

Original Articles

Child Psychiatric Disorders Presenting to a Tertiary Multidisciplinary Child Development Service in Bangladesh

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Abstract

Background: *Shishu Bikash Kendra (SBK or Child Development Center) of the Dhaka Shishu (Children's) Hospital (DSH) has been using a multidisciplinary approach for assessment and management of children with various neurodevelopmental disorders since its establishment in 1991. In the past decade, a major proportion have presented with a range of emotional and behavioural problems. This paper aims to describe the types of child psychiatric disorders and the multidisciplinary team approach used in this centre for diagnosis and management of these children.*

Patients and Methods: *Clinical records of 300 children who were assessed by the Child Mental Health Clinic of SBK during April 2004 to December 2006 were analyzed. These children were among the 1648 children who were referred for behavioural problems after having a General Developmental assessment (GDA). Children received services by a team comprising of child health physicians, child neurologists, child psychologists, developmental therapists and psychosocial counselors and a social worker. Psychiatric conditions were diagnosed using the multi-axial diagnostic guidelines of the Diagnostic and Statistical Manual (DSM-IV) and the International Classification of Diseases (ICD-10). The role of various clinics of the SBK to address specific aspects of a child's mental health condition is described.*

Results: *Of the 300 children seen 55% were of primary school age (ie, between 5-10 years), boys comprising 71%. The majority (94%) could be categorized into a psychiatric condition. Sixty three percent had a developmental problem. In addition, with 44% children having some intellectual deficit. Sixty one percent had an associated neurological or general medical condition. It was important to note also that 54% had some form of psychosocial adversity which needed immediate help. Commonest psychiatric diagnosis was Hyperkinetic Disorders (33%) followed by Autism Spectrum Disorders (ASD) and other Pervasive Developmental Disorders (PDD) (27%).*

Conclusion: *Psychiatric morbidity is a common presentation among children who come to the child development and neurodisability service. If Child Mental Health professionals work with a multidisciplinary team within a child development service such as SBK, it may best utilize the multi-axial diagnosis system.*

Key Words: *Child Mental Health, Multidisciplinary team, behavioral problems, psychiatric diagnosis.*

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Introduction

Behavioral and mental health problems are an emerging issue in children worldwide. Epidemiological surveys of behavior problems and psychiatric conditions among rural and urban Bangladeshi children determined prevalence rates of 14.6%, 15% and 18%, respectively.^{1,2,3} As a result, emotional and behavioral problems have become one of the commonest presentations to the Child Development Centers (Shishu Bikash Kendra or SBK, in *bangla*) of Dhaka Shishu Hospital (DSH), a tertiary care paediatric hospital in Bangladesh.

On account of the complexity of psychiatric conditions, it is often difficult to arrive at a conclusive diagnosis using a single diagnostic criteria⁴. Experience has shown that if children's mental health problems are addressed with a multidisciplinary approach, it gives a more comprehensive idea about the disorder and the intervention required^{5,6}. A multiaxial system of classification has been incorporated in the Diagnostic and Statistical Manual (DSM-IV)⁷ and the International Classification of Diseases (ICD-10)⁸. These systems classify the psychiatric conditions in six different axes in ICD-10 and five different axes in DSM-IV respectively. Each axis represents a specific area of the child's functioning (table-1).

Since 1991 the SBK has been using a multidisciplinary approach for providing services for children with neurodevelopmental disorders including those who present with various emotional and behavioral problems.

This paper describes the assessment and diagnosis of children with different kinds of mental health problems attending the child mental health clinic of SBK, using the multiaxial diagnostic guidelines of the DSM-IV and ICD-10.

Materials and methods

Study site

SBK is the outpatient division of the Child Development and Neurology Unit of Dhaka Shishu Hospital, ie, a 450 bedded national children's hospital with an outpatient attendance of over 100 000 per year. It is a tertiary centre where most children come from low income families and are referred by different professionals from Dhaka city and other regions of Bangladesh.

Study Design

It is a retrospective analysis of an existing dataset of the SBK of DSH. A database of 300 children, who were consecutively seen and assessed at the Child

Mental Health Clinic of SBK from April 2004 to December, 2006 was reviewed. Their sociodemographic and clinical data was analyzed.

Multidisciplinary services of the SBK

Services in the SBK are provided through a team of multidisciplinary professionals comprising of pediatric neurologist, a pediatrician with specialized training in child psychiatry, developmental paediatricians, neurophysicians, child psychologists, developmental therapists, a counselor/ psychotherapist and a social worker. Apart from the OPD walk-in-clinic where all children are first registered, the General Development assessment (GDA) clinic is where an in-depth comprehensive assessment is conducted of those presenting with different neurodevelopmental problems. There are various specialized clinics where children are referred from the GDA clinic, for example for epilepsy, motor and other complex disabilities (including seating and feeding), low vision, psychosocial counseling, psychological assessments, and child mental health. Other services include a 'More than Words'⁹ clinic which provides intervention for children with Autism Spectrum Disorders (ASDs), Speech Language and Communication Clinic and Psychotherapy Clinic. A GDA of each case comprises of a comprehensive neurodevelopmental assessment of gross motor, fine motor, vision, hearing, speech, cognition and screening for communication, socialization and behavior. The GDA is performed by a team of specialized pediatricians, developmental therapists and psychologists.

Child Mental Health Clinic

Children identified in the GDA as having behavioral and emotional problems are then seen in the Child Mental Health clinic. Detailed clinical interview of parents, major caregivers and children (wherever appropriate) is the principle method of assessment in this clinic. They are also evaluated with specific standardized and validated behavior rating tools such as Conner's Parent Rating Scale,¹⁴ Strengths and Difficulties Questionnaire (SDQ)^{15,16,17,18}, Behavior checklist (BCL)¹⁹, Development and Well-being Assessment Scale (DAWBA)²⁰, and Children's Global Assessment Scale (CGAS)²¹. These scales are being used for diagnosing psychiatric conditions such as Attention Deficit Hyperactivity Disorder (ADHD), Anxiety Disorder, Phobias, Obsessive Compulsive Disorder, conduct and mood disorders.

Children with suspected ASD are routinely screened by M-CHAT (Modified checklist for Autism in Toddlers)²² at the initial visit to the clinic. Parents are

then further interviewed with 'PIA-CV (Parent Interview for Autism- clinical version)'²³. This is another questionnaire which has been validated to evaluate pre- and post-intervention features in a child with ASD. It is being used by physicians and therapists. Further and more specific assessments are conducted when suspected ASD needs a detailed clinical interview with the Aide Memoire interview²⁴

Early intervention and positive parenting strategies are discussed with parents from first contact at this clinic and continued in depth in the subsequent follow-up sessions.

Before coming to the diagnosis, a multidisciplinary team meeting is held in this clinic for every child undergoing assessment after completing a baseline evaluation. All cases are coded into six different axes according to ICD-10 system as described in table 1. Psychiatric conditions are diagnosed using the diagnostic guidelines of the DSM-IV and ICD-10^{7,8}.

Psychological services

Cognitive level of every child is routinely determined by standardized diagnostic tools such as The Bayley Scales of Infant Development¹⁰, the Wechsler Intelligence Scale for Children Revised¹¹, the Independent Behaviour Assessment Scale (Munir et al. 1999)¹² and the Stanford-Binet intelligence test (Huq 1996)¹³. The results of these tests are routinely discussed with the family in the subsequent follow-up sessions and guidelines provided for appropriate intervention.

Autism Diagnostic Observation Schedule (ADOS)²⁵ is used as a special play based assessment which is specifically used for the diagnosis of children with ASD.

Counselling services

Children and families are referred to the counselor for an evaluation of family situation, any prevailing psychosocial adverse condition, parental stress relief and positive parenting practices²⁶.

Results

Sociodemographic characteristics of the 300 study children are shown in table 2. Majority of children (71%) were boys of early school going age (mean age 7.1 years). Urban: rural: semiurban ratio was around 6: 2.5: 1. A big proportion of children (35%) came from lower middle income (monthly income between 5000-10000 Bangladesh Taka; 70Taka=1USD) families.

The major reasons for children being seen in the Child Mental Health Clinic are shown in fig 1. Largest numbers of referrals were for disruptive behaviors (29%) with epilepsy as the commonest associated problem. One fourth was referred for assessment of autism spectrum disorders (23%).

Percentage of diagnoses of the study children in five different axes of ICD-10 is shown in fig 2. Ninety four percent of children had a specific psychiatric diagnosis (Axis 1). One-third of all assessed children had a psychiatric diagnosis of Hyperkinetic Disorders (33%), closely followed by Pervasive Developmental Disorders in 29% (fig 3).

Sixty three percent had developmental delay (Axis 2). Intellectual deficits were identified in 44% (Axis 3) cases. Sixty one percent had an associated neurological or medical condition (Axis 4); and 54% were found to have various psychosocial problems (Axis 5). All children were rated on adaptive functioning, educational and social participation (Axis 6) but this information is not appropriately recorded in a single severity rating and therefore is not shown in this paper.

Table-I
Multi axial system of diagnosis:

ICD-10 axis	DSM-IV axis	Aspect of child	Clinician concerned
1	I	Psychiatric disorder, e.g. ADHD	Child psychiatrist/ child mental health specialist
2	I	Specific developmental disorder, e.g. Developmental Coordination disorder	Developmental specialist
3	II	Intellect level, e.g., mild mental retardation	Clinical / Child psychologist
4	III	Medical condition, e.g. Bronchial asthma	Paediatrician/ Neurologist
5	IV	Psychosocial adversity, e.g. Unhealthy relationship among family members	Family therapist/ social worker/ counsellor
6	V	Adaptive functioning, Inclusion into school, social and occupational settings	Any clinician of the multidisciplinary team

Table-II
Child and family characteristics:

Characteristics	Number	Percentage
Age		
Less than 5 years	85	28.3%
5-10 years	166	55.3%
Above 10 years	49	16.3%
Mean age: 7.1 years		
Range: 1.9- 18 years		
Gender		
Male	212	71 %
Female	88	29 %
Male: female	2.4 : 1	
Residence		
Urban	193	64 %
Rural	75	25%
Semi urban	32	11 %
Monthly income of family(taka):		
Less than 5000 taka:	61	20.3 %
5-12,000 taka:	105	35.0%
13,000 -20,000 taka	78	26.0 %
Above 20,000 taka	42	14%

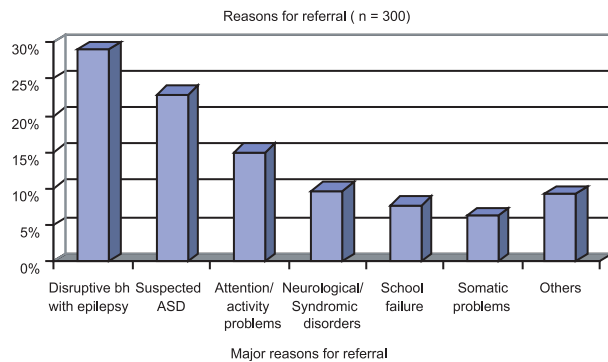


Fig.-1

Percentage of diagnoses in 5 different axes (n=300)

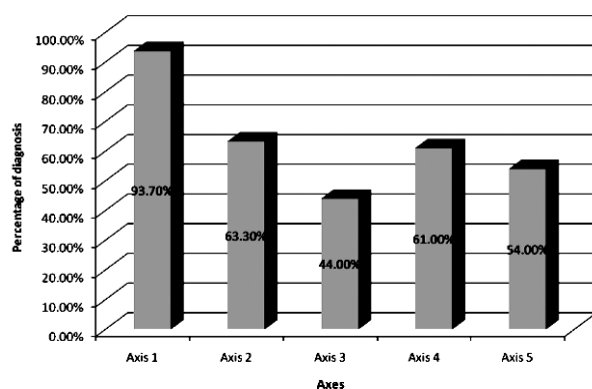


Fig.-2 : Percentage of diagnoses in 5 different axes (n=300)

Clinical Psychiatric conditions(Axis 1)
n=281

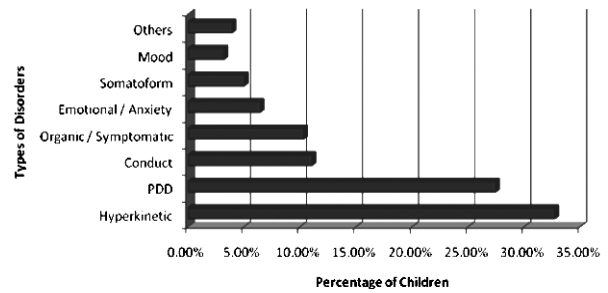


Fig.-3

Discussion

Children with mental health problems comprised almost one-fifth (18.2%) of those presenting to a GDA clinic of the Dhaka Shishu Hospital SBK. They differed in their socio-demographic status from those who present with other types of developmental impairments. For instance, in this study a 6: 2.3: 1 ratio for urban: rural: semi-urban residence of presenting children was seen, which differed from children seen in the same service with seizure disorders where almost equal numbers of urban and rural children presented²⁷. This could be due to a difference in epidemiology of behavior problems, or indicate an increased level of awareness among parents in urban populations and among referring physicians.

Early school goers (i.e., 5-10 years, mean age 7.1 years) were the commonest age group seen (ie, 55%), reflecting parental concern when they were unable to enroll the child into a school or when the child had problems is settling well, once enrolled. There is rising parental awareness to seek services early as 28% children aged <5 years were seen in this study versus 53% who presented subsequently to the same service in 2010²⁸. This is encouraging, as early recognition of prodromes of neurodevelopmental impairments are emerging issues for clinicians, epidemiologists and educationists worldwide²⁹, for early identification and intervention.

The study also demonstrated the output of a multi-axial approach to diagnosis which came into practice in a few centers in Bangladesh³⁰ and due to a rising demand from parents, is presently being practiced across all government medical college hospitals where Shishu Bikash Kendras have been established.³¹ Very high rates of psychiatric diagnosis was made (ie, in 94% of all assessed children) probably because of the tertiary referral pattern, of whom a substantial

proportion had associated developmental problems. An important finding was that a majority of children (ie, 66%) did not have any intellectual deficit, which provides a window of hope for children's future educational development³². In order to make a multi-axial diagnosis, the skills of a multidisciplinary team are very essential requirement.

The most common psychiatric diagnosis was hyperkinetic disorder (ie, 33%) followed by pervasive developmental disorders (ie, 28%). Intervention strategies provided by our services have been adapted from the evidence-based practices internationally³³, made culture-free from clinical experiences of the multidisciplinary team. Some important intervention strategies were directed at improving social-communication; dietary intervention with advice to avoid packaged and processed food and beverages; behavior modification to positively reinforce 'wanted' behavior and negatively reinforce 'unwanted' behavior; psychosocial counseling for both children and parents; individual and parents' group sessions; and medication, whenever indicated. Outcomes of these interventions will be reported elsewhere.

Conclusion

Overall 18.2% (one-fifth) of children who came with any developmental and/or neurological condition to the SBK had mental health problems of which the most frequent child psychiatric diagnoses were Hyperkinetic disorders and Pervasive Developmental disorders. Children who come with any developmental and/or neurological problem are naturally prone to have such psychiatric co morbidity. An ideal child development service should be well equipped to address and handle these natural co morbid conditions where a well co ordinated multidisciplinary team work is mandatory. In order to make a thorough child psychiatric diagnosis, an ideal multidisciplinary team should include a child health physician with experience in child psychiatry, developmental pediatrics and child neurology; a child psychologist; a developmental therapist, a counselor and a social worker. A multi-axial and multi-professional approach provides a comprehensive diagnosis and directions for intervention for children attending a specialized child development service.

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