Sociodemographic Profile of Psychiatric Disorders among Children in a Tertiary Care Hospital in Western India

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ABSTRACT

Introduction: World Health Organization (WHO) states that, mental health disorders are one of the leading causes of disability worldwide among adults and its prevalence is increasing in children. Figures report that Worldwide 10-20% of children and adolescents experience some form of mental disorders and half of all mental illnesses begin by the age of 14 years. This study intended to find the types of psychiatric disorders according to DSM-5 and associated sociodemographic factors among children attending/referred to the psychiatric department in a tertiary care hospital in Western India

Material and methods: An analysis was conducted of patients who attended the psychiatric clinic from July 2016 to September 2018. Children were screened using PSC-35 and Youth- self report PSC'. Disorders were classified according to Diagnostic and Statistical Manual- 5. Quantitative variables were analyzed in terms of Mean and SD. Qualitative data was depicted in number and percentage.

Results: the mean age of all the screened children were 10.50 ± 2.78 years Predominance of males was noticed. It was seen that the male children, mostly suffered from Neuro developmental disorders (n=72; 14.4%). While in the female children, a prominence of anxiety disorder was seen (n=37,7.4%), no gender bias was seen in somatic symptom and related disorder (n=44,8.8%), Depressive disorder(n=30,6.4%), Feeding and eating Disorder (n=28,5.6%) other psychotic mental disorders was seen (n=31; 6.2%).

Conclusion: Children presenting with psychiatric disorders in the hospital showed a wide age range and among them, males outnumbered females.

Keywords: Sociodemographic, Psychiatric Disorders

INTRODUCTION

In India there are 472 million children under the age of 18 years, representing 39% of the country's total population. A large percentage, 29% of that figure constitute children between the ages of 0 to 6 years.[1] According to the census of 2011, India has 158.8 million children in the age group of 0-6 years which constitutes 13.12% of the total population. In India children between the age range of 0-14 years makes 30.9% of the total population.[2]

Despite such a huge number very few children are examined for prevalence of Psychiatric morbidities. Children are the future of every nation and producing mentally healthy and competent future is the responsibility of every nation. Many Psychiatric Disorder among children undergo unnoticed by parents or caregivers due to many issues like overcrowding, poverty, lack of education and awareness. As much as 12%

to 29% of the children aged 5-15 years have been found to be suffering from some kind of psychiatric morbidity in different countries including India[3]. Literature reports that in India most commonly Psychiatric reffereal is taken for children in cases of Intellectual disability or Behavioral disorders.[4] However, in community based studies, the most common disorder has been found to be conduct disorders[5] Studies in India found that most common diagnosis among children less then 5 years is found to be Hyperkinetic disorder, Hysterical Neurosis among 6-11 years and Psychosis in the age group of 12-16 years.[7] Many new diagnostic entities related to mood disorders have been added in DSM-5 and very few studies have been done in our country which study the extent of prevalance of Psychiatric disorders among children using DSM-5 diagnosis.

MATERIAL AND METHODS

The study was carried out in a tertiary care centre.It is a descriptive and cross-sectional study conducted between July 2016 to September 2018. Institutional Ethics Committee Clearance was obtained. Written informed consent were obtained from parents of every patient enrolled for the study. Children in the age group of 4-18 years were included in the study. Children with history of Head Injury, Seizure Disorder, Intellectual Disability were excluded from the study. All the parents and and adolescents (11 years and above) were given 'Pediatric Symptom Checklist-35' and 'Youth- self report PSC'. Those scoring above cut off were included and were given the diagnosis according to DSM -5[8]. Quantitative variables were analysed in terms of Mean and SD. Qualitative data was depicted in number and percentage.

Tools

Pediatric Symptom Checklist – 35[7]: It is a psychosocial

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screening tool designed to facilitate the recognition of cognitive, emotional, and behavioral problems among children. This scale can be used for age group of 4-16 years. Parent reporting version. Sensitivity: 85% -95%, Specificity: 68% - 100%, High test-retest validity, Cronbach α = 0.86 (high internal consistency).

RESULTS

A total of 1857 consecutive children between the age range of 4-16 years were screened. Out of the 1171 referral from various departments 317 (63.4%) children scored above the cut-off point on PSC scales. Out of 686 children directly attending Psychiatric OPD 183 (36.6%) children were selected after screening for further assesement.This way of sample of 500 children was obtained using convenience sampling.

(In Table 1) The mean age of all the screened children were 10.50 ± 2.78 years. 30% children were in the age range of 4-8 years, 31.4% were in the age group of 9-11 years, 29.8% were in 12-14 age range and 8.8% were in 15-16 years age range. (Figure 1) 279 (55.8%) of the screened sample were male and 221 (44.2%) were females. (Figure 2) 0.6% of the children belonged to Upper class, 44.2% from Lower middle class, 22.4% were from Upper Lower, 20.08% were from Upper middle class and 12%were from Lower class.(Table 2) Among the screened children 65% were from Urban area and 35% from Rural area.In Table 3 Most cases had family history of Alcohol dependence syndrome (7.2%), followed by Depression (3.6%), Psychoses (3.2%), Generalized Anxiety Disorder (2.6%) and Attention deficit hyperactive disorder (2.4%).There were (1.4%) cases which had family history of intellectual disability among which two had Down's Syndrome.

In Table 4 The various Psychiatric diagnosis according to DSM-5 has been described. It was observed that 24.6% of the screened population had no psychiatric (diagnoses. 20.2% had Neurodevelopmental disorder, in which 13.4% had ADHD, 4.6% had specific learning disorder (written and mathematics), 1.8% had Autism Spectrum disorder and 0.4% had language disorder. 13.8% population had had Anxiety disorder where 8.2% had social anxiety disorder, 3.4% had specific phobia, 1.6% had general anxiety disorder, 0.2% had Selective Mutism and 0.2% had panic disorder. 6.6% had Disruptive, impulse-control, and conduct disorder out of which 1.2% had Oppositional Defiant Disorder (ODD) and 5.4% had Conduct disorder. 6.6% had Depressive disorder out of which 2.6% had Major Depressive disorder, 1.8% had DMDD, 1.8% had Unspecified Depressive disorder and 0.2% had Depression with psychotic features. 5.6% had elimination disorder consisting of nocturnal enuresis. 5% had Schizophrenia spectrum and other psychotic disorder out of which 1.4% had Schizophrenia, 1.2% had Brief psychotic disorder, 11 had Unspecified Schizophrenia Spectrum and other Psychotic Disorder and 0.2 had Cannabis induced psychotic disorder. 8.8% had Somatic symptom and related disorder in which 6.8% had Conversion Disorder and 2% had Unspecified Somatic Symptom and Related Disorder.

Age (Years)	No of cases	Percentage
6 – 8	150	30.0
9 – 11	157	31.4
12 – 14	149	29.8
15-16	44	8.8
Total	500	100.0

Table-1: Age wise distribution of the screened patients.

Residence	Male	Female	n=500 (%)
Urban	184	141	325 (65.0)
Rural	95	80	175 (35.0)

Table-2: Domicile wise distribution of the screened patients.

Family history	No. of cases	Percentage (n=500)
No	356	71.2
ADS	36	7.2
Depression	18	3.6
Psychosis	16	3.2
Anxiety Disorder	13	2.6
ADHD	12	2.4
ID	7	1.4
PD	4	0.8
OCD	4	0.8
Autism	3	0.6
Bipolar disorder	2	0.4

Table-3: Family history of Psychiatric disorder wise distribution of all the screened patients
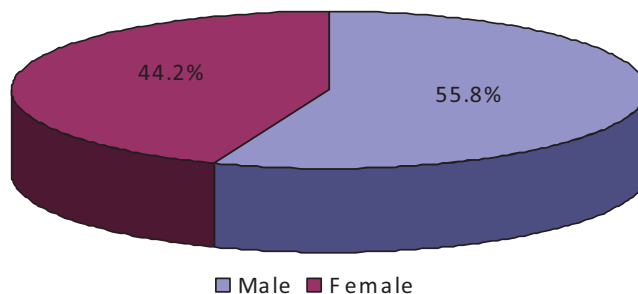

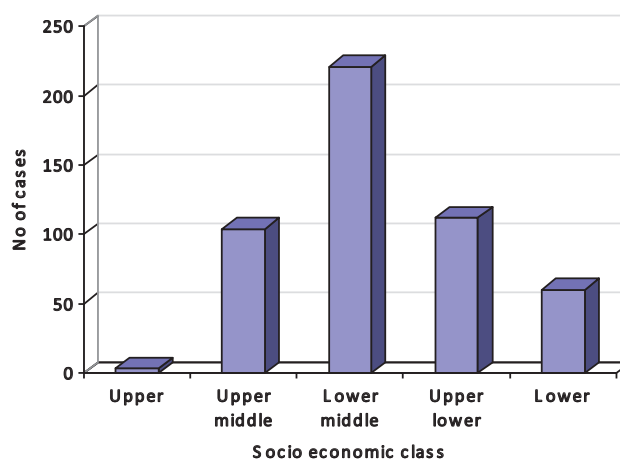**Figure-1:** Pie diagram showing sex wise distribution of the screened patients.

Figure-2: Socio-economic class wise distribution of screened patients.

Psychiatric morbidity	Males n(%)	Females n(%)	Percentage
No diagnosis	63	60	24.6
Neuro developmental disorder	72 (14.4)	29 (5.8)	20.2
ADHD	46	21	
ASD	8	1	
LD	2	0	
SLD	16	7	
Anxiety disorder	31(6.2)	37 (7.4)	13.8
GAD	4	4	
Mutism	1	0	
SAD	19	22	
Specific Phobia	7`	10	
Panic disorder	0	1	
Somatic symptom and related disorder	20(4)	24(4.8)	8.8
Conversion Disorder	16	18	
Unspecified Somatic and Related Disorder	4	6	
Disruptive, impulse-control &conduct disorder	25 (5)	8(1.6)	6.6
ODD	6	0	
Conduct Disorder	19	8	
Depressive disorder	15(3)	15(3)	6.4
DMDD	7	2	
MDD	8	13	
Elimination disorder	15 (3)	13(2.6)	5.6
Nocturnal enuresis	15	13	
Feeding and eating disorder	14 (2.8)	14(2.8)	5.6
Anorexia Nervosa	1	0	
Pica	13	14	
Schizophrenia spectrum and other psychotic disorder	13 (2.6)	12(2.4)	5.0
Brief Psychotic Disorder	3	3	
Schizophrenia	4	3	
Substance induced Psychotic Disorder	6	0	
Unspecified schizophrenia spectrum and other psychotic disorder	0	6	
Bipolar and related disorder	4(0.8)	2 (0.4)	1.2
Bipolar 1	4	2	
Trauma-and stressor related disorders	2(0.4)	2(0.4)	0.8
Acute stress reaction	2	1	
Adjustment Disorder		1	
Sleep-wake disorder	1(0.2)	3(0.6)	.8
Non-Rapid-Eye Moveent Sleep Arousal Disorder, Sleepwalking, Sleeptalking Type	1	3	
Obsessive Compulsive and related Disorder	2	0	0.4
Substance-related and addictive disorders	2	0	.4
Personality disorder	0		.2
Borderline personality disorder	0	1	
Dissociative disorder			.2
Dissociative amnesia	0	1	
Table-4: Psychiatric diagnoses wise distribution among the screened patients			

5.6% had Feeding and eating disorder out of which 5.4% had pica and 0.2% had Anorexia Nervosa. 0.4% had Obsessive Compulsive Disorder. 1.2% had Bipolar Disorder. 0.8% had Sleep wake Disorder in which Sleep walking was seen in 0.4% and Sleep terror was seen in 0.4%. 0.4% had Substance-related and Addictive disorders. 0.2% had Personality disorder cluster -B type. 0.2% had Dissociative Disorder (Dissociative Amnesia, the child was a rape victim.

DISCUSSION

Mental health morbidity is an important area of focus in children and adolescents attending Paediatric and Psychiatric outpatient department. Clinical diagnoses in Psychiatry in children and adolescents can range from mild learning disabilities to major psychotic illness.

To our knowledge this is the first study which studies the clinical profile and diagnose children and adolescents coming to Paediatric OPD on the basis of DSM-5[8]

The study focused on socio-demographic and Psychiatric profile of children and adolescent attending and being referred to Psychiatric OPD in a tertiary care centre. In this study 61.4% of children were in age group of 6- 11 years which It is similar to a previous study done in Psychiatry clinic in Paediatric OPD by Sarwat et al, where 62.5% children were in age group of 5-10 years.[9]

Sex

It is commonly seen in the Indian setting that a male child is brought to the attention of medical personnel for health-related problems far earlier than female children. In this study as well boys (55.8%) outnumbered girls (44.2%) in the sample. The finding in this study agrees with previous studies where male preponderance was seen in children and adolescents presenting to Psychiatric or Paediatric OPD.[9,10]

Socio-economic status

The socio-economic status of patient was evaluated using the modified Kuppuswamy scale and corrections applied for the year in which patient was examined according to the standard prescribed procedure. It was evident in our study that 64. 28% of population were from middle socio-economic status and 34.4% were from lower socio-economic status. It implies that children and adolescents residing in nearby area have better socio-economic status, this observation is also supported by the finding of the 'Ease of living Index' which is recently conducted by the housing and Urban Affair Ministry. This index assesses the socio-economic and other living standards of a place. Pimpri Chinchwad is ranked 69th in country and the economic and employment score is 1.86 out of 5.[11]

So, it can be assumed that the children and adolescents attending our hospital has better socio-economic status in comparison to most of the cities in our country.

Domicile

It can be assumed that parents living in the urban background are more aware and disquieted about their children's health related problems. Moreover, our hospital is based in an urban area this explains the dominance of urban residents (65%) in the study . Previous study done by Solanki et al also reports dominance of Urban population in their study.[12]

Family history

Table 3 demonstrates the distribution of Psychiatric morbidity in families of all the screened patients it was noted that Alcohol Dependence Syndrome (ADS) was the most prevalent diagnosis followed by depression and psychosis. These findings are similar to study done by Nayak et al[12] where commonest history among the children and adolescents attending healthcare services were depression (29%) followed by psychoses (18%) and substance relate disorder in (11%).[12]

Psychiatric diagnoses in the study group

All the cases were screened by screening tool and later detailed evaluation was done and diagnoses were made by consensus of senior Psychiatrists.

In this study 13.4% of screened patients had ADHD.This is similar to the estimated prevalence rate of ADHD in studies conducted in developed parts of the world which reported a range of 1.7%-17.8%.[13] Systemic review done in child welfare system among children and adolescents also reported that 11% proportion suffered from ADHD[14]

Prevalence of Specific Learning disorder in our country is between 2-18% and the present study shows that 4.6% cases had Specific Learning disorder.

Language disorder has the prevalence of 1-13%[15] but in this study only 0.4% children had language disorder.

Worldwide prevalence of Autism Spectrum disorder is 1% and, in this study, we noted 0.4% population had ASD[16]

Meta-analysis and Systemic Review report a 4%-32% prevalence of Anxiety disorder, and 0.5-1% prevalence of OCD. It was found that 13.8% screened population suffered from anxiety related disorder and 0.4% population had OCD. These figures are much less compared to the studies quoted above.

In our country child rearing is more authoritarian and free verbal expression of emotions in children is not given due importance thereby bodily symptoms is the only way through which expression is conveyed.

Previous studies also suggest that there is a high prevalence of conversion disorder in form of focal seizures, abnormal movements and hyperventilation in South Asian countries[17] in comparison to west.[18,19] This study indicates that 8.8% population had Somatic symptom and related disorder which is analogues to study done by Chakraborty et al which register 8.8 percent of Somatic symptom and related disorders.

This study posits that 6.8% of the screened population had conversion disorder of varied type and 2% had had Unspecified Somatic Symptom and Related Disorder. Indian studies have shown 6.3% - 15.98% prevalence of Conversion disorder in Indian children.[20,21]

One of the studies conducted in Uganda found prevalence of depressive disorder among children and adolescents being 8.6%[21] this study also gives contributing results. the prevalence of depressive disorders in childhood and adolescence is 4–5%.[22] A clinic based study found childhood depression is 6% in India.[20] According to a systemic review and meta-analysis the prevalence estimates of depressive disorders ranged from 3% to 38% among children and adolescent in a Child Welfare System. This study showed 6.6% had disruptive, impulse-control, and conduct disorder, Chakraborty et al reported 4% of the same. One-year population prevalence estimation of conduct disorder ranges from 2% to 10%, we have 5.4% children who suffered from conduct disorder which is within expected lines.

For diagnosis of DMDD and ODD irritability and temper outbursts are required however there is a difference in severity of DMDD where outburst must occur three times per week, whereas in ODD once a week is also significant. Duration also differs in both like DMDD requires 12 months duration ODD suffices with 6 months. Impairment seen in DMDD should occur in two of the three settings and must be severe enough in one setting, whereas ODD has no such criteria. But DSM-5[13] states that while making diagnoses of ODD preference should be given to DMDD. In this study it was noted that 1.2% of screened population had ODD this number is less in comparison to Studies done in other country. [13,22]

Previous studies have reported that Adjustment disorder prevailed 5% - 20% [16]

Chakraborty et al[8] reported rate of elimination disorder

being 2%, worldwide prevalence of enuresis among children aged 6-12 years is 1.4%-28%[23] and our finding of 5.6% of Nocturnal enuresis is in accordance with these studies.[13]In the same study 2% cases had Trauma and Stress related disorder which is slightly greater than the present study.

The Lifetime prevalence of Schizophrenia is approximately 0.3%-0.7%.[16]

But studies done in central part of India states that Schizophrenia and other Psychotic disorder is 5.7% This study also reported 5% population of Schizophrenia Spectrum and other Psychotic Disorders.[25]Dissociative disorder is around 1% in general population as shown by earlier studies. [26,27] Our findings had 0.2% Dissociative disorder cases.

As majority of the cases were from Paediatric outpatient department and it is well known pica is seen in individuals with iron deficiency anaemia mostly due to hookworm infestation given the background of the population tethering to our OPD other organic causes of pica were also seen as most of the children had Anaemia due to varied reasons, sometimes traumatic events are associated with pica like parental neglect, lack of parent child interaction, child abuse as 4 of the cases of Pica also had family history of ADS.[28]

Exact prevalence of Pica is under-reported but our screened group had 5.4% cases of Pica and one case of Anorexia nervosa who was a boy from lower middle-class family this was unusual case as majority of the anorexia patients are females.

As the increased diagnoses of Paediatric bipolar was the sole reason behind development of DMDD, we found that 1.8% had DMDD and 1.2% had bipolar disorder our findings agree with the study done by Fristad et al[29] which described that chronic irritability is common to both the disorder but in spite of that DMDD cases were diagnosed more in comparison to bipolar disorder.

Parasomnias has a prevalence of 5% to 20% in children and adolescents in this study 0.8% cases had Parasomnias[30,31] which is much less compared to the studies quoted above.

Limitations of the study

Being a hospital-based study; it has its limitations of not being representative of the community.

CONCLUSION

The findings of this study from a tertiary care hospital in Maharashtra showed that children of all ages came with psychiatric problems. There was a male predominance, higher presentation from Urban dwellings and many of them belonged to Lower middle class family. There is presence of family History of Alcohol Use Disorder followed by Depression and Psychosis in the children. The most commonly diagnosed disorder was Neurodevelopmental Disorder, Anxiety Disorder, Somatic Symptom Related disorder, Depressive disorder including cases of DMDD were found among the population. These not only throws light on the variation of disorders pattern, but also help health care workers in further enhancing their skill for diagnosis of children.

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