Characteristics of Patients Attending the Child and Adolescent Psychiatric Outpatient Clinic of a Tertiary Care Hospital in North India

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Abstract

Background: The psychiatric morbidity profile of children and adolescents is very different from that of adults. Failure of early identification and timely intervention of psychiatric disorders adversely affects the developmental trajectory of children to becoming a healthy adult.

Objectives: To study the clinico-demographic profile of patients attending the child & adolescent psychiatric OPD and to estimate the frequency of various psychiatric disorders among them.

Methodology: In this retrospective file review study, all patients attending the child and adolescent psychiatry clinic of a tertiary care hospital between Jan 2018- June 2022 were taken. Data collection was done using a semi-structured proforma and ICD-10 was used to make psychiatric diagnoses. Statistical analysis was done by using SPSS 16 (Version 25.0).

Results: The total number of cases visiting child psychiatry OPD during the study period was 1199 with an average of 240 cases per year. The mean age was found to be 12 years, with gender distribution revealing male preponderance (58.4%). Around 64% of the participants were 63.8%) were in the age range 10 to 15 years. Most subjects (59.4%) were Hindu by religion and hailed from urban areas (52.4%). Epilepsy (23.9%) was the most prevalent psychiatric disorder, followed by intellectual disability (16.8%), anxiety disorder (14.1%), hyperkinetic and conduct disorder (8.8%), and schizophrenia & other psychotic disorders (10.3%).

Conclusion: This study is one of the few ones conducted in a tertiary care hospital in North India. Children in poor nations receive less mental health and psychiatric care than adults do. Our research indicates that Indian clinics may need to improve their offerings for conditions like depression, specific learning disorders, communication disorders, and hyperkinetic disorders. The study also emphasizes the need for more child psychologists special educators, and strengthened counseling services in schools.

INTRODUCTION

The capability to maintain optimal psychological functioning and well-being is referred to as child and adolescent mental health.[1] It is directly correlated with the degree of proficiency in psychological and social functioning attained.[1] Environmental elements and life events such challenging family situations,

maternal separation, the birth of a sibling, parental divorce, bereavement, physical handicap, urbanism, and maternal depression significantly influence the child's mental health.[2]

According to the World Health Organization (WHO), 10 to 20% of children and adolescents experience mental problems globally.[3] India's prevalence is typically believed to be between 7 and 35%, which is higher than that of wealthy nations. A little under half of all mental illnesses in adults start before the age of 14.[4,5]

In all locations, these illnesses are the main factor contributing to young people's disabilities. They have a significant negative impact on children's growth, educational success, and potential for happy, fruitful lives if left untreated. Children with mental illnesses experience serious difficulties due to stigma, exclusion, and discrimination, as well as a lack of access to health care and educational resources, in violation of their basic human rights.[6]

Psychological illnesses are not promptly identified and treated, which has a negative impact on a child's ability to grow into a healthy adult. Early detection of these issues allows for successful psychological management and aids in the person emerging with a clear sense of their health identity. Therefore, primary care doctors play a crucial role in the early detection of many illnesses.

There are roughly 20 specialist clinics and departments for child and adolescent psychiatry in India.[10] However, there are limited statistics available on the sociodemographic and clinical characteristics of the patients who visit these facilities. Most of the data are cross-sectional and frequently relate to one or a few psychiatric diseases.[7-11] In recent years, a few community-based epidemiological studies using standardized instruments, population sampling procedures and standard diagnosis have been conducted in India.[12,13] However, clinic-based data are important, particularly for service planning and resource allocation. Cross-sectional clinic-based prevalence studies help in a preliminary assessment of service utilization, morbidity, treatment and follow-up.

Methods

The study was conducted at the Department of Psychiatry at the Jawaharlal Nehru Medical College and Hospital, Aligarh, having inpatient and outpatient facilities. This retrospective file review study was conducted during the period January 2018–June 2022. The study was conceptualized, the protocol was prepared and then initiated. The study population comprised of all the patients of the age group (15 years and below) who presented to the child and adolescent psychiatric clinic directly or were referred by pediatricians or other specialists (Figure 1). Participants' hospital OPD No. were traced from the registration record. Data collection was done using a semi-structured proforma and ICD-10 was used to make psychiatric diagnoses. After review, appropriate statistical analysis was done by using SPSS 16 (version 25.0).

At the time of review, OPD files were assessed in detail related to sociodemographic (of patient and informants) and clinical (chief complaints, type of onset, course, psychopathology, temperament, developmental history, any dysfunction or comorbidity, family history, family functioning, physical examination and mental status examination and final diagnoses and treatment initiated) information.

Results

The total number of cases reported were (N = 1199) during the study period with mean cases 239.8 (20%) per year. The highest no. of cases were reported in the year 2019 (39.2%). There was a significant decline in the no. of registered cases in the year 2020 due to covid 19.

An age gradient was observed in child and adolescent clinic registrations, with 10 to 15 year old (63.9%) being the largest subgroup in all 5 years (Table 1). In total, 8.3 and 27.8% of cases belong to the age groups 0 to 5 years and 5 to 10 years, respectively (Chi-square $\chi2$-45.85; *p - value*-0.001) (Figure 1).

Every year, more than 60% of clinic attendees were boys. There was no significant time trend in the distribution of subjects based on gender. Most of the children attending the OPD were residing in urban area (628 cases, 52.4%). Most of them (59.4%) belonged to Hindu religion.

Every year, the most common coded diagnosis was epilepsy (23.9%) followed by intellectual disability (16.8%) (Table 2). Anxiety disorders (14.1%) formed the third largest diagnostic category. In the year 2018, schizophrenia and psychotic disorders (10.3%) were the third most common diagnostic category. In

Table 1: Sociodemographic profile of subjects assessed per year from 2018-2022 (N = 1199)

Variables	2018 F (%)	2019 F (%)	2020 F (%)	2021 F (%)	2022 F (%)	Chi-square (χ2)	p - value
Age groups (df = 8)							
0–5 years	14 (1.2)	32 (2.7)	12 (1.0)	18 (1.5)	24 (2.0)		
5–10 years	38 (3.2)	88 (7.3)	41 (3.4)	90 (7.5)	76 (6.3)	45.85	.001***
10–15 years	87 (7.3)	350 (29.2)	53 (4.4)	148 (12.3)	128 (10.7)		
Gender (df = 4)							
Boys	82 (6.8)	257 (21.4)	75 (6.3)	145 (12.1)	141 (11.8)	10.73	.029*
Girls	57 (4.8)	213 (17.8)	31 (2.6)	111 (9.3)	87 (7.3)		
Place (df = 4)							
Urban	62 (5.2)	323 (26.9)	52 (4.3)	117 (8.9)	84 (7.0)	87.73	.001***
Rural	77 (6.4)	147 (12.3)	54 (4.5)	149 (12.4)	144 (12.0)		
Religion (df = 4)							
Hindu	93 (7.8)	246 (20.5)	53 (4.4)	171 (14.3)	149 (12.4)	26.00	.001***
Muslim	46 (3.8)	224 (18.7)	53 (4.4)	85 (7.1)	79 (6.6)		

Table 2: Distribution of psychiatric disorders from year 2018-2022, (N = 1199)

Type of Disorders (df = 56)	2018 f (%)	2019 f (%)	2020 f (%)	2021 f (%)	2022 f (%)	Chi-square (χ2)	p - value
Intellectual disability	10 (0.8)	72 (6.0)	18 (1.5)	64 (5.3)	37 (3.1)		
Epilepsy	36 (3.0)	92 (7.7)	29 (2.4)	67 (5.6)	62 (5.2)		
Conversion disorder	0	2(0.2)	0	0	0		
Hyperkinetic and conduct disorder	19 (1.6)	24 (2.0)	10 (0.8)	16 (1.3)	37 (3.1)		
Anxiety disorders	8 (0.7)	91 (7.6)	8 (0.7)	32 (2.7)	30 (2.5)		
Obsessive-compulsive disorder	7 (0.6)	14 (1.2)	3 (0.3)	12 (1.0)	10 (0.8)		
Pdd (Autism)	NA	6 (0.5)	4 (0.3)	NA	NA		
Substance use disorder	1 (0.1)	5 (0.4)	NA	NA	NA	158.84	.001***
Schizophrenia and psychotic disorder	24 (2.0)	55 (4.6)	6 (0.5)	20 (1.7)	19 (1.6)		
Affective disorder	2 (0.2)	13 (1.1)	3 (0.3)	7 (0.6)	5 (0.4)		
Major depressive disorder	0	8 (0.7)	2 (0.2)	1 (0.1)	1 (0.1)		
Tic disorder	4 (0.3)	5 (0.4)	5 (0.4)	7 (0.6)	7 (0.6)		
Organic	9 (0.8)	16 (1.3)	9 (0.8)	4 (0.3)	3 (0.3)		
Other headache syndrome	12 (1.0)	50 (4.2)	9 (0.8)	23 (1.9)	14 (1.2		
Others	7 (0.6)	17 (1.5)	NA	3 (0.3)	3 (0.3)		

the years 2019 and 2021, anxiety disorders were the third most common category. In the years 2020 and 2022, hyperkinetic and conduct disorders were the third most common diagnostic category. Affective disorder, obsessive compulsive disorder (OCD), and major depressive disorder (MDD) formed a small proportion of registered cases.

One year prevalence of epilepsy was higher in the year 2019 (7.7%) and found to be lower in the year 2020 (2.4%). One year prevalence of intellectual dis-

Table 3: Distribution of frequency and percentages of types of pharmacological treatment used from year 2018-2022 and number of follow up

Type of treatment (df = 24)	2018 f (%)	2019 f (%)	2020 f (%)	2021 f (%)	2022 f (%)	Chi-square (χ2)	p - value
Antiepileptic	35 (2.9)	94 (7.8)	29 (2.4)	61 (5.1)	57 (4.8)		
Anxiolytics	7 (0.6)	91 (7.6)	8 (0.7)	34 (2.8)	30 (2.5)		
Stimulants	17 (1.4)	21 (1.8)	8 (0.7)	11 (0.9)	25 (2.1)		
Antidepressants	8 (0.7)	33 (2.8)	6 (0.5)	13 (1.1)	12 (1.0)	57.11	.001***
Mood stabilizers	3 (0.3)	24 (2.0)	5 (0.4)	11 (0.9)	5 (0.4)		
Antipsychotics	29 (2.4)	67 (5.6)	14 (1.2)	31 (2.6)	31 (2.6)		
Others	40 (3.3)	140 (11.7)	36 (3.0)	95 (7.9)	68 (5.7)		
Follow-up rates of detailed assessment number of follow-ups (df = 8)							
0–4 Follow-ups	51 (4.3)	30 (25.7)	46 (3.8)	113 (9.4)	49 (4.1)		
5–10 Follow-ups	69 (5.8)	121 (10.1)	42 (3.5)	99 (8.3)	109 (9.1)	146.31	.001***
10 above follow-ups	19 (1.6)	41 (3.4)	18 (1.5)	44 (3.7)	70 (5.8)		
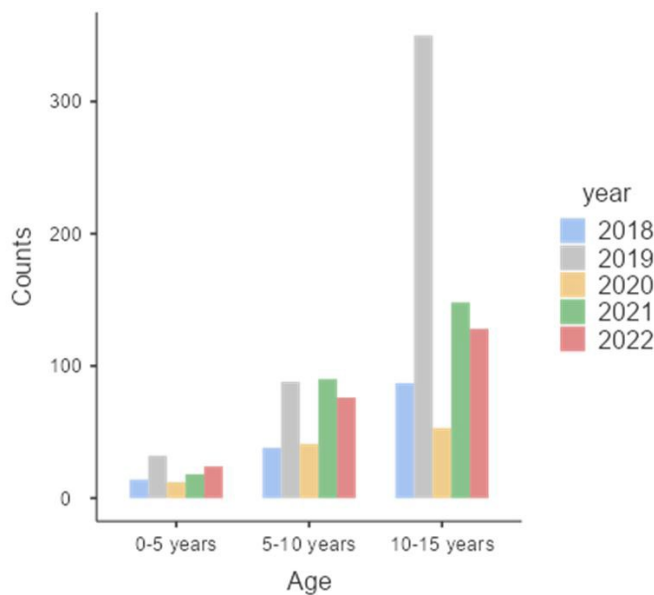
Figure 1: Graph showing the year wise distribution of cases according to their age

Figure 2: Graph showing the distribution of psychopatho-logical disorders from 2018-2022
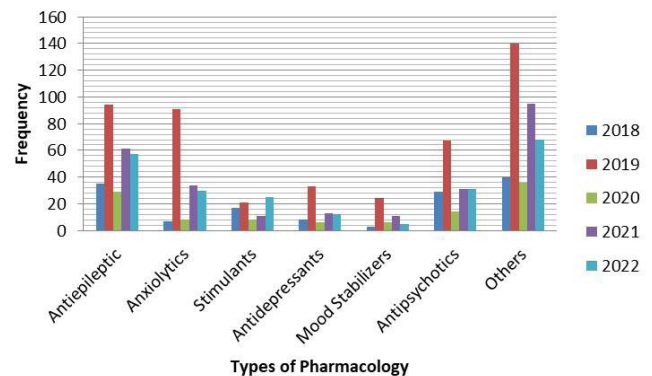
Figure 3: Graph showing the distribution of pharmacologi-cal treatments used from 2018-2022

ability was higher in the year 2019 (6.0%) and lower in the year 2018 (0.8%). One year prevalence of anxiety disorders was higher in year in 2019 (7.6%) and equal in 2018 and 2020 (0.8%). Antiepileptics were the most commonly prescribed agents, followed by anxio-lytics and stimulants. Maximum number of cases (47.3%) had only 0 to 4 follow-up visits. One-third to half of the registrations did not have any follow-up visits (Table 3).
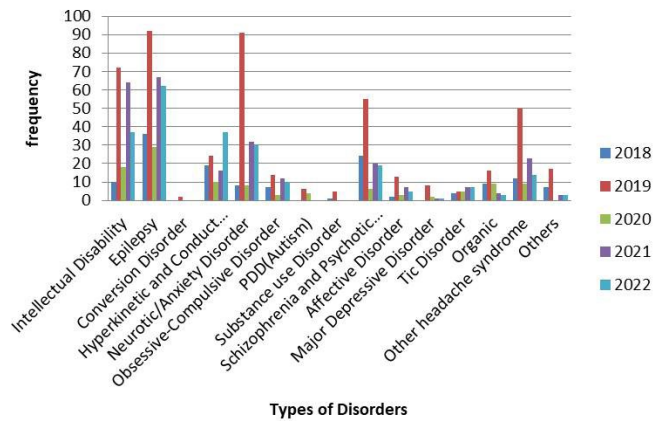
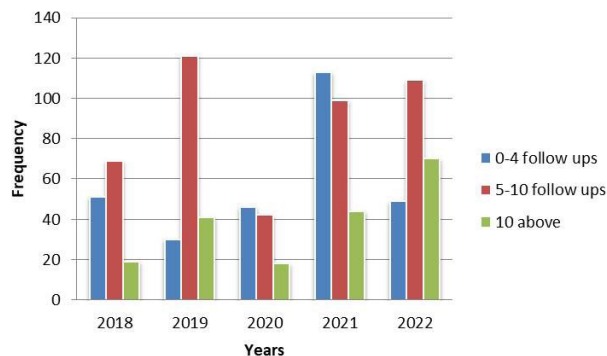**Figure 4:** Depicting the number of follow-ups used from year 2018-2022

Discussion

Unquestionably, the best indicator of adult mental health is the state of children's minds. Despite the existence of several studies that address the rates and characteristics of children with psychiatric disorders worldwide, this study is the first investigation of this kind in a tertiary care hospital in North India. A total of 1199 child and adolescent cases out of total - patients attended the general psychiatric opd in a tertiary care hospital during the study having a prevalence of dash which falls in the range of previous studies done in India but is lower than other foreign studies. Most Indian studies report lower psychiatric morbidity then largescale studies from other countries. A mean prevalence rate of 29% is found in studies from France, Germany, New Zealand, USA, Canada and the Netherlands.[14-18] This difference may not necessarily imply truly lower rates of psychiatric disorders in Indian children and adolescents.

Numerous studies conducted in India in the past found significant variances in the prevalence of psychiatric diseases among children and adolescents at the time. These significant variances are caused by a variety of factors, including changes in the population studied, diagnostic criteria, and tools employed.[19] The prevalence rate for child and adolescent psychiatric illnesses in India was 6.46% (95% confidence interval: 6.08–6.88%), according to a meta-analysis of epidemiological studies.[20] According to the WHO, 1 in 7 (14%) of all adolescents aged 19 have mental health disorders.[21]

Studies have shown a similar frequency of pediatric psychiatric illnesses. In the age range of 0 to 16 years, the frequency was 13.4%, according to an ICMR[22] study from 2001. In the age range of 4 to 16 years, Bangalore researchers Srinath *et al.*[23] reported a prevalence of 12%. In a study carried out in a Maharashtra urban slum, Rahi *et al.*[24] found a frequency of 16.5% among kids between the ages of 4 and 14. The prevalence found in this study is similar to that found in other investigations.

In this study, it was discovered that mental health issues in childhood and adolescence worsen with age. Statistics showed that the difference was significant. Similar results have also been found by earlier investigations.[25] Malhotra *et al.*[26] reported that rates of mental illnesses were highest in middle childhood, with a peak at 6 to 8 years of age. Rahi *et al.*[24] found that frequency of psychopathological disorders were highest in children aged 7 to 10 years. The age group with the highest frequency was 6 to 9 years old, according to Abdul qader *et al.*[27] However, after 10 years, a greater risk was discovered in our study. Adolescence is a time of great psychological upheaval during which people are especially prone to emotional and psychological problems. Therefore, it is not surprising that psychological illnesses are more common.

Because neurodevelopmental disorders like intellectual impairments, which had the second greatest prevalence in our sample, have a sex bias biased towards boys.[28] It was anticipated that there were more male patients than female patients. Similar results were found by Malhotra *et al.* as well. According to earlier research, this is caused by gender-based differential aid seeking as a result of the value placed on males in India.[29–31] Another explanation for the larger percentage of male registrations could be that boys are more likely to experience externalising disorders, which are more noticeable because of how disruptive they are (including e.g. by non family members like teachers). The current study discovered that epilepsy, IDs, and conduct disorder were more common in boys. A similar result was reported by Newschaffer *et al.*[32] and Sarkhel*et al.*[33] Conversely, females exceeded males in conversion disorder, and a study performed by Ghosh *et al.*[34] reported a similar outcome.

Most of the patients belonged to urban residences (52.4%), and this is understandable, as even in a developed country such as England, research

has shown that children in rural areas had fewer problems than those in large urban areas explained by the quality of their schools and lifestyle.[35]

In our study, intellectual disability and epilepsy were the most prevalent conditions (Figure 2). It was comparable to the Malhotra *et al.* study.[36] Anxiety disorders were the next more common diagnosis. In our study, the prevalence of depression was 1%, although it was much higher (6%) in the study conducted by Malhotra *et al.* In our study, substance use disorders were present in 0.5% of subjects. However, 5% of participants in a study by Costello *et al.* reported substance use issues. This discrepancy resulted from the study sample being from a developed nation. In our study, the prevalence of schizophrenia and psychotic illnesses (10.3%) was much higher than in the other Indian studies.[36,37] Other diagnoses in our analysis included affective disorders (2%) and autism (0.8%), which were equivalent to 1.4 and 0.94%, respectively, in the study by Chaudhary *et al.*[37] In the current study, the prevalence of OCD was found to be 2.5% which is comparable to other studies.[27]

In most cases of intellectual disability, the study group did not receive medication because they were instead psycho-educated on the condition and directed to a clinical psychologist. Antiepileptics were the most often utilized drugs (23%) since the majority of the patients had epilepsy or behavioral issues related to organic brain injury. Antipsychotics (14.3%) were the next most popular drug, prescribed to treat psychotic or aggressive symptoms (Figure 3).

For example, many more cases (such as those with an intellectual disability or specific learning disorders) may register with our center only for certification, or they may simply be seeking help with other new centers in the city (a possible indicator of wasteful duplication of services); as a result, the occurrence of few follow-up visits may not always be an indicator of poor services (Figure 4). But this is a significant problem that has to be addressed. To better comprehend this incidence, comparable data from other Indian centers may be shown.

Conclusion

Undoubtedly, the best indicator of the mental health of adults is the state of their children's minds. This study is one of the few ones conducted in a tertiary care hospital in North India despite the fact that there are numerous studies that address the incidence and characteristics of children with psychiatric illnesses globally. In affluent nations, healthcare professionals and educators are very concerned about child and adolescent psychopathology. Children in poor nations receive less mental health and psychiatric care than adults do. Our research indicates that Indian clinics may need to improve their offerings for conditions like depression, specific learning disorders, communication disorders, and hyperkinetic disorders as this study concludes that more and more number of patients are increasing day by day and most of the patients belong from these group of illness and if affects child and family both. The study also emphasizes the need for more child psychologists, special educators and strengthened counseling services in schools. Additionally, it implies the necessity of programs for awareness and sensitization for early identification and intervention, particularly for diseases like depression. In this context, preventive interventions that reinforce school mental health programs, reduce stress in homes and schools, and improve children's life skills to deal with stress arising from a variety of everyday events can be beneficial. Last but not least, we must educate our residents in the use of suitable non-pharmacological interventions, which are crucial for this demographic.

Limitations

Future research can be done utilizing prospective or cross-sectional study designs, which are preferable study designs, as this study was a retrospective file review. Because this study was conducted in a hospital, conclusions cannot be extrapolated to the general population; however, a community-based study may be planned in the future. As these factors play a significant role in the development of psychiatric illness, other significant factors like familial neglect, school dropouts, antenatal history (Low birth weight, mode of delivery), family characteristics (parents' age and education, family size), and individual characteristics (e.g., birth order, season of birth) should be considered in future studies. Children and teenagers are now experiencing mental health

issues due to the COVID-19 pandemic. Our study, however, does not demonstrate the increased prevalence of psychiatric illnesses in children and adolescents as a result of COVID-19 because it is a clinic-based study and we had fewer patients in OPD because of the lockdown during COVID-19.

Conflict of interest

None declared.

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