Original Article

Mental Health Disorders among Children and Associated Parental Stress: A Cross-Sectional Study in Pediatric OPD of Burdwan Medical College, West Bengal

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Abstract

Background: Identification of mental health disorders during childhood is crucial for healthy 'adult roles' in the society, so this study aimed to estimate the magnitude of 'any mental health disorder' and to find out its correlates among children attending the pediatric out-patient department (OPD) of a medical college in West Bengal and to estimate parental stress among their parents. **Materials and Methods:** It was a descriptive cross-sectional study done in the pediatric OPD of Burdwan Medical College, West Bengal, during July–December, 2021. The calculated size of 288 children aged between 4 and 12 years and attending with either of their parents was selected through systematic random sampling. One of their parents (preferably mother) was interviewed using a schedule, containing a pre-validated pediatric symptom checklist and parental stress scale. Ethical clearance was obtained from the Institutional Ethics Committee. Data were analyzed using SPSS-v23. **Results:** The median age of the children was 7 years (5–8 y.). The majority of them were male (57.6%), lived in urban areas (59.0%), and lived in joint families (57.6%). One-fifth (20.5%) of the children were found to have any mental health disorder (AMHD). Living in an urban area (aOR = 2.5, 95% CI: 1.1–5.7), belonging to a nuclear family (aOR = 3.6, 95% CI: 1.7–8.1), and belonging to a family with social problems (aOR = 7.8, 95% CI: 2.3–27.2) were significant correlates of AMHD. Parental stress [median: 60 (55–63)] was found significantly higher ($P < 0.001$) among parents of children with AMHD as compared to the parents of others. **Conclusion:** The magnitude of AMHD was high in this study, indicating toward the necessity of implementing opportunistic screening and appropriate public health action.

Keywords: Children, mental health disorder, pediatric OPD, parental stress, West Bengal

Introduction

Mental health is an integral and important dimension of health. World Health Organization (WHO) defines mental health as not simply the absence of disorder but 'a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community'.[1]

Childhood and adolescence are critical stages of life that shape the dimensions of mental health and that time rapid growth and development takes place in the brain and psyche, which later helps to develop cognitive and social-emotional skills that shape their future mental health in adulthood.[2] It is found that mental health disorders of childhood affect educational attainment, employment prospects, and social relationships in adult life.

In the past decades, though mental health disorders of adults gained concern of the scientific society worldwide, the epidemiology of mental health disorders among children is much less studied, maybe because the majority of parents do not seek help or receive care due to unawareness or due to social stigma.

As per the latest edition of the American Psychiatric Association's diagnostic manual (the DSM-5), mental health disorder is defined as "a syndrome characterized by a clinically significant disturbance

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in an individual's cognitive, emotion regulation, or behaviour that reflects a dysfunction in the psychological, biological, or developmental process underlying mental functioning."[3]

The common mental health disorders among children are conduct disorders, mood disorders (anxiety, depression), autism spectrum disorders, attention disorder, obsessive compulsive disorder, and post-traumatic stress disorder.[4]

The risk factors for developing psycho-social problems among children are like early negative experiences at homes, schools, or social media, such as exposure to violence, bullying or negligence, mental illness of a parent or other caregiver, poverty, parental substance use, and reconstitute families.[2] On the other hand, having a child with psycho-social or mental health disorder is always stressful for their parents who are taking care of them. These parents, other than bearing financial pressures, living in an unsafe environment, and facing discriminations, always face emotional pressures such as feeling ashamed or feeling guilty and also have a negative effect on a parent's mental health.

In India, the prevalence of mental health disorder among 5–15 years is around 10%. This suggests around 50 million children under age of 18 years have these problems and would benefit from specialist services.[5] A study in Bangalore revealed the overall prevalence of child and adolescent (4–16 years) mental health (CAMH) disorder was 12.5% and was found more in urban areas (13.9%) as compared to rural areas (12.4%).[6] Another study in Lucknow,[6] India, estimated the prevalence of child and adolescent mental disorders as 12.1%, whereas the prevalences of conduct disorder and development disorder were 1.78% and 1.26%, respectively. Studies conducted in rural schools of Haryana and West Bengal in 2012 among 0–19 years of children have shown the prevalence of CAMH disorders as 20.7% and 33.3%, respectively.[6] However, the prevalence found in the urban school children in Tamil Nadu (8–12 years)[7] and Chandigarh (4–11 years)[8] was 33.7% and 6.33%, respectively. Apart from such studies, previous epidemiological studies have found the prevalence of child and adolescent mental disorders to be 17.7% in Ethiopia, 15% in Bangladesh, and 6.9% in Puerto Rico.[9]

The pediatric symptom checklist (PSC) is one of the most frequently used screening measures for mental health disorder in children and adolescents. PSC-17 is widely being used in India to improve the recognition and treatment of psycho-social problems in children aged 4–16 years. It is a brief version of the PSC-35 and having a sensitivity of 0.42 and a specificity of 0.86.

Parental stress scale is a widely used instrument that assesses parental stress related to child rearing.

It is evident in the literature that early detection and treatment improves the prognosis of mental health disorders, which may lead to considerable health benefits such as a substantial decrease in daily life restrictions in later life and decreased long-term work disabilities.[2]

In low- and middle-income countries like India, there lies a gap between needs and services for mental health, more so for the pediatric age group. Most of the services are confined in the perimeter of hospitals and psychiatric institutions leaving out community mental health. Studies on prevalence of mental health disorders among children in various settings of India are scarce. In West Bengal, only a few prior studies were found, although the phenomenon needs to be studied widely in different settings and different time frames. In this context, the present study had been conducted to estimate the magnitude of any mental health disorder (AMHD) and to find out its correlates among children attending the pediatric out-patient department (OPD) of a medical college in West Bengal and to estimate parental stress among their parents.

Materials and Methods

Study design, study setting, and study population

This descriptive observational study with cross-sectional design was conducted in the pediatric OPD of Burdwan Medical College and Hospital, West Bengal, India, between July and December, 2021 among children aged between 4 and 12 years attending (the pediatric OPD in our medical college treats patients of the age group of 0 months to 12 years, and PSC-17 checklist is validated for children of 4–16 years) the OPD with their parents during the period of data collection. Children whose parents did not give informed consent to conduct the study and who were seriously ill were excluded. Considering the prevalence of AMHD to be 25%,[10] with 95% level of confidence and an absolute precision of 5%, the minimum required sample size was found to be 288. Systematic random sampling was used to select the study subjects as detailed under the data collection section. Parents of the selected children were interviewed.

Tools, techniques, and data collection

A pre-designed, pre-tested semi-structured schedule was used to interview the parents of the selected children. This contained the following sections:

a. Questions on socio-economic characteristics (age, gender, religion, caste, type of family, residence, presence of siblings, educational status of parents, socio-economic status, presence of social problems in the family like unemployment, substance abuse, domestic violence, child labor, school drop-outs etc., any birth complications, presence of any past psychiatric illness) of the children and their parents.
b. Pediatric symptoms checklist[11] for screening the presence of mental health disorder among children (4–16 years). There were a total of 17 questions on the frequency of selected behaviors of the child, and the response to each is categorized as "never", "sometimes", and "often". Scores of 0, 1, and 2 are assigned for these categories, respectively. A total score of ≥ 15 is suggestive of the presence of mental health disorder. Internalizing, externalizing, and attention scores were also calculated

from this scale to screen for anxiety or mood disorder, conduct or adjustment disorder, and attention disorders like attention deficit hyperactive disorder and attention deficit disorder, respectively.

c. Parental stress scale[12] was used for assessing the level of stress experienced by the parents of the study population. There are 18 questions regarding feelings about their parenting role, exploring emotional benefits, personal development, demands on resources, and feeling of stress. Among them, 10 questions addressing negative and stressful aspects of parenting and remaining address positive aspects of parenting. On the basis of the degree to which the parents agree or disagree with the following items, the responses to each question have been categorized as 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. The scores for eight items explaining positive aspects should be reversed as follows: (1 = 5) (2 = 4) (3 = 3) (4 = 2) (5 = 1). The question scores are then summed. Overall possible scores on the scale range from 18 to 90. The higher the score, the higher the measured level of parental stress.

Ethical clearance was obtained from the Institutional Ethics Committee of Burdwan Medical College and Hospital, Burdwan, West Bengal (Memo No.:273, dated 16th September 2021). Analyzing the previous records from out-patient registers, it was found that the average number of children (4–12 years) seen in each out-patient day was 200. On pre-testing of the schedule, it was found feasible to interview 15 parents on each day of data collection and about 150 would meet the eligibility criteria. So, the sampling interval was 10. Data collection was done on all working days of the week. On each day, before the start of the OPD, a random number was chosen between 1 and 10 to start from and every 10th number from it was noted down for a total of 15 numbers. One of the researchers was placed at the entry of OPD, who screened for eligibility of the study participants and asked for the consent. Eligible consenting participants were enlisted by their name, and those whose serial number was the same as a previously selected number, as mentioned before, were given a token to show outside the OPD. An OPD assistant was placed at the exit of OPD, who selected the participants with the token and took them, along with their parents, to a separate room where another researcher interviewed them with the schedule for a minimum of 10–15 min. The mothers of the subjects were given preference for interview; however, in their absence, fathers were interviewed. Prior to data collection, informed consent was obtained from each participant. Confidentiality and anonymity of information were also maintained.

Data management and analysis

Collected data were checked for completeness and consistency and then were entered in the computer on Excel data sheets. Quantitative data were expressed in median (IQR). Qualitative data were expressed in proportion. Descriptive statistics was applied to organize and present the data in tables and diagrams. Association between presence of mental disorder, degree of parental stress, and socio-demographic characteristics was checked using Chi-square or Fisher's exact test as applicable. A P value less than or equal to 0.05 was considered statistically significant. Multi-variable logistic regression was used to predict the presence of mental disorder. Data were analyzed using Microsoft Excel and IBM SPSS Statistics (v. 23.).

Results

This study was conducted among selected 288 children (4–12 y), and the median age of the studied children was 7 years (IQR: 5 y.–8 y.). 57.6% were male, and the rest were female children. About two-third of the children were Hindu (68.7%); about half belonged to general caste (49.0%), lived in urban areas (59.0%), and were members of a joint family (57.6%). Fathers of ten children and mothers of 12 of them were illiterate, while fathers of 25.7% children and mothers of 25.1% children were at least a graduate. Lower-middle socio-economic status was found to be most predominant (39.9%), followed by middle (29.5%). More than half (55.6%) of children had at least one sibling. Birth complications were present in case 12.5% and 25/288 (8.7%) of the study subjects had a history of being diagnosed with a psychiatric illness. For 8.3% of the children, presence of social problems in their family could be elicited. The PSC-17 scale screens for the presence of AMHD through four cut-offs. Fifty-one children (17.7%) were found positive for attention disorder. For the externalizing domain, 9.0% were found to be positive, indicating toward conduct disorder, oppositional defiant disorder, adjustment disorder, and so on. The internalizing score was more than the cut-off (≥5) for 6.6%, indicating the presence of anxiety and mood disorders. The PSC_17 total score was ≥15 for 16.3% children. Considering all the cut-off values of PSC_17, about one in each five children, that is, 20.5%, had 'any mental health disorder' [a score above the cut-off value in at least one domain (attention, internalizing, externalizing as total score) they have been classified as having AMHD] [Figure 1].

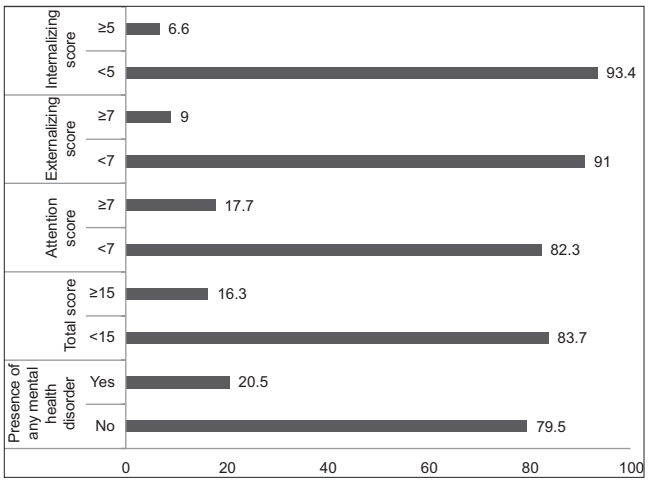

Figure 1: Presence of mental health disorder in the study population according to various categories of score in PSC-17 Scale (n = 288)

The screened presence of AMHD and median parental stress (IQR) was found significantly more among children living in urban areas ($P < 0.001$ and 0.003), children belonging to a nuclear family ($P = 0.006$ and < 0.001), children belonging to families experiencing social problems ($P < 0.001$ and < 0.001), and children with a past history of psychiatric illness ($P < 0.001$ and < 0.001). The proportion of AMHD was also found significantly more among children with Islam religion ($P = 0.030$) and among children with a history of birth complications ($P = 0.005$) [Table 1].

Through multi-variable analysis, children living in urban areas were found to be 2.5 times more likely to have AMHD as compared to children living in rural areas [aOR = 2.5 (CI = 1.1–5.7)]. For children belonging to a nuclear family, aOR for having AMHD was 3.6 (CI = 1.6–8.1); for children belonging to families experiencing social problems, the aOR was 7.8 (CI = 2.23–27.2). Among 25 children with prior history of psychiatric illness, 24 qualified for the criteria of having AMHD, resulting in an aOR of 112.7 [95% CI: 12.9–984.3]. [Table 2].

The median score of the parental stress scale among the parents of the study population was 35 (IQR = 30-43). The median score of parental stress was 32 (IQR = 28–38) among the parents of the study children who did not have AMHDs, whereas the median score of parental stress was 60 (IQR = 55–63) for parents of the children who had any type of mental health disorders. The difference was found to be statistically significant ($P < 0.001$) [Figure 2].

A 3 points scale was devised from the present data including type of family (nuclear weighted 1), type of residence (urban weighted 1), and history of social problems in the family (presence weighted 2) to readily screen the children with possible mental health disorder. This significantly added to the prediction of AMHD with the area under the curve being 0.771 [95% CI: 0.702–841] (P value: <0.001). Out of a total score of 4, a score ≥2 yields a sensitivity of 66.1% and a specificity of 77.7% for screening of AMHD [Figure 3].

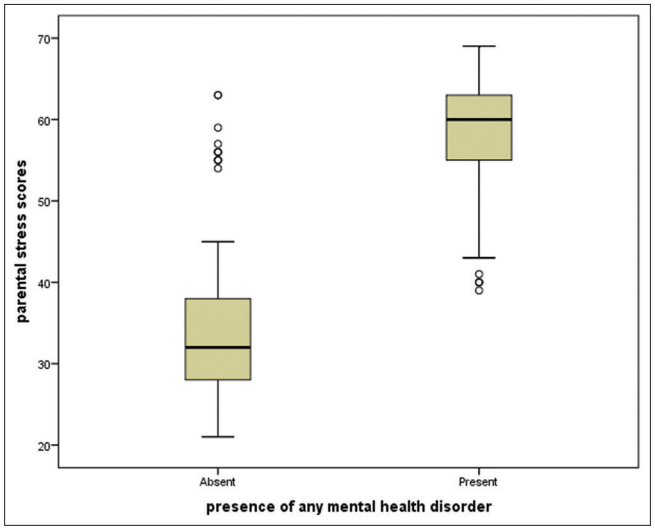

Figure 2: Parental stress score among parents of children with and without the presence of AMHD (n = 288)

Discussion

Mental health is the overall wellness of how to behave and regulate feelings. Mental health among children is generally found as delays or disruptions in developing age-appropriate thinking, behaviors, social skills, or regulate emotions which can hamper the proper cognitive development of the child.[13] Parental stress and child behavior problems have been posited to have a transactional effect on each other across development. This study had been planned to estimate the proportion of children with mental health problems among pediatric out-patients of a medical college and to assess parental stress of their parents by using PSC-17 scale and parental stress scale.

Though some studies were done on this topic previously, the age groups selected for those studies were different, mostly including the adolescent age group. To generate evidence regarding magnitude of mental health disorder among children, out-patient setting of a medical college hospital gives an advantage of opportunistic screening and avoids the hindrances of social stigma and data contamination in community or school settings. Thus, this study is unique in its nature.

In our study, we found for the externalizing domain, 9.0% were positive, the internalizing score was more than the cut-off (≥5) for 6.6%, and the PSC_17 total score was ≥15 for 16.3% children. Living in an urban area (aOR = 2.5, 95% CI: 1.1-5.7), belonging to a nuclear family (aOR = 3.6, 95% CI: 1.7-8.1), and belonging to a family with social problems (aOR = 7.8, 95% CI: 2.3-27.2) were significant associates of AMHD.

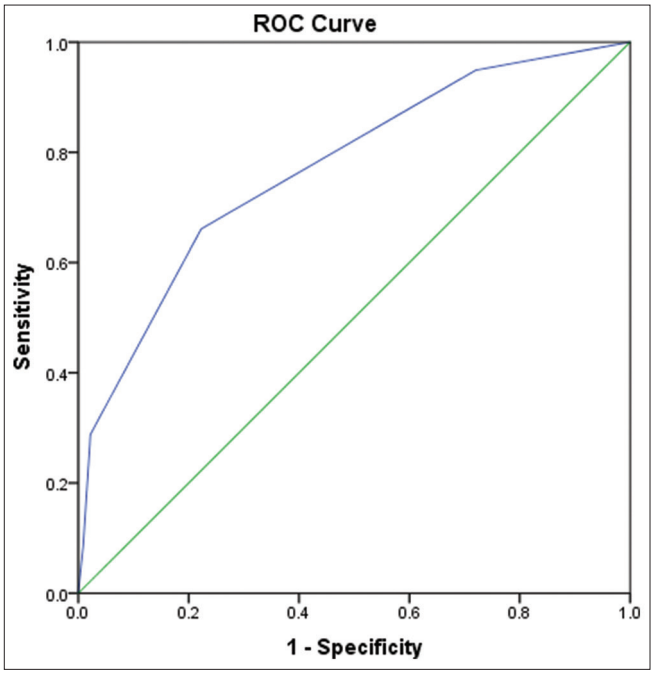

Figure 3: ROC curve showing the accuracy of 'mental health scale' to predict the presence of AMHD

Table 1: Presence of any mental health disorder and median parental stress score in various socio-demographic categories of the study subjects (n=288)

Socio-demographic characteristics	Total No (%)	Any mental health disorder		p value (df) (Chi square test)	Median parental score (IQR)	*P*
		Present No. (%)	Absent No. (%)			
Age in completed years						
4-8	219 (76.0)	48 (21.9)	171 (78.1)	0.185 (1)	35 (30-45)	0.560†
9-12	69 (24.0)	11 (15.9)	58 (84.1)		34 (29-43)	
Gender						
Male	166 (57.6)	34 (20.5)	132 (79.5)	0.556 (1)	35 (30-43)	0.646†
Female	122 (42.4)	25 (20.5)	97 (79.5)		35 (30-43)	
Religion						
Hindu	198 (68.7)	34 (17.2)	164 (82.8)	0.030 (1)	35 (30-40)	0.943†
Muslim	90 (31.3)	25 (27.8)	65 (72.2)		35 (28-55)	
Caste						
General	141 (49.0)	32 (22.7)	109 (77.3)		36 (30-45)	
SC	67 (23.3)	14 (20.9)	53 (79.1)	0.205 (3)	35 (30-43)	0.457ǂ
ST	32 (11.1)	2 (6.2)	30 (93.8)		34 (28-38)	
OBC	48 (16.7)	11 (22.9)	37 (77.1)		34 (27-54)	
Residence						
Rural	118 (41.0)	12 (10.2)	106 (89.8)	<0.001 (1)	34 (28-39)	0.003†
Urban	170 (59.0)	47 (27.6)	123 (72.4)		37 (30-54)	
Type of family						
Joint	166 (57.6)	25 (15.1)	141 (84.9)	0.006 (1)	32 (26-39)	<0.001†
Nuclear	122 (42.4)	34 (27.9)	88 (72.1)		39 (33-54)	
Presence of both parents						
Both alive	259 (89.9)	54 (20.8)	205 (79.2)	0.430 (1)	31 (28-38)	0.246†
Either of the parent died	29 (10.1)	5 (17.2)	24 (82.8)		35 (30-43)	
Father's education						
Illiterate	10 (3.7)	1 (10.0)	9 (90.0)		38 (25-39)	
Non formal literate	7 (2.6)	3 (42.9)	4 (57.1)	0.411 (3)	63 (26-63)	0.414ǂ
Primary to higher secondary	185 (68.0)	37 (20.0)	148 (80.0)		35 (30-43)	
Above higher secondary	70 (25.7)	15 (21.4)	55 (78.6)		34 (28-53)	
Mother's education						
Illiterate	12 (4.4)	5 (41.7)	7 (58.3)		42 (38-58)	
Non formal literate	3 (1.1)	0 (0.0)	3 (100.0)	0.236 (3)	28 (25-39)	0.095ǂ
Primary to higher secondary	191 (69.4)	37 (19.4)	154 (80.6)		35 (29-43)	
Above higher secondary	69 (25.1)	15 (21.7)	54 (78.3)		34 (30-43)	
Socio-economic status (B.G Prasad scale)*						
Upper	6 (2.1)	0 (0.0)	6 (100.0)		27 (25-32)	
Upper middle	7 (2.4)	2 (28.6)	5 (71.4)	0.226	38 (31-54)	0.092ǂ
Middle	85 (29.5)	23 (27.1)	62 (72.9)		38 (30-45)	
Lower middle	115 (39.9)	23 (20.0)	92 (80.0)		35 (28-44)	
Lower	75 (26.0)	11 (14.7)	64 (85.3)		34 (29-40)	
Siblings						
0	128 (44.4)	26 (20.3)	102 (79.7)	0.534 (1)	35 (30-44)	0.999†
≥1	160 (55.6)	33 (20.7)	127 (79.3)		35 (30-43)	
Age of mother when conceived this child (in years)						
<18	80 (27.8)	14 (17.5)	66 (82.5)	0.272 (1)	35 (29-43)	0.914†
≥18	208 (72.2)	45 (21.6)	163 (78.4)		35 (30-43)	
Presence of social problems						
Yes	24 (8.3)	18 (75.0)	6 (25.0)	<0.001 (1)	63 (40-65)	<0.001†
No	264 (91.7)	41 (15.5)	223 (84.5)		34 (29-40)	
Birth complication						
Yes	36 (12.5)	14 (38.9)	22 (61.1)	0.005 (1)	34 (28-63)	0.328†
No	252 (87.5)	45 (17.9)	207 (82.1)		35 (30-40)	
Childhood past psychiatric illness						
Present	25 (8.7)	24 (96.0)	1 (4.0)	<0.001 (1)	63 (62-65)	<0.001
Absent	263 (91.3)	35 (13.3)	228 (86.7)		34 (28-39)	

*Modified B.G Prasad according to 2021, May, CPI 119.6, †Mann-Whitney U test, ǂKruskal Wallis test

Table 2: Multivariable logistic regression model for predicting the presence of AMHD among the study participants (n=288)

Socio-demographic characteristics	Total No (%)	AMHD		AOR (CI)	*P*
		Present No. (%)	Absent No. (%)		
Residence					
Urban	170 (59.0)	47 (27.6)	123 (72.4)	2.477 (1.047-5.704)	0.033
Rural	118 (41.0)	12 (10.2)	106 (89.8)	Ref	
Type of family					
Nuclear	122 (42.4)	34 (27.9)	88 (72.1)	3.646 (1.651-8.054)	0.001
Joint	166 (57.6)	25 (15.1)	141 (84.9)	Ref	
Religion					
Hindu	198 (68.7)	34 (17.2)	164 (82.8)	0.5 (0.2-1.1)	0.074
Muslim	90 (31.3)	25 (27.8)	65 (72.2)	Ref	
Presence of social problems					
Yes	24 (8.3)	18 (75.0)	6 (25.0)	7.8 (2.3-27.2)	0.001
No	264 (91.7)	41 (15.5)	223 (84.5)	Ref	
Childhood past psychiatric illness					
Present	25 (8.7)	24 (96.0)	1 (4.0)	112.7 (12.9-984.3)	<0.001
Absent	263 (91.3)	35 (13.3)	228 (86.7)	Ref	
Birth complication for this child					
Yes	36 (12.5)	14 (38.9)	22 (61.1)	1.6 (0.5-5.2)	0.443
No	252 (87.5)	45 (17.9)	207 (82.1)	Ref	

Hosmer and Lemeshow test p value: 0.927, Nagelkerke R^2=0.489

Parental stress [median: 60 (55-63)] was found significantly higher ($P < 0.001$) among parents of children with AMHD as compared to the parents of others. A study conducted in pediatric OPD of the Chennai Medical College Hospital[14] and research institute between May 2014 and October 2015 among 450 children aged 4–12 years revealed that overall 18% children had at least one positive PSC-17 sub-scale or a positive PSC-17 total score.[14] The study also revealed that children from a nuclear family (21%), alcoholic father (28%), single child status (33%), and living with a single parent (53%) are the risk factors associated with increased behavior problems, which is similar to the present study. Another study by IW Borowsky *et al.*[15] conducted among 2028 children aged between 7 and 15 years in primary care practices in Minneapolis-St-Paul metropolitan area showed 22% of the subjects have a positive total score. 12%, 10%, and 7% participants had positive internalizing, externalizing, and attention scores, respectively.[15] These findings are close to present study findings.

A few studies in this topic can help us to discuss and compare the findings of this study. A study by Hossain *et al.* in 2019[6] found out that the prevalence of childhood and adolescent mental health disorders varies from 12.5% to 16.5% in both rural and urban areas in India, and investigations conducted in rural schools of West Bengal had shown the prevalence of child and adolescent mental disorders as 33.33%,[6] while our study revealed 20.5% of the children and adolescents aged between 4 and 12 years and attending pediatric OPD of a medical college in West Bengal had screened presence of AMHD. From another study by Joshi *et al*. in 2021,[16] it was found that in Indian scenario, the prevalence of ADHD ranges between 2% and 17% and our study revealed the proportion of possible attention-deficit disorder was 17.7%. Coherence in findings emphasizes the increasing magnitude of mental health disorder among children; however, the differences can be explained by variation in geographical, cultural, community, and hospital settings.

According to present study, children belonging to families experiencing social problems were more prone to develop AMHD as compared to the children whose families had not experienced social problems. Similar findings can be noted in a study by Devakumar *et al*.,[17] which shows a range of psychological outcomes were higher among them who experienced traumatic beatings and family violence in home.

In a study by Lohaus *et al.*,[18] correlations between child behavior checklist and parental stress scale showed that the stress experienced by the parents was increased in presence of mental health problems in their children. Similarly in our study, it was found that the median parental stress is higher among parents whose child had screened presence of any mental health disorders as compared to the parents whose child had not.

In an OPD set-up, screening for AMHD for every child is difficult and time-consuming using PSC-17 scale. A mental health scale was derived in our study using the variables significantly associated with presence of AMHD. The sensitivity of a score of '2 and above' is 66.1% and the specificity is 77.7% for screening the presence of AMHD. Considering the findings of a study on Pathways to Care in Patients approaching Community Mental Health Satellite Clinics, primary care physicians were the most common initial point of contact. So, the scale generated from the study can be useful to them for screening the presence of AMHD.[19]

Mental health disorder among children can be found more commonly than it is expected. Parental stress, on the other hand, is also related with the presence of mental health disorder among children. Opportunity screening of mental health disorder among children for early detection should be considered in providing comprehensive primary health care from Health and Wellness Centers, as envisaged under Ayushman Bharat (AB-HWCs) and as also suggested by Solanki HK *et al*.[20] Co-ordination among the various stake-holders (e.g., parents, caregivers, teachers, health care professionals) for awareness generation will be helpful for decreasing the mental health disorders.

Limitations

The findings of the study should be interpreted considering its limited generalizability as it was not done in the community level. In this study, parental stress was assessed from either of the parents according to availability. This may vary among parents of the same child, which was not assessed. Social problems (domestic violence, addiction/substance abuse, unemployment, handicapped/chronically ill member in the family, child labor, school drop-out) were estimated as per the response of either parent and could not be cross-verified.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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