

# Original Article

## The Pattern of Psychiatric Morbidity in an Outpatient Child Psychiatry Clinic: A Cross-sectional, Descriptive Study from a Tertiary Care Hospital in Kashmir, North India

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### ABSTRACT

**Background:** Psychiatric disorders are ubiquitous and affect not only adults but also children and adolescents. The age factor plays an important role in the pattern of these psychiatric disorders. The objective of our study was to find the pattern of psychiatric morbidity in children and adolescents at the child and adolescent outpatient service of a tertiary care hospital. **Materials and Methods:** A semi-structured questionnaire was used to record the sociodemographic status. The state of mental health and psychiatric morbidity was assessed after a thorough clinical assessment. Intelligence quotient was assessed by a clinical psychologist as and when needed. All the diagnoses were made on the basis of Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition, Text Revision criteria. **Results:** A total of 529 patients were included. Most patients belonged to the age group of 6–16 years (70.5%). Boys (67.9%) outnumbered girls. Most of the patients were from rural background (56.7%) and from nuclear families (53%). Attention-deficit hyperactivity disorder (31%) and mental retardation (29%) were the most frequent diagnoses, followed by pervasive developmental disorders (10%). Comorbidity was present in about 18% of our patients. **Conclusion:** The child psychiatry is gaining acceptance, and children and adolescents with minor mental health issues are being identified and referred for specialized services.

**Key words:** Child and adolescent, outpatient, psychiatric morbidity

### INTRODUCTION

Age plays an important role in the pattern of clinical profile of psychiatric disorders.<sup>[1]</sup> The disorders which affect adults may also affect children,<sup>[2,3]</sup> but there are other specific groups of disorders commonly

diagnosed among children and adolescents. These include mental retardation (MR), disorders of psychological development (e.g., specific learning disorders, autistic disorders), and behavioral and

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emotional disorders with onset usually occurring in childhood and adolescence (e.g., hyperkinetic disorders, enuresis).<sup>[3-5]</sup> There is a considerable amount of psychiatric morbidity in childhood and adolescence. Costello *et al.*, in their study on prevalence and development of psychiatric disorders in this age group, found that the 3-month prevalence of any psychiatric disorder averaged 13.3%.<sup>[6]</sup> Various community-based Indian epidemiological studies on point prevalence of mental and behavioral disorders have reported varying prevalence rates, ranging from 9.5 to 102 per 1000 population.<sup>[7,8]</sup> The WHO report “Caring for Children and Adolescents with Mental Disorders” highlights that worldwide, up to 20% of children and adolescents suffer from a disabling mental disorder.<sup>[9,10]</sup> Various studies from 1980 to 2003 indicate that about one out of every three to four youths is estimated to meet lifetime criteria for a Diagnostic and Statistical Manual of Mental Disorders (DSM) mental disorder.<sup>[11]</sup> Research on the longer-term consequences of mental health problems in childhood and adolescence has found higher rates of adult psychiatric disorders, criminality, substance abuse, and under-employment.<sup>[12]</sup> The Dunedin study, which followed up a large cohort of children through adulthood, found that half of the adults who had a psychiatric disorder at the age of 26 had first problems before 15 years old and that three-quarters had problems before 18 years old.<sup>[13]</sup> Although there are a few community-based epidemiological studies in India, clinic-based studies are more important, particularly in service planning and resource allocation.<sup>[2,14,15]</sup> However, there is a scarcity of cross-sectional and prospective clinic-based studies from India.<sup>[4,16,17]</sup>

In Jammu and Kashmir, children and adolescents are more vulnerable to mental illnesses. Because of the ongoing conflict and current geopolitical scenario, children and adolescents are being exposed to various psychological stresses such as horrible gunfights, kidnaps, parental death, child abuse, earthquakes, and snowstorm.<sup>[18,19]</sup> The aim of our study was to find the pattern of psychiatric disorders among children and adolescents who attended the outpatient service of a child psychiatry clinic of the Postgraduate Department of Psychiatry, Government Medical College, Srinagar.

## MATERIALS AND METHODS

This was a cross-sectional, descriptive study conducted among patients attending the outpatient service of the child psychiatry clinic of the Postgraduate Department of Psychiatry, Government Medical College, Srinagar, over a period of 1½ years, from February 2015 to June 2016. The study was approved

by the Ethical Committee of Government Medical College, Srinagar. Children and adolescents aged 1–16 years, of both the sexes, whose parent/guardian gave written consent constituted the study population. Those who did not receive a DSM 4<sup>th</sup> Edition, Text Revision (DSM-IV TR) diagnosis were excluded. A semi-structured questionnaire was instituted to record the sociodemographic status of the children attending the clinic. The state of mental health and psychiatric morbidity was assessed after a thorough clinical assessment. Intelligence quotient was assessed by a clinical psychologist as and when needed. All the diagnoses were made on the basis of DSM-IV TR criteria. In situations of dual diagnosis, as per the DSM-IV-TR, the principal diagnosis was given to the condition that was the main reason for consulting the outpatient services while the other was considered as comorbid.<sup>[20]</sup> The diagnoses were confirmed by the consultant-in-charge of the child psychiatry clinic of the Postgraduate Department of Psychiatry Government Medical College, Srinagar.

The data about various parameters categorized according to age group, sex, residence, family type, vocation, diagnosis, and comorbidity were entered into Microsoft Excel. Descriptive analysis was carried out with Statistical Package for the Social Sciences 20.0 version. The information thus generated was presented in tables as frequencies and percentages.

## RESULTS

Of 632 patients who attended our outpatient clinic, 529 received one or other DSM-IV TR diagnosis and were included in the study. Most patients belonged to the age group of 6–16 years (70.5%); boys (67.9%) outnumbered girls. Most of the patients were from rural background (56.7%) and from nuclear families (53%). Table 1 highlights the sociodemographic profile of the sample. Attention-deficit hyperactivity disorder (ADHD) was the most frequent diagnosis, occurring in 31.38% of the patients, followed by MR which occurred in 29.68%. 10.40% had pervasive developmental disorder (PDD). Table 2 highlights the pattern of psychiatric morbidity in our patients.

Comorbid psychiatric disorders were found in 98 (18.52%) of the patients. Sixteen patients with MR had comorbid ADHD, 47 patients with PDD had comorbid MR, eight had borderline level of intellectual functioning, 18 patients with ADHD had comorbid disruptive behavior disorder (DBD), three patients had major depressive disorder (MDD), two patients with MDD had comorbid anxiety disorder, and four patients with borderline intellectual functioning (BIF) had comorbid ADHD.

**Table 1: Sociodemographic profile**

	Number of patients (%)
Age (years)	
0-3	77 (14.6)
4-5	79 (14.9)
6-16	373 (70.5)
Sex of patient	
Male	359 (67.9)
Female	170 (32.1)
Family type	
Nuclear	280 (52.9)
Extended nuclear	65 (12.3)
Joint	184 (34.8)
Residence	
Rural	300 (56.7)
Urban	229 (43.3)
Vocation	
Student	350 (66.2)
Crèche/special school	19 (3.6)
Nil	160 (30.2)

**Table 2: Pattern of psychiatric morbidity**

Diagnosis	Number of patients (%)
ADHD	166 (31.38)
MR	157 (29.68)
PDD	55 (10.40)
Borderline Intellectual Functioning	36 (6.80)
MDD	34 (6.43)
Anxiety disorders	34 (6.43)
Disruptive behavior disorders	25 (4.72)
BPAD	14 (2.65)
Schizophrenia	8 (1.51)
Total	529 (100)

ADHD – Attention-deficit/hyperactivity disorder; MR – Mental retardation; PDD – Pervasive developmental disorder; MDD – Major depressive disorder; BPAD – Bipolar affective disorder

## DISCUSSION

This study is the first attempt toward understanding psychiatric morbidity in children and adolescents from Jammu and Kashmir. Most patients in our study were aged 6–16 years (70.5%), a finding similar to other hospital-based studies.<sup>[4,17]</sup> Boys outnumbered girls by an approximate ratio of 2:1 with 67.9% boys and 32.1% girls. This is in agreement with many other previous hospital-based studies.<sup>[3-5]</sup> The high proportion of boys in our study could be because of a general trend for boys to be more vulnerable than girls to psychiatric disorders,<sup>[21,22]</sup> gender-based differential help-seeking due to the importance given to boys in India,<sup>[23,24]</sup> or a higher frequency of externalizing disorders in boys, which are more easily recognized due to their disruptiveness.<sup>[25]</sup>

The family characteristics showed that 52.9% of the families were the nuclear type, 34.8% were the

joint type, and the rest 12.3% were extended nuclear type. This is consistent with previous studies in other settings.<sup>[26,27]</sup> Majority of the patients (56.7%) belonged to a rural area, which can be explained by the overall rural and urban division of the population in our state, where still the majority of the population resides in rural areas.<sup>[28]</sup> This is in contrast to the results of the study by Chadda and Maan *et al.*, which found that children from urban background predominate.<sup>[16,29]</sup> 66.2% of the participants were students, 30.2% were not involved in a particular occupation and were staying at home, while 3.6% were attending a special school/crèche. The fact that the majority of our patients (70.5%) were aged  $\geq 6$  years, which is a school-going age, explains the finding that most of our patients were students.

## Clinical profile

ADHD was the most frequent diagnosis. 31.4% of our patients had the condition. Jayaprakash found externalizing disorders in 34.09%, with 29.01% having pure hyperkinetic disorder.<sup>[30]</sup> Other studies from India<sup>[4,31]</sup> and the subcontinent<sup>[26,32]</sup> had found a lower clinical prevalence for ADHD than our study. This lower clinical prevalence in these studies is much lower than what would be expected according to the then epidemiological figures which showed a higher frequency of hyperkinetic syndromes in the community.<sup>[33,34]</sup> The studies from the West also reported a high clinical prevalence of up to 50% for ADHD.<sup>[35-37]</sup> Lower clinical prevalence in India could be because of childhood problems being less readily recognized and treated in India<sup>[38]</sup> and/or children being probably taken to indigenous healers or get severely punished or expelled from school for misconduct.<sup>[39]</sup> Of 166 (31.4%) patients with ADHD, 130 (78.3%) were boys and 36 (21.7%) were girls. This is consistent with the findings of other studies from India<sup>[4,40]</sup> and abroad,<sup>[32,36]</sup> which have found externalizing disorders more common in boys.

MR was the second most frequent diagnosis, with 29.7% having this disorder. Malhotra and Chaturvedi, in their studies on patterns of childhood psychiatric disorders in India, found that the largest diagnostic category was MR that accounted for 28%–33% of all cases.<sup>[17]</sup> Our results are also consistent with other studies from India.<sup>[40,41]</sup> Similar results have been found outside India as well.<sup>[42,43]</sup> With regard to studies from the West, Staller found a low frequency of MR in outpatient child psychiatry.<sup>[36]</sup> He stated that this difference might reflect a broader trend in the United States of diverting such patients away from psychiatric care.<sup>[36]</sup> Keeping in mind that most epidemiological studies on general population have reported high figures of MR, it is not surprising to have high figures in hospital studies as well.<sup>[44-46]</sup> Of 157 (29.70%) patients

with MR, 98 (62.4%) were boys and 59 (37.6%) were girls, with a sex ratio of 1.66:1. Chaudhury *et al.*<sup>[40]</sup> found a sex ratio of 1.87 for MR, while Chadda and Saurabh<sup>[41]</sup> found an equal sex distribution for MR. Studies based on patients with MR identified through service providers have consistently shown boys to have a higher prevalence of MR than girls.<sup>[46-48]</sup>

PDDs were found in 10.4% of our patients. Of them, 34 (61.8%) were autistic disorder, followed by PDD not otherwise specified in 17 (30.9%). There were three cases of Asperger's disorder and one case of Rett disorder as well. Other Indian studies have found a lower rate of PDD.<sup>[31,41]</sup> Furthermore, studies from the subcontinent have shown lower but varying results for PDD.<sup>[32,49]</sup> Vogel and Holford from South Africa found that around 5% of their cases had PDD, while Staller from the United States found PDD in 6% of his cases.<sup>[35,36]</sup> One reason for the higher rate of PDD in our study could be that our clinic is the only facility in our state for the assessment and management of such patients, due to which many such patients are brought to our clinic. Another reason could be the awareness generated by our department about autism through regular seminars and print and mass media and the consequent increase in the referral of such patients from doctors and the general public to our clinic.<sup>[50,51]</sup> Of 55 (10.4%) patients with PDD, 43 (78.2%) were boys and 12 (21.8%) were girls with a sex ratio of 3.58:1, which is consistent with the results of many studies conducted in India<sup>[40,52]</sup> and outside India.<sup>[26,32]</sup>

BIF was found in 6.8% of our patients, with 19 (52.8%) boys and 17 (47.2%) girls.

MDD was found in 6.4% of the cases. Other Indian studies have also found a lower clinical prevalence of childhood depression.<sup>[31,41]</sup> Studies outside India have found varying rates of mood disorders in children attending the outpatient clinics, ranging from 3% to 26%.<sup>[35,36]</sup> Depression is being diagnosed increasingly in children, which is reflective of a worldwide trend toward an earlier onset and increased prevalence of affective illnesses.<sup>[53]</sup> The increase in the prevalence of depression could also be speculated to be due to improved recognition of internalizing disorders or societal stresses related to academics. In addition, the increase is reflective of depression becoming a new focus for treatment.<sup>[36]</sup> With regard to sex distribution, of 34 (6.4%) patients with depression, 19 (55.9%) were boys and 15 (44.1%) were girls, with a sex ratio of 1.27:1. Most of the clinical studies have found girls more frequently having depression than boys.<sup>[4,36]</sup>

Anxiety disorders were considered as a group because only a very small number of patients suffered from the

individual disorders. They were found in 34 (6.4%) of our patients, with 20 (58.8%) having obsessive-compulsive disorder, 5 (14.7%) having panic disorder, 3 (8.8%) having specific phobia, 2 (5.9%) having generalized anxiety disorder and social phobia each, and 1 (2.9%) having separation anxiety disorder and posttraumatic stress disorder each. Studies conducted across India have found lower and varying results for anxiety and related disorders in clinical settings, ranging from 3% to 18%.<sup>[31,41]</sup> Low frequency of anxiety disorders can be explained by the fact that in Indian children, emotional disorders are less readily recognized and treated.<sup>[54]</sup> Tomb and Hunter reported that anxiety disorders usually remain undiagnosed in children and adolescents owing to the internalized nature of their symptoms.<sup>[55]</sup> In addition, parents do not consider these problems as emotional disorders and do not seek treatment for the same.<sup>[56]</sup> With regard to sex distribution, out of 34 (6.4%) patients with anxiety disorders, 15 (44.1%) were boys and 19 (55.9%) were girls with a sex ratio of 1:1.27. Studies in India<sup>[4,31]</sup> and outside<sup>[35,36]</sup> have also found these disorders more common in girls. Sarwat *et al.*, however, in their study from Pakistan, found a sex ratio of 1.71:1 for anxiety disorders.<sup>[32]</sup>

DBDs too were considered as a single group because they comprised a small number of patients ( $n = 25$ , 4.7%). Out of 25 (4.7%) patients with these disorders, 18 (72%) had conduct disorder, while 7 (28%) had oppositional defiant disorder. Our results match those of Malhotra and Chaturvedi, who reported conduct disorder in 3.5% of their patients.<sup>[17]</sup> Although other studies have found varying results, the prevalence of these disorders in all of these clinical studies is low.<sup>[4,31]</sup> Sarwat *et al.* from Pakistan, however, found oppositional defiant disorders in 40 (20%) of children.<sup>[32]</sup> Studies from the West have found higher rates of DBD. Staller found that 30% of his patients had DBD, either as a single diagnosis or as comorbid.<sup>[36]</sup> Vogel and Holford found around 14% of patients with conduct disorder and oppositional defiant disorder.<sup>[35]</sup> The figure for these disorders in our study and other studies from subcontinent is very low as compared to Western countries, which could be because of childhood problems being less readily recognized and treated in India<sup>[38]</sup> and/or children being probably taken to indigenous healers or being severely punished or expelled from school for misconduct.<sup>[39]</sup> Of 25 (4.7%) patients with these disorders, 21 (84%) were boys and 4 (16%) were girls. Our results are consistent with other clinical studies.<sup>[4,36]</sup>

Bipolar affective disorder (BPAD) was present in 2.6% of our patients. This low hospital prevalence for BPAD is consistent with other Indian-based clinical studies.<sup>[31,41]</sup> Studies outside India have shown varying

but low rates of BPAD in children attending the outpatient clinics ranging from 0.5% to 12%.<sup>[32,35,36]</sup> Of 14 (2.6%) patients with BPAD, 8 (57.1%) were boys and 6 (42.9%) were girls. Duax *et al.* in their study on sex differences in pediatric bipolar disorder showed no sex differences in rates of bipolar spectrum disorders or any of the bipolar subtypes.<sup>[57]</sup>

Schizophrenia was present in 1.5% of our attendees. Low prevalence of schizophrenia in our study is consistent with other Indian studies.<sup>[4,31]</sup> Many other studies conducted outside India have also shown varying but lower prevalence of schizophrenia ranging from 0.5% to 5%.<sup>[32,36]</sup> Out of 8 (1.5%) patients with schizophrenia, 6 (75%) were boys and 2 (25%) were girls.

### Comorbidity

Of 529 patients in our study, 98 (18.52%) had another psychiatric comorbid disorder while 431 (81.47%) were without any psychiatric comorbidity. Low comorbidity was also found in a few Indian studies,<sup>[31,40]</sup> but the data suggest that single diagnoses in children and adolescents are rare and that the majority of individuals will have a minimum of two psychiatric illnesses.<sup>[36,43]</sup>

The most common disorder with comorbidity was PDD, with all the 55 patients with this disorder having another comorbid disorder. Of 55 patients with PDD, 47 had comorbid MR and eight had comorbid BIF. Kalra *et al.* found that 95% of children with autism had comorbid MR.<sup>[52]</sup> Out of 157 patients with MR and 36 patients with BIF, 16 and four patients, respectively, had comorbid ADHD. Hence, almost 10.36% of patients with subnormal intelligence had comorbid ADHD. This comorbidity of ADHD with subnormal intelligence has been shown in many studies from India and outside.<sup>[40,58]</sup> Lewis and Maclean, after reviewing the literature, concluded that most studies, irrespective of the sample and the methodology, support an increased prevalence of behavioral and emotional disorders in MR.<sup>[59]</sup>

Of 166 patients with ADHD, 18 (10.84%) had comorbid DBD while three (1.81%) had comorbid depression. These results are somewhat comparable to a series of studies with the prevalence rates of comorbid conduct disorder ranging between 9.9% and 19.0%.<sup>[60,61]</sup> Although MDD was more prevalent comorbid disorder in patients with ADHD in previous studies,<sup>[62,63]</sup> its prevalence rate of 1.81% of the present study is rather low. Biederman *et al.* found a range of 3%–75% for comorbid depression in DBD.<sup>[64]</sup> Of 34 patients with MDD, two (5.9%) had comorbid anxiety disorders. Biederman *et al.* observed that >95% of the children with MDD had a comorbid diagnosis, with the highest rates for anxiety disorders.<sup>[65]</sup> One of the reasons for low comorbidity in our study could be the less number of

patients ( $n = 34$ ) with depression in our study, which is not sufficient to judge the comorbidity. Another reason could be ignorance in general population about the symptomatology of depression and anxiety in children as the diagnostic process in these populations is complicated by increased symptom severity and heterogeneous symptom presentations.<sup>[66]</sup>

## CONCLUSION

The child psychiatry is gaining acceptance in cultures where hitherto it was a taboo. With increasing immunization coverage, neonatal and pediatric health care and universalization of education and nuclearization of families, children, and adolescents with even minor mental health issues are identified and referred for specialized services. At our child and adolescent psychiatric outpatient facility, psychiatric morbidity was higher in  $\geq 6$  years of age group with predominance of boys. Most of the patients were from nuclear families with a rural background. MR and ADHD were the predominant psychiatric disorders. There is need to generate models of treatment, care and liaison with teachers, pediatricians, and welfare agencies to bring about effective utilization of resources and to plan out child psychiatric services for the future.

### Limitations

The diagnosis was based on the clinical assessment which has a tendency for clinician biases resulting in following inaccurate conclusions:

1. Reaching to diagnoses before all relevant information is collected
2. Selection bias in confirming or ruling out a diagnosis when information has been obtained on the basis of preexisting assumptions
3. Undue assumption of correlations between symptoms and psychiatric disorders that in reality was nonexistent and could have led to overdiagnosis on the part of the clinician.

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### Conflicts of interest

There are no conflicts of interest.

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