



Patterns of psychiatric morbidity among children and adolescents presenting to an outpatient child and adolescent mental health service (CAMHS) in a Teaching Hospital in Colombo, Sri Lanka—Challenges and implications for service development

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1. Introduction

Sri Lanka is an island nation in the Indian Ocean, southeast of the Indian subcontinent with a population of 21 million (Department of census and statistics, Sri Lanka). According to the Sri Lanka Child Activity Survey 2016 (CAS, 2016), the total number of children in the age group of 5–17 years is estimated at nearly 4.6 million. (Ministry of National Policies and Economic Affairs, 2016).

Epidemiological studies suggest that psychiatric disorders are present in an approximately 10–25% of children and adolescents (Goodman and Scott, 2012). Previous literature suggests that 13.8% of school children between the ages of 7–11 years in Sri Lanka suffer from behavioural and emotional disorders (Ginige et al., 2014). Perera et al. have found that the prevalence of autism among 18–24-month olds in Sri Lanka to be 1.07% (Perera et al., 2009). Therefore, it is quite apparent that there is a huge burden of mental health problems among children and adolescents in Sri Lanka.

Due to the unique presentation of mental health problems in children and adolescents and the difference in the treatment modalities, the need for separate child and adolescent psychiatric services has been recognized in the West since the late nineteenth century (Schowalter, 2003; Wardle, 1991). The first child guidance clinic had been established in the USA in 1917 (Wardle, 1991), but the first of its kind in Sri Lanka was established at the Colombo General Hospital, nearly 30 years later (Gambheera, 2016, 2011). The child and adolescent psychiatry as a subspecialty was first offered to Sri Lankan postgraduates in psychiatry as late as 2011. At present, there are only 8 board certified child and adolescent psychiatrists in Sri Lanka. Therefore, a great majority of children and adolescents are still under the care of the general adult psychiatrists.

Colombo South Teaching Hospital (CSTH) is the second largest government hospital in Colombo district, located at the edge of Colombo's city limits, Kalubowila. It is a tertiary care hospital with bed strength of 1110 and approximately 2600 staff involved in patient care. It provides treatment to about 150 000 inward patients and 750 000 out

patients annually. It serves as the Teaching Hospital of the Faculty of Medical Sciences, University of Sri Jayewardenepura. The university psychiatry unit at the Colombo South Teaching Hospital was established in 1996 and the unit has 5 general adult psychiatrists at present. However, the first board certified child and adolescent psychiatrist was appointed to the unit in April 2018. Up until then, the child and adolescent mental health service was under the supervision of the general adult psychiatrists. Patients can be referred to the CAMHS by any of the other clinical disciplines of the hospital or from the community via schools, primary health care workers, residential homes or the respective families. At present, the Child and Adolescent Mental Health Service (CAMHS) comprises of predominantly an outpatient service. Children under 12 years needing inpatient treatment are referred to the Lady Ridgeway Hospital for Children, which is the only hospital in Colombo to have a separate child psychiatry inpatient facility. Even the situation with regard to the adolescents is not much different as the country has only one designated adolescent psychiatry inpatient unit, which is at the National Institute of Mental Health (NIMH). Therefore, the adolescents presenting to the CAMHS who require inpatient care are often admitted to the adult inpatient unit at the CSTH, under the care of the Child and Adolescent Psychiatrist.

This article describes the patterns of psychiatric morbidity among children and adolescents presenting to the outpatient services of the CAMHS in the Colombo South Teaching Hospital in 2018 and discuss the challenges and implications for the development of child and adolescent psychiatric services in Sri Lanka.

2. Methodology

This is a retrospective study based on clinic records of outpatients, presenting to the Child and Adolescent Mental Health Services (CAMHS) of the University Psychiatry Unit of the Colombo South Teaching Hospital, over the one year period from 1st January 2018 to 31st December 2018. Data was collected using a specifically designed data extraction form. All patients had been diagnosed by the consultant

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psychiatrist/consultant child and adolescent psychiatrist according to the International Classification of Diseases, 10th edition (ICD-10).

3. Results

A total of 403 children and adolescents had presented to the CAMHS during the year 2018, of which 14.4% comprised of patient referred to the university Psychiatry unit.

3.1. Socio-demographic factors

The age of the patients ranged from 2 years to 18 years, with a mean age of 11.3. The majority of them (56.6%) were below 12 years of age. Males comprised of 51.8% of the sample. The highest numbers (87.6%) were from the Colombo district, followed by 7.4% from Kalutara district.

The parents of 68.9% of the referred children were married, 12.4% were separated and 4.7% were widowed. The majority of children (62.2%) were living with both their parents, while 16.3% were living with a single parent. Four-point nine percent (4.9%) of the children were in the care of their relatives while 5.2% were in out of home care.

The parents of 7.4% (n = 30) of the children were on treatment for a psychiatric illness and a sizable number of fathers (7.7%, n = 31) had a history of alcohol dependence.

3.2. Mode of referral

The highest numbers of referrals were from the paediatric units (22.1%), followed by patients brought by the family (19.6%). Thirteen-point eight percent (13.9%) had been referred by the Judicial Medical Officer, for the assessment for medico-legal purposes (Table 1).

3.3. Presenting complaint

The commonest presenting complaint was poor school performance (26%), followed by hyperactivity (16.1%) and inattention (15.8%). Sixteen point one percent presented following some form of abuse such as sexual abuse (8.93%), physical abuse (4.46%) and emotional abuse (2.72%). Irritability (11.4%) and deliberate self-harm (10.1%) were the next most frequent presentations. Some children presented with more than one complaint (Table 2).

3.4. Diagnosis

The most common diagnosis was Attention Deficit Hyperactivity Disorder (ADHD) (13.9%, n = 56), followed by depression (10.6%, n = 43).

3.5. Treatment

Medications were prescribed for 32.8% (n = 132) and psychological

Table 2
Presenting complaint.

Presenting complaint	Percentage (n)
Poor school performance	26.0 (105)
Hyperactivity	16.1 (65)
Inattention	15.8 (64)
Alleged abuse	16.1 (65)
Irritability	11.4 (46)
Deliberate self-harm	10.1 (41)
School refusal	9.4 (38)
Poor anger control	9.1 (37)
Fearfulness	9.1 (37)
Abnormal behaviour	8.9 (36)
Enuresis	8.6 (35)
Low mood	5.4 (22)
Somatic complaints	4.4 (18)
Repeated thoughts/compulsions	3.9 (16)
Poor sleep	3.2 (13)

therapy was provided for 46.1% (n = 186). Thirteen point eight percent (n = 56) and 6.2% (n = 25) were referred for occupational therapy and speech and language therapy respectively.

Among those prescribed medication, the commonest medication used was methylphenidate (56.8%, n = 75), followed by fluoxetine (28.7%, n = 38) and Risperidone (18.1%, n = 24).

4. Discussion

4.1. Patterns of psychiatric morbidity

The commonest presenting complaint was poor school performance. This was consistent with a study done in India in 2017, which revealed that the academic problems were the commonest reason for presentation (Landge et al., 2017). The great emphasis placed on academic success; an inherent feature in the Asian culture maybe the reason for this presentation.

The commonest source of referral was the paediatricians, which was similar to many other Asian countries (Landge et al., 2017; Khan et al., 2009; Nasim and Ho, 2018). However, the percentage of children referred for assessment for medico-legal purposes following abuse in our study was much higher (13.8%, n = 56) than in other countries (Landge et al., 2017; Khan et al., 2009; Nasim and Ho, 2018; Chapagai et al., 2013; Tunde-Ayinmode, 2017; Kamau et al., 2017; Pedrini et al., 2015). Possible reasons for this higher number of referrals by the Judicial Medical Officers (JMO) may be due to their greater awareness of the psychological consequences of abuse, higher prevalence of child abuse in Sri Lanka, the lack of separate services to cater to children who have suffered from abuse or the higher reporting of the incidences of abuse by the children in Sri Lanka. It could also be that some of the medico-legal referrals to the child and adolescent psychiatrist may have been unwarranted, especially where an assessment by a Child and Adolescent Psychiatrist confers no additional benefit. Further studies are needed in order to identify the plausible reasons. In contrast, although the referrals from school teachers were comparable with the studies done in Pakistan (Khan et al., 2009; Syed et al., 2007), it was lower than that in other countries (Landge et al., 2017; Kamau et al., 2017; Pedrini et al., 2015), which may point towards poor awareness of child mental health problems among teachers in Sri Lanka.

The commonest diagnosis was Attention Deficit Hyperactivity Disorder (ADHD). A high percentage of ADHD was also found in studies done in other South Asian countries (Landge et al., 2017; Syed et al., 2007; Sarwat et al., 2009). However, the proportion of children diagnosed with mental retardation was lower in our sample in contrast to other Asian countries (Khan et al., 2009; Chapagai et al., 2013; Solanki and Rastogi, 2017; Dahlan et al., 2018). One possible reason for this is that the proportions of referrals from paediatric units akin to some of

Table 1
Mode of referral.

Mode of referral	Percentage
Paediatrician	22.1 (89)
Family	19.6 (79)
Out Patients Department	18.6 (75)
Judicial Medical Officer	13.9 (56)
Medical/surgical wards	12.9 (52)
Teacher	5.2 (21)
General Practitioner	4.7 (19)
Secondary care hospitals	2.0 (08)
Courts	0.75 (03)
Neurologist	0.25 (01)

these services mentioned were much higher than in to our unit (69% vs 22%) (Khan et al., 2009). In addition, some of these child mental health services are entrusted with the task of disability certification when children are brought to them through the child guidance clinic, which may contribute to the high percentage of mental retardation (Solanki and Rastogi, 2017). Lower percentage of mental retardation in our study sample could also be due to lower help-seeking attitude among Sri Lankan parents and needs further investigation.

Most epidemiological studies show that disruptive behavioural disorders are the commonest disorders among children and adolescents, amounting to 5–10% of the population (Goodman and Scott, 2012). However, disruptive behavioural disorders accounted for only 3% of the diagnosis in our study sample. This may be due to poor help seeking practices among parents of low socio-economic background, where disruptive behavioural disorders are more common; or greater tolerance of disruptive behaviour in the Sri Lankan culture.

Anxiety disorders are described to be the second commonest in epidemiological studies (Goodman and Scott, 2012). A recent study done in India found the prevalence of anxiety disorders among adolescents to be 16.6% (Madasu et al., 2019). However, anxiety disorders were present in only 3.7% of the children and adolescents presenting to our unit. This could be due to the fact that the anxiety disorders in children and adolescents that often present as somatic symptoms may have presented to paediatric units or general practitioners rather than to the CAMHS.

4.2. Challenges

The major challenge in providing CAMHS in Sri Lanka is the lack of human resources. This is amply demonstrated by the presence of only 8 board certified Child and Adolescent Psychiatrists for a population of 21 million. Therefore, children and adolescents are mostly managed by general adult psychiatrists, who have received three month training in child and adolescent psychiatry during their registrar training period. There is also a dearth of other multi-disciplinary specialists such as educational psychologists, speech and language therapists, occupational therapists and Psychiatric social workers, which makes the situation even more complicated. The University Psychiatry unit described herein has only 2 psychology trainees to provide care for all age groups of patients and there are no specific psychologists attached to the CAMHS. Similarly, there are only 2 speech and language therapists for the entire Colombo south Teaching Hospital and 2 occupational therapists attached to the university psychiatry unit cater to all age groups. This results in long waiting lists for speech and language therapy and occupational therapy.

Although, poor school performance was the commonest presentation; assessment of such children poses a challenge due to the lack of educational psychologists and lack of validated instruments. The Weschler Intelligence Scale for Children (WISC), which is the gold standard in measuring intelligence in children, has not been validated in Sri Lanka. In addition, the lack of trained personnel and the lengthy duration of administration make the use of the WISC unfeasible in the Sri Lankan setting. Currently the widely used instrument to assess intellectual functioning (IQ) in CAMHS in Sri Lanka is the Test of Non Verbal Intelligence; 3rd edition (TONI-3). The TONI-3 provides a language free measurement of cognitive function, which has shown to be especially useful in populations, whose mother tongue is not English (Coleman et al., 1993; Goldberg Edelson et al., 1998). Similarly, the ADOS, which is the gold standard assessment tool in diagnosing autism, has not been validated in Sri Lanka, which makes assessment of children with Autism Spectrum Disorder a challenge.

Scarcity of pharmacological options for children and adolescents is another problem in managing children in the Sri Lankan setting. Methylphenidate was the commonest medication used in our service. However, only the short acting form is available in Sri Lanka, which necessitates an additional dose to be administered at school due to its

short duration of action. This often results in children forgetting to take the dose and also possible stigma that can go with it when the fellow students get to know that the child is on treatment for a psychiatric disorder. In addition, although fluoxetine is the recommended drug for depression in children less than 12 years of age (Taylor et al., 2018) and the second common drug that was prescribed by us, only 20 mg capsules are available in Sri Lanka. This causes difficulty in dosing in younger children. Furthermore, the hospital only has Risperidone 2 mg tablets and patients often had to purchase Risperidone 1 mg tablets from the private sector for feasibility in dosing, which was an economic burden for those with financial difficulties.

4.3. Implications for service development

The first step towards developing CAMHS in Sri Lanka should be the development of human resources. According to the mental health atlas 2017, currently there are only 0.03 child and adolescent psychiatrists per 100,000 population (World Health Organization, 2017). The longer training period, difficulty in finding post-MD overseas training positions in child and adolescent psychiatry and lack of a fixed transfer scheme for subspecialists, make child and adolescent psychiatry unpopular among Psychiatry postgraduate trainees (Chandradasa and Champika, 2018). Providing state assistance in finding overseas training positions and formulating a fixed and transparent transfer scheme for subspecialist would be some of the effective measures in order to circumvent the current shortage of child and adolescent psychiatrists in the country. In addition to child and adolescent psychiatrists, development of other allied health specialists such as educational psychologists, occupational therapists and speech and language therapists should be a priority in developing CAMHS. According to the available data, in 2017 there were only 0.25 psychologists, 0.28 social workers and 3.28 mental health nurses per 100,000 population in Sri Lanka (World Health Organization, 2017). A study on the mental health workforce gap in middle income countries estimate that 14.92 mental health nurses and 9.96 psychosocial care providers are needed to meet the requirements of the Sri Lankan population (Bruckner et al., 2011). Therefore, training of mental health specialists is a priority in developing CAMHS in Sri Lanka.

Task sharing approach has been described as an effective method of bridging the gap in the mental health specialists in low resource settings and is a feasible option in Sri Lanka. Task sharing is shifting of tasks from highly trained specialists to less trained individuals and sharing the care among teams including specialists, other providers and community resources, to cater to the populations in need. In accordance with this approach, medical officers of mental health, who have either a diploma in psychiatry or 6 week training in psychiatry, have been attached to district hospitals in Sri Lanka where a consultant psychiatrist is not available. However, increasing access to mental health services through task shifting in the absence of sufficient mental health specialists to provide the necessary referral and supervisory supportive framework for non-specialists is known to lead to work overload and a brain drain of mental health specialists (Razzouk et al., 2012). Therefore, this should only be done parallel to the training of mental health specialists.

Our findings revealed that the number of referrals to CAMHS from teachers is lower when compared with other countries. Furthermore, our clinical experience suggests that in keeping with the other South Asian countries such as Pakistan (Syed et al., 2007), in Sri Lanka too, children with mental health problems are labeled as “problem children” and children with learning difficulties are often labeled as “slow” and “lazy” by teachers. These children are usually ignored and left unattended, let alone offering the extra help they usually need. Therefore, training programmes for teachers, preferably with state patronage should be initiated without any further delay to improve their awareness about child mental health issues, which would eventually lead to increased recognition of problems with more timely referrals. This is

supported by previous literature, which shows that school-based intervention programmes involving teacher training is effective in improving child problem behaviours and child competencies (Baker-Henningham et al., 2009). Thus, this has been recommended as a universal intervention to prevent behavioural disorders in low and middle income countries (Kieling et al., 2011).

According to our data, the highest number of referrals was from paediatricians. But the percentage of referrals due to somatic symptoms was relatively low. This may possibly be due the anxiety based somatic symptoms being treated as medical illness. Therefore, organizing in-service training programmes for paediatricians on diverse child mental health problems may enable them to recognize and refer these conditions early.

Attention should also be paid to identify the reasons for the higher number of referrals for medico-legal assessments. Medico-legal assessments are more time consuming and take the bulk of the time of the Child and Adolescent Psychiatrist, leaving relatively less time available for clinical assessments and management of other patients. Therefore, guidelines should be formulated on criteria for referral to a child and adolescent psychiatrist for medico-legal assessment, to minimize unwarranted referrals. Furthermore, if the number of referrals for medico-legal assessments continues to be high, a separate forensic child and adolescent subspecialty may need to be developed in the future to cater to the medico-legal assessments.

As poor school performance is a common presentation, appropriate tools should be developed or should be culturally validated to optimize the assessment of such children. We often experienced that children with mild mental retardation were only detected when they did not perform to expected standard at school, thus missing the window of opportunity for early interventions. Previous literature suggests that providing early child development staff with systematic in-service training, supportive and continuous supervision, observational methods to monitor children's development, practice, and good theoretical and learning material support are important steps in minimizing loss of developmental potential in children in low income countries (Engle et al., 2007). Sri Lanka has a well-developed primary health care system for maternal and child health, where a public health midwife does home visits at regular intervals. She is expected to screen for any deviations in the normal development and make timely referrals to the medical officer of health (MOH). However, the focus is mainly on motor, social and language development and little attention is paid to cognitive development. Therefore, conducting in-service programmes and providing supervision to these public health midwives and reformulating the existing guidelines to focus more on cognitive development, for early detection of cognitive delays is required. Furthermore, screening for cognitive deficits at school entry would be an important step in identifying children with difficulties.

In addition, early childhood interventions including early stimulation interventions, interventions to improve carer sensitivity and responsiveness and integration of health, nutrition and stimulation programmes have been shown to benefit the mental health of children both concurrently and long term and has been recommended for low and middle income countries (Kieling et al., 2011). These programmes could be incorporated into the existing primary care system in Sri Lanka.

ADHD and depression were the commonest diagnoses. Taking this into account, more medication options should be made available to treat these conditions. Long acting formulations of MPH has shown to reduce the stigma associated with ADHD at school, improve compliance and has a lower risk of misuse. Thus, it has been recommended that long acting formulations should be made available whenever possible (Banaschewski et al., 2006). Therefore, making long acting preparations of methylphenidate available is a priority. Similarly, fluoxetine is recommended as the first line pharmacotherapy in depression in children and adolescents and is the drug of choice in this age group. It is advised that fluoxetine should be commenced at a low dose of 10 mg

daily and can be increased up to 20 mg in 1 week if needed (Taylor et al., 2018). Therefore, it is essential to have different formulations of fluoxetine that allow feasibility of easy dosing in young children. This is especially important in a low-income country such as Sri Lanka, where pharmacological treatment often constitute the mainstay of management (de Jesus et al., 2009) owing to the limited availability of psychotherapy and community mental health services.

However, evidence suggests that improving mental health services in low and middle income countries is not sufficient to ensure increased access to services, due to the delayed help-seeking of the population (Thornicroft et al., 2010). It has been demonstrated that in India, more than 80% of people with mental health issues visited traditional healers and temples (Kar et al., 2018) and 86.5% of those with mental health morbidity were not on treatment. A study done among adolescents in Sri Lanka revealed that more than 20 percent of adolescents interpreted psychosis as a spiritual problem and less than 50 percent believed that they should consult a doctor for symptoms of depression, psychosis or social phobia (Attygalle et al., 2017). Therefore, as recommended by earlier studies, interventions to improve mental health literacy among the general public should occur parallel to the development of mental health services. It has been demonstrated that school based interventions targeting youth is an effective strategy to improve mental health knowledge, adaptive coping and healthy lifestyle choices among youth in both high income and low income countries (Kutcher et al., 2016; Ravindran et al., 2018) and could be a feasible option in Sri Lanka. In addition, it has been suggested that health practitioners collaboratively working with traditional healers in intervention and prevention initiatives maybe useful as it would complement an already existing care system which people in lower and middle income countries have confidence in (Eaton et al., 2011). Further studies are needed to assess whether this is a feasible option in Sri Lanka.

4.4. Limitations

The major limitation of this study is that it was a retrospective case study and thus the prevalence of disorders may not be generalizable to the entire community. In addition, this study was carried out in a tertiary care hospital in Colombo and thus the findings may not be generalizable to the child guidance clinics in secondary care hospitals.

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