the child psychiatric disorders as the already validated SDQ (Urdu).

However the findings have some limitations. First of all the translated CBCL also needs validation in this population and just correlation may not render it equivalent to SDQ. The study is further limited by the fact that children were all drawn from one age group and were all school going. This was most feasible method of recruiting and assessing children in Pakistan, similar to studies in many other developing countries. However it must be noted that not all children in developing countries including Pakistan have access to formal education, therefore the generalizability of findings of this study is limited only to school attending children It will be important to replicate these findings on a border age range , using a diverse clinical and community sample.

The present study suggests that the two questionnaires are comparable in many ways. The two instruments are particularly useful as a screening instrument or as a research tool for epidemiological study. Like the original English version , the two questionnaire have different strengths, the brevity of SDQ and its low cost in administration as well as the evaluation makes it a particularly useful instrument for large scale epidemiological studies as well as for screening of large groups of low risk children ,this is of particular importance to a developing country like Pakistan where there are lack of resource and services for child mental health services have made it difficult to conduct large scale epidemiological studies. Presently an epidemiological study of emotional and behavioral problem amongst school children is being carried out in Karachi, Pakistan using the SDQ as a screening measure. The SDQ however has fewer subscales than the CBCL and does not ask about less common symptoms such as compulsions, hallucinations or sexual problems. Consequently the CBCL might be better suited for studies that require a more detailed assessment of a border range of symptoms. The SDQ and CBCL serve somewhat different purposes though both questionnaires seem equally valuable for most clinical and research applications. It is important to conduct more community and clinical based epidemiological studies among Pakistani population using both the SDQ and CBCL as the two instruments have shown their advantages as a research tools findings of which will be useful in service planning.

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