Final remarks

Brazilian healthcare reform has not been a success. 'Minor legislation' (such as decrees) enacted at the national level by the Ministry of Health, or at the state or local-government level, has been used to subvert Law 10.216, by closing psychiatric beds and psychiatric hospitals before sufficient community services have been established, while the opening of psychiatric beds in general hospitals is discouraged by the legislation. Sadly, those with mental disorder who do not have access to adequate mental health services remain at home in an impoverished state, wander the streets, are locked in prisons or present at general emergency rooms.

References

Amarante, P. (1998) *Loucos Pela Vida: A Trajetória da Reforma Psiquiátrica no Brasil* [*Crazies for Life: Psychiatric Reform in Brazil*] (2nd edn). FIOCRUZ.

World Health Organization (1992) *The ICD-10 Classification of Mental and Behavioural Disorders* (10th revision) (ICD-10). WHO.

RESEARCH PAPER

School-based survey of psychiatric disorders among Pakistani children: a feasibility study

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The study reported here was completed by the Learning Support Unit (LSU) of the Sindh Education Foundation (SEF) in Karachi, Pakistan. We graciously render our deepest gratitude to all the parents and teachers who kindly participated in the study and to the entire research team. Special thanks to Professor Howard Meltzer, one of the leading researchers in child psychiatric epidemiology, Dr Susan Purdon from the National Centre for Social Research (NatCen), who checked that the survey weights were correctly calculated, and Professor Ambrosini, for his advice on the K-SADS. We are grateful to the Rawji Educational Trust Belgium for providing funds for the study.

A cross-sectional survey of children aged 5–11 years attending 22 primary schools was carried out in Karachi, Pakistan. In the first (screening) phase, broad morbidity rates were measured using the Strengths and Difficulties Questionnaire (SDQ). A total of 968 parents and 793 teachers participated. In the second phase, 100 children were selected for a diagnostic interview using the Kiddie Schedule of Affective Disorders & Schizophrenia for School-Age Children. A weighted rate of 17% (95% CI 6.2–28.3%) was found for common child psychiatric disorders, with a preponderance of behavioural disorders, followed by anxiety and mood disorders. The feasibility study established methods and preliminary rates of child psychiatric disorders, which appear higher than in other countries. School surveys could be an important source of data in low-income countries and form the basis for interventions in the absence of specialist services.

A review of non-clinic-based epidemiological studies from 51 Asian countries found that the prevalence of child psychiatric disorders ranged from 10% to 20% (Srinath *et al*, 2010). Most such studies from low-income countries have reported higher prevalence rates than studies conducted in high-income countries, which have, overall, estimated the prevalence at approximately 10% (Green *et al*, 2005).

In Pakistan, the scarcity of child mental health services mirrors the limitation of evidence-based studies on children's needs and how these should be met (Jawaid & Rehman, 2007). A survey conducted two decades ago produced an estimate of 9% for the prevalence of behavioural and emotional problems among children (Javad *et al*, 1992).

The increasing public concern over child mental health in Pakistan has highlighted the need for more accurate and up-to-date knowledge on prevalence rates (Syed *et al*, 2007). This was the rationale for the present two-stage preliminary study, which aimed to develop and test methods, and to establish the rates of common psychiatric disorders among children at primary school in Karachi. The long-term objective is to apply these methods in a later definitive epidemiological study.

Method

Setting and sampling strategy

The study was conducted in Karachi primary schools (for children aged 5–11 years). The educational system in Pakistan comprises public or government schools, community schools (typically run by non-governmental organisations) and private schools. In order to maximise the representativeness of the sample, schools of all three types were invited to participate. Table 1 provides the demographic profile of the study sample. Central Karachi has a total of 1380 primary schools. Twenty-seven schools were randomly selected and 22 agreed to participate – seven private, seven government and eight community schools. The five schools (two private and three community schools) that declined to take part in the study asserted that the topic might upset parents or was irrelevant to their pupils. After schools had consented to participate, the researcher (SAH) identified the sample of children using a pseudo-random technique, based on alternating odd–even serial numbers on the attendance register; school authorities selected this technique for pragmatic reasons. A sample of 2188 children aged 5–11 years was selected. The parents of 1003 of these children agreed to participate, and in the first screening stage data were collected from 968 parents and 793 teachers.

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Table 1
Sociodemographic characteristics of the sample (n = 968)

	n (%)
Gender	
Male	515 (53.2)
Female	453 (46.8)
School type	
Private school	272 (28.1)
Community school	368 (38.0)
Government school	328 (33.9)
Mother's education	
Not educated	591 (61.1)
<10 years of schooling	125 (12.9)
10–12 years of schooling	176 (18.2)
Graduate degree/higher	76 (7.9)
Father's education	
Not educated	340 (35.1)
<10 years of schooling	264 (27.3)
10–12 years of schooling	207 (21.4)
Graduate degree/higher	157 (16.2)
Father's occupation	
Unemployed	258 (26.7)
Business	131 (13.5)
Government	139 (14.4)
Skilled labour	176 (18.2)
Private employment	264 (27.3)
Mother's occupation	
Unemployed	725 (74.9)
Business	1 (0.1)
Government	45 (4.6)
Skilled labour	154 (15.9)
Private employment	43 (4.4)

Measures

Screening phase

The first phase was conducted using the Urdu version of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001), completed by parents and teachers. The SDQ has acceptable reliability and validity and has been previously used in Pakistan (Samad *et al*, 2005).

Interview phase

Recruitment for the second phase depended on the SDQ results of the screening phase. Because of lack of resources and time constraints, it was not possible to interview all the children that the SDQ recorded as 'cases'. Therefore, a sample of 100 children was randomly selected (via computer randomisation), comprising 50 SDQ high scorers (scoring 17 or more; screen positive) and 50 SDQ low scorers (scoring < 17; screen negative). This sample was further assessed by the researcher using the Kiddie Schedule of Affective Disorders and Schizophrenia for School-Age Children (6–18 years) (K-SADS-P-IV-R; Ambrosini & Dixon, 1996). The in-depth assessment interview was carried out at the school or home as per parents' choice. All parents invited to take part in this phase agreed to do so. The interview was conducted with mothers, because of their availability and proximity to the child. All interviews were conducted by the researcher (SAH), who maintained regular communication with Professor Ambrosini for advice and support for the effective use of the instrument. Details of the translation and adaptation procedure have been published separately (Hussein & Vostanis, 2008).

Children's Global Assessment Scale (C-GAS)

The Children's Global Assessment Scale (C-GAS) (Shaffer *et al*, 1983) was used by the researcher (who had been trained in its use) to assimilate and synthesise knowledge about the child's psychosocial functioning, and to condense it into a single index.

Statistical analysis

Descriptive statistics were computed for sociodemographic characteristics. To calculate likely prevalence rates in this study, the data were weighted at two stages: first, to take into account disproportionate sampling from within gender and school groups; and subsequently, in the calculation of weights to take into account disproportionate sampling of SDQ scores within the gender/school group strata. To analyse the sample survey data, the SURVEYFREQ procedure in SAS 9.1 was used, which incorporated the sample design into the analysis. Descriptive statistics were generated using SPSS version 14.5.

Results

Weighted DSM-IV rates of common child psychiatric disorders

Of the 100 children interviewed at stage 2, 26 had at least one DSM-IV diagnosis (16 boys and 10 girls), giving a prevalence rate of 17.3% for Karachi as a whole (95% CI 6.2–28.3%), after adjusting for the oversampling of SDQ high scores and school type, and weighting them back to the general population (Table 2). All but one child diagnosed as a clinical 'case' had been 'screen positive' on the SDQ. Of the broad diagnostic categories, behavioural disorders were the most common (10.2%), followed by anxiety (4.2%) and mood disorders (2.9%).

Rates according to gender and school type

Since the second-stage sample consisted of 100 children, there was limited power to conduct statistical tests for comparison of prevalence rates according to school type and gender. Descriptive analysis suggested that, overall, the prevalence was

Table 2
DSM-IV rates of child psychiatric disorders using the K-SADS diagnostic interview, with C-GAS impairment

Disorders	Prevalence rate (%)	95% CI (%)
Any disorder	17.3	6.2–28.3
Anxiety disorders	4.2	0.0–8.7
Generalised	3.5	1.0–5.3
Avoidant	0.2	0.1–0.4
Separation	0.1	0.0–0.2
Phobia	0.1	0.0–0.2
Overanxious	0.3	0.0–0.6
Behavioural disorders	10.2	6.3–15.4
Attention-deficit hyperactivity disorder	5.5	0.3–10.7
Oppositional defiant disorder	4.7	0.0–9.5
Mood disorders	2.9	0.0–7.0

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slightly higher in girls (17.6%; 95% CI 3.6–31.6%) than in boys (16.9%; 95% CI 0.0–33.8%). The prevalence of behavioural disorders, including oppositional defiant disorder (ODD) and attention-deficit hyperactivity disorder (ADHD), appeared to be higher in boys than in girls, while the prevalence of anxiety and mood disorders appeared to be higher in girls. Children attending government schools had the highest prevalence of any disorder (21.2%; 95% CI 6.5–35.9%), followed by community (19.1%; 95% CI 5.9–32.4%) and private schools (13.9%; 95% CI 0.0–29.3%). Among children attending private schools, ADHD (6.1%; 95% CI 0.1–14.7%) was the most common diagnosis, followed by anxiety (4.6%; 95% CI 0.0–11.7) and ODD (3.1%; 95% CI 0.0–8.5%).

Discussion

There is little information on child mental health problems in Pakistan. This is the first study of its kind conducted in Karachi on school children. It found that around 17% of Pakistani children aged 5–11 years have emotional and behavioural problems that are severe enough to result in significant distress or social impairment, thereby warranting a clinical assessment and possible intervention. A review of non-clinic-based epidemiological studies from 51 Asian countries showed that the prevalence of mental health problems/disorders is in the range 10–20% (Srinath *et al*, 2010). Thus, our estimate of 17%, although at the high end, falls within the range of results from previous studies conducted in low-income countries.

Consistent with previous studies in Pakistan, behavioural disorder was the most frequent diagnosis. However, clinical studies in Pakistan have shown that, although most referred children have behavioural problems, substantial proportions are not diagnosed with disruptive disorders. This seems to indicate that mental health or developmental problems may have been masked by behaviour that was misinterpreted as oppositional (Syed *et al*, 2007). This study found higher rates of emotional disorders, including both anxiety and mood disorders, than have studies conducted in other countries. In their review, Mirza & Jenkins (2004) reported that socioeconomic adversity and relationship problems were major risk factors for anxiety and depressive disorders among Pakistani adults. It is essential that these risk and protective factors are investigated among Pakistani children.

The findings of the present feasibility study have implications for policy and service development. The differences in the rates of child psychiatric disorders between the three main school types highlight the importance of providing flexible interventions and services for different educational institutions, in particular in areas of socioeconomic deprivation. There is an urgent need to train teachers to be able to identify child mental health problems, apply school-based management techniques and make appropriate and timely referrals of children with complex disorders to the sparse specialist services (Tareen *et al*, 2009).

Brief training sessions can improve accuracy in the identification of children and young people with mental health problems, on the part of both teachers and general practitioners. Teachers who attend a brief course on child mental health have been shown to be better able to identify behavioural difficulties and to manage them in the classroom. The effectiveness of such interventions indicates that it is possible to conduct school-based interventions using limited resources. These findings are particularly relevant to low-income countries.

Children with mental ill-health have an adverse effect on a country's productivity and economic stability. Further studies will enhance our understanding of the patterns of comorbidity, perceived treatment needs and psychosocial correlates. A comprehensive cross-sectional study is needed in Pakistan with a more sound methodology, a wider sample and some exploration of culture-specific aspects of behaviour indicating difficulty or distress. A qualitative study focusing on parental attitudes to and perceptions of mental health problems in children and adolescents would provide the information needed to design an appropriate longitudinal study to investigate the prevalence of and risk factors for child mental health problems in Pakistan. These future studies will help policymakers to develop services and interventions.

References

Ambrosini, P. & Dixon, J. (1996) *Schedule for Affective Disorders and Schizophrenia for School-Age Children – Version IVR* (K-SADS-IVR). Medical College of Pennsylvania, Eastern Pennsylvania Psychiatric Institute.

Goodman, R. (2001) Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry*, **40**, 1337–1345.

Green, H., Mc Ginnity, A., Meltzer, H., et al (2005) *Mental Health of Children and Young People in Great Britain*. Office for National Statistics.

Hussein, S. A. & Vostanis, P. (2008) Urdu translation and cultural adaptation of the Schedule for Affective Disorders & Schizophrenia for School Age Children (6–18 yrs) K–SADS–IV R. *Journal of Pakistan Psychiatric Society*, **5**, 81–85.

Javad, A. M., Kundi, M. Z. & Khan, A. P. (1992) Emotional and behavioural problems among school children in Pakistan. *Journal of Pakistan Medical Association*, **42**, 181–184.

Jawaid, A. & Rehman, T. (2007) Paediatric mental health in Pakistan: a neglected avenue. *Journal of Pakistan Medical Association*, **57**, 50–51.

Mirza, I. & Jenkins, R. (2004) Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan: systematic review. *BMJ*, **328**, 794.

Samad, L., Hollis, C., Prince, M., *et al* (2005) Child and adolescent psychopathology in a developing country: testing the validity of the Strengths and Difficulties Questionnaire (Urdu version). *International Journal of Methods in Psychiatric Research*, **14**, 158–166.

Shaffer, D., Gould, M. S., Brasic, J., *et al* (1983) Children's Global Assessment Scale (CGAS). *Archives of General Psychiatry*, **40**, 1228–1231.

Srinath, S., Kandasamy, P. & Golhar, T. S. (2010) Epidemiology of child and adolescent mental health disorders in Asia. *Current Opinion in Psychiatry*, **23**, 330–336.

Syed, E. U., Hussein, S. A. & Yousafzai, W. (2007) Developing services with limited resources: establishing a CAMHS in Pakistan. *Child and Adolescent Mental Health*, **12**, 121–124.

Tareen, A., Mirza, I., Minhas, A., *et al* (2009) Developing child and adolescent mental health services in a low-income country: a global partnership model. *Psychiatric Bulletin*, **33**, 181–183.

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