SOCIAL AND EDUCATIONAL DETERMINANTS OF CHILD MENTAL HEALTH: EFFECTS OF NEIGHBORHOOD, FAMILY AND SCHOOL CHARACTERISTICS IN A SAMPLE OF PAKISTANI PRIMARY SCHOOL CHILDREN

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ABSTRACT

Objective: To identify socioeconomic risk factors for poor child mental health in the sample of primary school children in Karachi, Pakistan.

Design: Cross sectional survey.

Place and Duration of Study: The study was conducted in private, government and community schools in Karachi having 5-11 year old children during January to June 2006.

Subjects and Methods: 2188 consent forms were sent to 700 parents of private and government school and 788 parents of community school children. A total of 968 parents agreed to participate in the study. Assessment of children's mental health was conducted using Strength and difficulties questionnaire (SDQ).

Results: Logistic regression was used to establish the association between socio-economic variables and child psychopathology. Poor physical health (OR=2.83, 1.89-4.23, p<0.0001); male gender (OR=1.47, 1.12-1.96, p<0.0054), urban neighbourhood (OR=46.34, 21.7-99.1, p<0.0001) , head of family other than father figure (overall p value<0.0001), school type (government and community) (OR=4.17, 2.94-6.25, p<0.0001), lower teacher's qualification (overall p value<0.0001), less teaching experience (overall p-value<0.0001); poor child school attendance (OR=1.62, 95%CI=1.01-2.61, p<0.0463); and academic performance (p-value for all categories versus very good p<0.0001) were significantly associated with the likelihood of child mental health problems. Poor general health and residential neighborhood were related to emotional and conduct problems as well as hyperactivity. Emotional disorders and conduct disorders were most closely associated with family variables, while ADHD was only related to child characteristics.

Conclusions: The multiple factors associated with child mental health in Pakistan are broadly consistent with previous findings from other countries. Public health programs require multiple targets to disseminate basic assessment and treatment skills more widely to other professionals and to establish strong links between frontline and specialist services.

Key words: Child mental health, risk factors, developing countries.

INTRODUCTION

It is well known and widely recognized that social and educational conditions impact on health throughout life, with the result that if one is poor they are more likely to experience worse health and to die younger. The Millennium Development Goals (MDG) project report states "poverty hits children hardest and while a severe lack of goods and services hurts every human it is most threatening to children's rights of survival, health and nutrition, education, participation, and protection from harm, and exploitation. It thus creates an environment that is damaging to children's development in every way, i.e. mental, physical, emotional and spiritual"[1]. Apart from the well established effect of deprivation on child's general health status, there is now a substantial and growing body of evidence that also demonstrates the impact of a wide range of risk factors on children mental health. Substantial research literature, mostly from developed countries, suggests a complex socio-economic framework of risk factors operating in multiple contexts that are central to the lives of children namely, home, school, and neighborhood [2-4]. A few studies from low and middle income countries have identified similar factors associated with mental disorders in children [5-6].

Child mental health is influenced by three major types of social and educational factors; these include the child's family environment, the wider community, and the child's schooling. Each of these broad categories

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includes several factors. For example, the child's family environment includes the family type i.e. extended, nuclear or single parent families, such factors have also been found to have a protective effect on children's mental health, particularly in developing countries[7]. Other important family related socioeconomic variables include the parent's employment status and level of education.

The figure 1 summarizes the social and educational factors that influence child mental health, and highlights how these factors are inter-related.

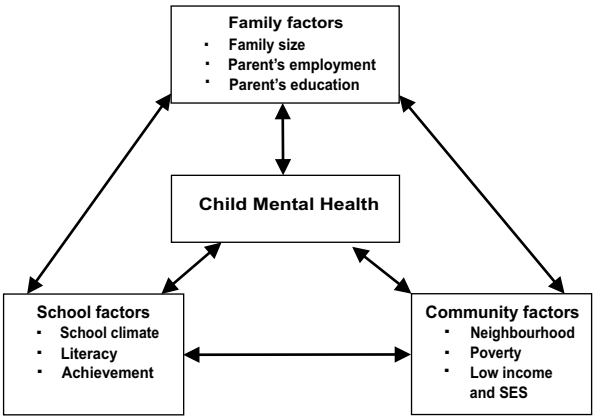

Fig 1: Social and educational factors that influence child mental health

Linked to the family environment is the wider community to which the child belongs. This also has a protective effect in developing countries particularly in deprived neighborhoods [8-9]. Similarly school plays a major role in a child's life. The literature indicates that it is not just the quality of education, but also the type of school environment and climate that can serve both as risk and protective factors for children's mental heath [10].

There is minimal knowledge of the mental health of children in Pakistan and virtually no professional help available for troubled children in this population. The research presented here provides part of a series of first systematically obtained, valid and reliable information about the type and prevalence of emotional and behavioural problems and associated risk factors in Pakistani children. Some of the results from this survey focusing mainly on the estimates of parental and teachers' account of child's problems have been reported elsewhere[11-13]. The central aim of this paper is to identify the social and educational factors which are associated with emotional and behavioural problems in this context. Because this was an exploratory study, no specific hypotheses were proposed regarding these influences. The importance of considering different sorts of risk factors simultaneously is highlighted in a number of studies [3, 10, 14]. Our study is the first of its kind in Pakistan that has collected detailed information on the characteristics of children, families, neighbourhoods and schools, allowing simultaneous investigation of the interrelationships between different characteristics and their associations with childhood psychiatric disorder. By supplementing data on the child and family characteristics of a large population-based sample with measures of neighbourhood deprivation and school disadvantage, we aimed to identify those factors that are independently associated with childhood psychiatric disorder. Independent factors would provide potential targets for intervention in addition to providing clues to the aetiology of childhood mental health problems.

There is minimal knowledge of the mental health of children in Pakistan and virtually no professional help available for troubled children in this population. The research presented here is part of a large scale epidemiological study that aims to provide valid and reliable information about the type and prevalence of emotional and behavioural problems and associated risk factors in Pakistani children. Some of the results from the first screening stage of this survey focusing mainly on the estimates of parental and teachers' account of child's problems have been published earlier[11-13]. The central aim of this present paper is to identify the social and educational factors which are associated with emotional and behavioural problems in this context. Because this was an exploratory study, no specific hypotheses were proposed regarding these influences. The importance of considering different sorts of risk factors simultaneously is highlighted in a number of studies [3, 10, 14]. Our study is the first of its kind in Pakistan that has collected detailed information on the characteristics of children, families, neighbourhoods and schools, allowing simultaneous investigation of the interrelationships between different characteristics and their associations with childhood psychiatric disorder. By supplementing data on the child and family characteristics of a large population-based sample with measures of neighbourhood deprivation and school disadvantage, we aimed to identify those factors that are independently associated with childhood psychiatric disorder. Independent factors would provide potential targets for intervention in addition to providing clues to the aetiology of childhood mental health problems.

SUBJECTS AND METHODS

The detailed methodology has been described in paper published elsewhere[11-13]. The section below briefly describes the methods of this study.

Setting and Sampling Strategy

The study was conducted in Karachi, which is located in south-east of Pakistan.The sampling unit was schools selected form the various districts in Karachi. In order to give maximum representation we aimed to collect data form all three main school types i.e., public or government run schools, community (NGO) schools and private schools. Seven private and government schools and eight community schools agreed to participate. 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. From each school 100 children were selected, 20 from each class (grade 1-5). 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 alternate odd-even serial number to select children from each class (grade 1-5).

A total 2188 children were selected and consent forms and information sheets were sent to their parents. 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. Information on non respondents was not collected and therefore not part of the analysis. Children were eligible for the study if they were over 5 year of age and had not yet reached their 12 birthday. This age range was chosen mainly as this represents age for compulsory schooling in Pakistan according to ''Compulsory Primary Education Ordinance (2001)[15]''. The consent forms were collected by the teachers. Parents who agreed to participate in the study were called on a later date to the school for data collection.

One thousand and three (N=1003) parents agreed to participate in the study, thirty five were excluded due to missing data or over /under age. Information from non respondents was not collected in this study. It is thus not possible to ascertain the characteristics of those invited who did not respond, other than to say that they came from the same school population as those who did respond. Final data analysis was carried out on nine hundred and sixty eight (N=968) parents and seven hundred and one (N=701) teacher SDQ questionnaires (Figure 2).

Fig 2: Flow chart of sample selection process

Protocol and Instrument

Screening of all children was carried out by means of parental and teacher questionnaires.

Socio-demographic Parent Proforma (SDPP)

This 13-item Proforma was developed based on existing literature. It elicited details like, child age, gender, and type of schooling, parental education, and parental occupation, parents' age, residential neighborhood, and head of the household, family income, family type, physical illness/disability, and ethnicity. The socio economic status was determined on the basis of the categories provided by the Federal Bureau of Statistics, Pakistan [16].

Demographic Teacher Proforma (DTP)

This was designed to provide information by the teacher regarding the child, and included a four point rating scale on the child's school performance, attendance, teacher qualifications, and teaching experience.

STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ) is a brief mental health-screening questionnaire that measures 25 attributes, some positive and others negative[17]. 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 (0-40). SDQ can be completed by the parents or the teachers of 4-16-year-olds. The SDQ has been shown to be of acceptable reliability and validity, performing at least as well as the Rutter Questionnaires and Child Behaviour Checklist[18]. Originally published in English (Goodman, et, 1999) the SDQ has subsequently been translated into over 40 languages, including Urdu, the national language of Pakistan (www.sdqinfo.com). A study to test the validity of the Urdu version of the Strength and Difficulty Questionnaire (SDQ) was carried out in Pakistan[19].

Data collection procedure

The data was collected between January and June 2006 from private and community schools and between April and May 2007 from government run schools. In order to obtain consent from schools, a meeting was initially held with the educational authorities and school principals. They were provided with consent forms, information sheet, and a brief outline of the research procedure, including the kind of assistance required by the schools. The materials were available in English, Urdu and Sindhi the regional language spoken in some areas of Karachi.

After the schools had consented to participate in the study, the researcher (SH) identified the sample through the attendance register. Parents of selected chil-

dren were sent an information sheet and consent form asking whether they were willing to participate in the study and whether they gave permission for their child's teacher to be approached. Parents who agreed to participate in the study were invited to a meeting held at the school for parents and teachers of selected pupils. They were given a short presentation on child mental heath disorders and the rationale of the study was explained. This procedure was carried out with the aim of providing awareness, as there is lack information on child mental health issues in the country, as well as encouraging participation in the study, and reducing the number of dropouts. Following the presentation, SDQ data was collected from parents. Teacher SDQ questionnaires were distributed and collected from the school at a later date. As most parents of private school children were educated they completed the questionnaires, however in the community and government schools the majority of parents were uneducated. For those parents needing assistance, the principal researcher (SH) along with other researchers helped them to fill in the questionnaires. A team of five researchers assisted with data collection. All had Master's degrees, with two of them including the principal investigator, having Master's degree in Psychology. Before data collection, they were all trained through various means in interviewing techniques, concepts and coding. Training tools included interviews of volunteers, role-play and recorded interviews. All data was entered into a specially designed database and was verified by independent double entry.

STATISTICAL ANALYSIS

Descriptive statistics were computed for the socio-demographic characteristics of parents and teachers. The association of socio-demographic variables with total SDQ rating was examined using ordinal regression analysis. Data was analysed using the software package SPSS version 14.5 and SAS version 9.1.

RESULTS

Thirty five questionnaires were excluded, as they didn't meet the criteria, (over / under age of child). Data analysis was carried out on 968 parent forms and 793 teacher questionnaires. The mean age of the children in the study sample was 8.4 years with standard deviation (SD) of 1.85 years. About 28% children were going to private while 38.1% were going to the community schools and 33.9% attended government schools. Mean age of the mothers of these children was 35 years (SD = 7 years). 61.1% of mothers and 35.1% fathers were uneducated. Only 7.9% of mothers and about 16.2% of fathers had graduate/higher education. Majority of the mothers were housewives (74.9%) and belonged to lower socioeconomic status (81.3%).

Regression analysis

Univariate ordinal regression analysis was conducted to identify socioeconomic factors associated with total SDQ scores. Two separate sets of univariate analyses were conducted, with either parent or teacher total SDQ scores constituting each dependent variable. A range of socio-economic variables were used as candidate predictors. For parent, factors which significantly increased the odds of being rated as 'abnormal' on the SDQ included individual child level variables: male gender (OR= 1.38, 95%CI=1.09-1.76, p<0.0077) and physical illness (OR=4.10, 95%CI=2.89-5.83, p<0.0001); school type: government versus NGO (OR=4.83, 95%CI=3.52-6.67, p<0.0001), government versus private (OR=9.43, 95%CI=6.67-13.33, p<0.0001), and NGO versus private school type (OR=1.95, 95%CI=1.45, 2.62, p<0.0001); and family variables including, nuclear family versus extended family (OR=1.29, 95%CI=1.01-1.65, p<0.0350), lack of maternal (OR=1.85, 95%CI=1.18-2.90, p<0.0074) and paternal education (OR=1.31, 95%CI=1.18-2.50p <0.0045), head of family other than the father (OR=1.51, 95%CI=1.17-1.96, p<0.0017), urban neighbourhood (OR=18.89, 95%CI=9.2-38.65, p<0.0001), and lower social class (OR=0.56, 95%CI=0.39-0.79, p<0.0012). The child's ethnicity and age were not significantly associated with child mental health problems according to parent SDQ ratings.

Based on teachers' SDQ ratings, the following socio-demographic variables were found to be significant predictors of the 'abnormal' SDQ category: male gender (OR=1.64, 95%CI=1.25-2.14, p<0.0003), lower teacher's qualification (OR=2.41, 95%CI=1.51-3.86, p<0.0002), limited teaching experience (OR=0.38, 95%CI=0.21-0.67, p=0.0008), poor school attendance (OR=2.39, 95%CI=1.69-3.39, p<0.0001), and worse academic performance (OR=1.71, 95%CI=1.21-2.42, p<0.0024).

Multivariate regression models

Variables with a p-value less than 0.1 were selected for inclusion in the multivariate ordinal regression models. The final multivariate regression models are reported in Tables 1 and 2. The multivariate analyses were adjusted for gender and school type, as these two variables were among the sample selection criteria.

Model 1: Parent SDQ

The final parent multivariate model was selected using backward stepwise ordinal regression. Variables with p-values >0.05 were successively removed from the model in an iterative process which involved re-running the model after each non-significant variable had been removed. Only variables with a p-value<0.05 were retained in the final model (Table 1). Odds (95% CI) of being in a abnormal SDQ category were a consequence of: being male (OR=1.47, 1.12-1.96, p<0.0054); attending a public rather than NGO (OR=4.17, 2.94-6.25,

Table 1

Multivariate ordinal regression analysis of association between risk factors and rates of likely child mental health problems based on parents and teacher rated SDQ

Predictor Parent SDQ	OR	95% CI	P	Predictor Teacher SDQ	OR	95% CI	P
Gender				**Gender**			
Male v Female	1.48	(1.12, 1.96)	0.0054	Male v Female	1.48	(1.11, 1.96)	0.0078
School Type			<0.000	**Teacher**			<0.0001
Government v NGO	4.17	(2.94, 6.25)	1	**Qualification**	1.29	(0.75, 2.21)	0.3501
Government v	8.33	(5.55, 12.5)	<0.000	Postgraduate v	1.50	(0.91, 2.46)	0.1073
Private	0.50	(0.36, 0.70)	1	Bachelors	3.76	(2.20, 6.41)	<0.0001
Private v NGO			<0.000	Postgraduate v			
			1	Intermediate			
			<0.000	Postgraduate v			
			1	Matric			
Physical Illness				**Years Teaching**			<0.0001
Ill v not ill	2.83	(1.89, 4.23)	<0.000	**Expeience**	0.33	(0.14, 0.77)	0.0103
			1	0-1 v >10 years	0.16	(0.07, 0.34)	<0.0001
				1 v >10 years	0.16	(0.08, 0.32)	<0.0001
				2-4 v >10 years	0.12	(0.06, 0.25)	<0.0001
				>5 v >10 years			
Neighbourhood			<0.000	**Atttendance**			0.0103
Urban v Rural	46.3	(21.7, 99.1)	1	Good v Very Good	1.41	(0.93, 2.12)	0.1006
Urban v Slums	1.73	(1.3, 2.3)	<0.000	Not Satisfactory v	1.62	(1.01, 2.61)	0.0463
			1	Very Good	0.81	(0.48, 1.35)	0.4130
				Satisfied v			
				Very Good			
Head of Family			<0.000	**Performance**			<0.0001
Grandfather v	1.88	(1.39, 2.54)	1	Good v Very Good	2.58	(1.69, 3.92)	<0.0001
Father	3.45	(1.44,8.24)	<0.000	Not Satisfactory v	2.68	(1.62, 4.43)	0.0001
Grandfather v	2.43	(1.17, 5.03)	1	Very Good	2.90	(1.77, 4.75)	<0.0001
Father	2.41	(1.05, 5.41)	<0.0053	Not Satisfactory v			
Mother v Father			0.0172	Satisfactory v			
Other v Father			0.0324	Very Good			

Table 2

Multivariable logistic regression analysis for identifying factors associated with parent and teacher's SDQ subscales rating of school children

	Emotional	Conduct	Hyperactivity
School type	—	1.5 (1.3-1.9) 0.000*	—
Gender	—	0.6 (0.5-0.9) 0.008*	0.5 (0.3-0.7) 0.000*
Mother education	0.8 (0.7-0.9) 0.043*	—	—
Physical illness	0.3 (0.2- 0.4) 0.000*	0.3 (0.2- 0.5) 0.000*	0.5 (0.3- 0.7) 0.001*
Neighborhood	0.7 (0.6- 0.8) 0.000*	0.5 (0.4- 0.6) 0.000*	0.5 (0.4- 0.6) 0.000*

p<0.0001) or private school (OR=8.33, 5.55-12.5, p<0.0001); being physically ill (OR=2.83, 1.89-4.23, p<0.0001); residing in an urban rather than rural neighbourhood (OR=46.34, 21.7-99.1, p<0.0001) or slums (OR=1.73, 1.3-2.3, p<0.0002); and having a head of the family other than the father (all categories significantly worse than father being the head of family).

Model 2: Teacher SDQ

The final teacher multivariate model was selected using similar backward stepwise ordinal regression

(Table 2). Odds (95% CI) of being in a abnormal SDQ category were a consequence of: being male (OR=1.48, 95%CI=1.11-1.96, p<0.0069); teacher not having a post graduate qualification (overall p value<0.0001), or having less teaching experience (overall p-value<0.0001); unsatisfactory school attendance (OR=1.62, 95%CI=1.01-2.61, p<0.0463); and not having very good academic performance (p-value for all categories versus very good p<0.0001).

The results of subscale specific analyses for the parent and teacher SDQ scores in the cross-sectional data are reported in Table 2. The variables independently associated with emotional symptoms are mother's education, neighbourhood and poor general health. The variables associated with conduct problems are gender, school type, physical heath and family neighbourhood. The factors associated with hyperactivity and inattention are gender, physical health and neighbourhood. Thus, there is considerable difference between risk factors for different subscales of psychopathology; however the family's residential neighbourhood and child physical health serve as prominent risk factors for child mental health problems.

DISCUSSION

This survey was carried out with the objective to determine the socio-educational risk factors in Karachi. In this study child school type, poor physical illness, male gender, mother employment, females as head of family unit, poor teacher's qualification, and poor child school attendance remained significant. Poor physical health and deprived neighbourhood was associated with all types of psychopathology, however marked differences in risk factors were observed for different types of psychopathology, emotional symptoms were associated with mother's education, and school type was significantly associated with hyperactivity. Gender was associated both with conduct problems and hyperactivity. These findings generally replicate those of the developed countries [3] which used identical measures of psychopathology as well as broadly replicated studies from other low-and middle-income countries that used different measures of psychopathology [20]. Females are at greater risk of emotional problems and males at greater risk of externalizing problems, a pattern familiar across the world[21-22]. Parents and teachers reported males as displaying a significantly higher number of total behavioural problems than females, similar to findings in many other studies. Male gender has been consistently reported in literature as a predictor of psychopathology. A higher prevalence among boys was found in most studies except the one conducted in Alain which found a female preponderance[23]. The established link between physical and mental health problems was consistent with previous findings from general population and clinical studies[24-26]. Poor physical health has repeatedly been shown to be associated with poor mental health, particularly emotional disorders. There is also some evidence that malnutrition, perinatal complications, and CNS infections can play a role, although evidence of all of these factors is patchy and hard to interpret[22]. Psychological and educational factors such as low intelligence and school failure are powerful predictors of poor mental health in all low- and middle-income settings in which they have been examined[22]. Experiencing adverse life events such as bereavement and parental divorce has also been found to be an important predictor of poor child mental health [22-23]. This study also found higher rates of mental health problems amongst children living in urban neighbourhoods compared to other areas. The major British survey conducted by the Office of National Statistics[14] also demonstrated that children in deprived conditions were at a higher risk. Two studies from the Netherlands found that behavioural problems in both childhood[27] and early adolescence[28] were more common among children living in deprived neighbourhoods, even after adjusting for family socioeconomic status, age and gender. Recent epidemiological studies in developing countries have also established higher rates of disorders in urban and slums regions compared to children living in rural settings[8]. The attributable risk of low income for child psychiatric disorders is strongest for conduct disorders, which are also associated with school failure[29]. Studies also show a gender difference in the risk for disorders among children living in adversity. It is well established that conduct disorder is three to four times more prevalent in children who live in socio-economically deprived families with low income, or who live in a poor neighborhood [30].

It is important to note that the mechanisms that place poor children at increased risk of developing psychiatric disorders may be mediated by parental and family factors, rather than the economic disadvantage itself. It is equally likely that poverty imposes stress on parents and that this inhibits family processes of informal social control, in turn increasing the risks of harsh parenting and reducing parents' emotional availability to meet their children's needs [31]. The cross-sectional nature of the data prevents us from judging the direction of causality. Many of the independent family factors associated with childhood psychiatric disorder could be accounted for by reverse causality. For instance, children's problems could undermine parental stressors or interfere with family functioning. There is a need to follow a sample of these children and collect longitudinal evidence of identified risk factors.

School type has not so far been reported in the literature except one study carried out in Brazil, where similar to our findings the most striking difference by school type was the substantially higher prevalence of psychiatric disorders as a whole among children attending public schools as opposed to private schools[10]. In Pakistani setting government and community schools are generally over crowded and under funded thus leading to poor quality education and lack of discipline which

may result in expression of behavioral problems[32]. In our present study parents of government schools children rated higher estimates of mental health problems amongst their children compared to children attending private schools. The same trend is also seen in the Brazilian study where children attending public schools had a higher prevalence of oppositional or conduct disorders[10]. Lupton [33, 34] found a strong relationship between levels of deprivation and the 'quality' of schools in an area. This is especially important in developing countries, where education systems are already challenged by inadequate resources, crowded classrooms and inconsistent quality. Research has found that the quality of school environment can serve as a risk factor for learning and emotional problems and increase the risk for early drop outs [35].

Studies specifically examining the causes of school failure have found that behavioural, emotional and learning difficulties constitute prominent risk factors. For example Indian study found that mental health problems were independent risk factors for later school drop-outs [36]. Another case control study from Brazil reported a strong association between school drop-out and conduct disorder[37]. Several of the studies have highlighted multiple informants such as teachers, parents and self-report, offer a more comprehensive picture of child mental health problems as they tend to be situation specific[14]. Our study also reported that compared to their colleagues, experienced and qualified teacher are better able to detect pupils with emotional and behavioural issues. Qualified teachers have considerable experience of developmentally appropriate behaviours. Previous studies have demonstrated that educational interventions involving brief training sessions can improve the accuracy of both teacher and GP identification of depressed adolescents [38]. The same results have been obtained for teacher recognition of ADHD and classroom based management techniques[39]. Similar results were also obtained in a pilot study with Pakistani school teachers. Qualified teacher who attended a brief course on child mental health were better able to identify children with behavioural difficulties and effectively manage the pupils in classroom environment [40].

LIMITATIONS

The sampling unit for the present study was schools, which 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 children in developing countries including Pakistan do not have access to formal education, therefore the generalizability of findings of this study is limited only to school attending children. Most parents in private schools were able to fill out the questionnaires, however parents in community and government schools were assisted by the researcher in filling out the forms this could have resulted in bias. Although we attempted to educate the participating parents about mental health problems among children, the low response rate of the study could be due to the stigma, low literacy levels and a lack of awareness amongst the general population. The families that opted out or refused to take part may well differ from participants in their exposure to risk factors, previous researchers suggests that the under-privileged and those living in inner cities are less likely to participate in research and have higher rates of psychiatric illness, hence its essential to adjust for non-respondents. A major drawback of the study is the use of screening tools as a measure to determine prevalence as opposed to a diagnostic interview and therefore resulting in prevalence higher rates. This study is also limited by what we did not measure. For example, we lack information on adverse life events, which other studies have suggested may be important [36]. This is an important task for the future.

CONCLUSIONS AND IMPLICATIONS

This exploratory study suggests that the presence of behavioural disorders in the Pakistani sample was associated with the male gender, school type and poor physical illness, mother occupation, lower teacher qualification, as well as poor academic performance and school attendance. The child and family factors that remained as independent factors are potential determinants of childhood psychiatric disorder and thus potential targets for intervention or prevention. These findings emphasise the importance of child mental health professionals working closely with other professional including paediatricians and educational authorities. Priorities for future research are to strengthen and expand our understanding of the risk factors associated with child psychopathology and also to delineate their causal pathways more precisely to identify suitable targets for intervention based on the specific needs of the Pakistani school children in various settings.

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