Influence of Family Environment on Childhood Emotional and Behavioural Disorders

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ABSTRACT

BACKGROUND

India has a large proportion of child and adolescent population. Psychiatric disorders are common among children and adolescents, but they are often under-diagnosed. Family environment influences psychopathology in young children. Identification of risk factors for child psychiatric disorders can lead to early identification of children at risk and facilitation of preventive interventions.

METHODS

The study was conducted among 103 children attending the Child Guidance Clinic (CGC) in a tertiary care institute in Kerala. A specially prepared proforma was used to obtain the sociodemographic profile and clinical variables. Global Family Environment Scale was used to assess the quality of family environment. ICD 10 classification of mental and behavioural disorders was used for making diagnosis, and Ravens Coloured Progressive Matrices was used for assessing intelligence.

RESULTS

Emotional disorders were seen more commonly in girls, and in older age group. Children with behavioural disorders were below average in academics and the difference between the groups was statistically significant. No statistically significant difference was found between the groups in socioeconomic status, locality, family type, family history of psychiatric illness, and in family environment.

CONCLUSIONS

Though there was no statistically significant difference, family history of psychiatric illness and poor and moderately unsatisfactory family environment was observed in a large proportion of children. This finding may have implication in management of childhood psychiatric disorders.

KEYWORDS

Family Environment, Children, Emotional Disorders, Behavioural Disorders

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BACKGROUND

India has a large proportion of child and adolescent population. Thirty nine percent of India's population was constituted by children below the age of 14 years. Among this 29 % is constituted by children below the age of five years and 28 % is constituted by children between the age of six to ten years.[1] Psychiatric disorders are common in children and adolescents. The prevalence rates vary greatly among studies. According to the WHO (World Health Organisation) statistics, the prevalence of psychiatric disorders among children and adolescents is in the range of 10 - 20 %.[2] Studies from India reported a highly differing prevalence rate ranging from 2.6 % to 35.6 % on emotional and behavioural disorders in children and adolescents.[3] A systematic review and meta-analysis on the prevalence of child and adolescent psychiatric disorders in India reported a prevalence rate of 6.46 % in the community and 23.33 % in the school.[4]

An epidemiological study conducted in Bangalore reported that the prevalence of psychiatric disorders in children below the age of 16 years as 12.5 %. The psychiatric morbidity among zero to three year old children was 13.8 per cent and 4 - 16 year old children was 12.0 per cent. Among the children between the ages of 4 to 16 years, the rates of emotional disorders [anxiety disorders, depressive disorders and OCD (Obsessive Compulsive Disorder)] were 4.2 %, behavioural disorders [ADHD (Attention Deficit Hyperactivity Disorder), ODD (Oppositional Defiant Disorder), CD (Conduct Disorder), behavioural disorder NOS (Not Otherwise Specified)] were 3 % and developmental disorders and others were 10.6 %. No significant gender differences were found in the total prevalence rates.

But higher rates of conduct disorder were seen among boys and depressive disorder was seen among girls. The study also reported that physical abuse and parental mental disorder and intrafamilial discord were significantly associated with psychiatric morbidity in children aged 4 - 16 years.[5]

A study conducted to find out the incidence of childhood psychiatric disorders in India demonstrated an annual incidence rate of 18 / 1000 / year. Neurotic, stress related and affective disorders constituted 50 %, personality and behaviour disorders constituted 10 % and the rest 40 % was constituted by disorders that have onset specific to childhood. No significant difference was found between boys and girls in general psychopathology. But behavioural and developmental disorders [PDD's (Pervasive Development Disorder), SLD's (Specific Learning Disability), ADHD, aggression, enuresis) were found to have early onset and were more common in males.

Emotional disorders (depression, anxiety, neurotic and stress related disorders) were found to have a later age of onset and were more common in females. The study reported that number of life events, overall stress score and subjective stressfulness scores were higher in the disorder group. The amount of care given, or control exercised on the child by the parents was not different between the two groups.[6]

A school-based study from Northern India reported the prevalence of depression as 39.7 % among 10-19-year-old girls.[7]

The mean age of the participants in an Iranian study to find out the psychiatric disorders in children and adolescents was 12.31 and there was significant difference in the two sexes. ADHD was found more in boys (5.03 %) and ODD was found more in girls (4.05 %). Among the age groups, 6 to 9 year olds had the highest rates of ADHD 10 to 14 year olds had the highest rates of ODD.[8]

Several factors such as demographics, psychosocial, biological, genetic, family environment and external environment interact to produce risk and protection from psychiatric disorders in children. Rarely can a single risk factor account for the development of psychopathology.[9] The most important component of a child's environment is the family. Adverse familial and environmental factors play an important role in the aetiology and prognosis of many child and adolescent psychiatric disorders.[10] High levels of family conflict or family history of psychiatric disorders is found to increase the risk of developing a mental health disorder in children and adolescents.[9] A longitudinal population-based study on early childhood aetiology of mental health problems demonstrated that maternal stress and harsh discipline practices were predictors of externalising problems and maternal stress, anxiety, harsh discipline parenting, and single parent or parental conflict were predictors of internalising problems.[11]

Studies reported an association between more conflictive or less cohesive family environments with childhood emotional and behavioural disorder.[12] A Greek school-based study demonstrated that parental marital status, poor parent-child relations and low levels of maternal subjective mental health increases behavioural and emotional problems in children.[13]

A study among 11 to 14 year old boys and girls reported a greater probability of having mental health problems when the children perceive that they are highly criticized and rejected by their parents.[14]

An Australian study demonstrated that the strongest predictors of internalising behaviours were harsh discipline, maternal stress, single parenthood and maternal substance misuse and the strongest predictors of externalising behaviours were male sex, harsh discipline and maternal stress. In the study 11.5 % of males and 8.0 % of females had internalising problems, while 7.3 % of males and 5.5 % of females had externalising problems.[15]

Though psychiatric disorders are common among children and adolescents, they are often under diagnosed. This is truer especially in case of children below the age of 12 years. Family environment and family factors that influence psychopathology in young children may be different in developing countries. Identification of risk factors for child psychiatric disorders can lead to early identification of children at risk and facilitation of preventive interventions.

We wanted to identify the pattern of psychiatric morbidity in children below the age of 12 years and compare the influence of family environment on emotional and behavioural disorders in children below the age of 12 years.

METHODS

This is a descriptive study conducted in the Child Guidance Clinic in a tertiary care institute in Kerala. The sample consisted of 114 children who attended the CGC during a six month period. The final study sample comprised of 103 children. Children between the age of 3 and 12 years attending CGC during the study period and whose parents / guardians gave written informed consent were included in the study. Children with organic disorders, and children with IQ below 70 were excluded from the study. Global Family Environment Scale was used to assess the quality of family environment.[16] The scale was designed by Rey et al. It considers the family environment on a hypothetical continuum from 1 to 90 depending on the quality of family environment in which the child was brought up. The lowest or worst family environment that persisted for a substantial period (12 months) is to be rated. This environment should have had an onset before 12 years of age. The cut-off point of age 12 was chosen as it is thought that family environment had fewer long-term effects and was less important during adolescence than during infancy and childhood. The ratings were as much as possible on positive, objective evidence. Stability of family background, whether there are changes in parental figures over time, consistency of discipline and limit setting, consistency of expectations, appropriate care and affection (neither neglect nor overprotection) all were considered. Having a single parent or a non-traditional family by itself was not rated negatively in the absence of other factors. Global Family Environmental Scale is a simple, cost-effective measure of child's family environment that could be used in clinical practice and research. Inter-rater reliability has been high. It is so designed that a larger section of the scale is given to poor and moderately unsatisfactory environment (score 1 - 70) and a smaller section was given to slightly unsatisfactory and adequate environment (score 71 - 90). Hence lower the score, more hostile is the family environment. ICD 10 classification of Mental and Behavioural Disorders, World Health Organisation, 2002 was used for making diagnosis.[17] Ravens Coloured Progressive Matrices was used for assessing intelligence.[18] This is designed for use in young children and old people. A specially prepared proforma was used to obtain the socio demographic profile of the subjects and their clinical variables. Standard clinical interview of the children and their parents / relative persons was done by the psychiatrist. After mental status examination of each subject diagnosis was made by the psychiatrist based on ICD-10 criteria and the diagnosis was coded on multiaxial system. As there was considerable comorbidity among different disorders, the child had more than one diagnosis in different axes. IQ was assessed using Raven's Coloured Progressive Matrices by clinical psychologist and children with IQ below 70 were excluded from the study.

The final study sample was divided into four groups. Group1 was constituted by children with emotional disorders or internalizing disorders. Children with ICD-10 diagnosis of emotional disorders with onset specific to childhood, generalized anxiety disorders, obsessive compulsive disorder, stress reactions and adjustment disorders, somatoform disorders, dissociative disorders, depressive disorders and satisfying other selection criteria formed this group. Group 2 was constituted by children with behavioural disorders or externalizing disorders. Children with ICD-10 diagnosis of hyperkinetic disorders conduct disorders and satisfying other selection criteria formed this group. Group 3 included children with developmental disorders. Children with ICD-10 diagnosis of disorders of speech and language, scholastic skills and motor function, pervasive developmental disorders, tic disorders and satisfying other selection criteria formed this group. Group 4 include psychotic disorders (e.g.: schizophrenia, mania) and other miscellaneous groups. Descriptive statistics was used to analyse the sociodemographic characteristics and pattern of psychiatric morbidity. Chi-square test was used to compare the influence of family environment on the two groups. Ethical permission to carry out the study was granted by the Institutional Ethics Committee of Govt. Medical College, Kottayam

RESULTS

114 children attending the CGC during the six month study period were included in the study. Of these 11 cases were excluded (8 with IQ below 70 and 3 with organic disorders). The final sample consisted of 103 children. The mean age of the children was 8.5 years. Boys constitute 57.28 % of the sample and girls were 42.72 %. Majority of children (66.02 %) were from low socioeconomic status families and from urban background (93.2 %). 78.64 % of children were from nuclear families and more than half of the children were below average in academics (51.46 %). Of the 103 children, 11 (10.7 %) were found to have co morbidity. Because of the comorbidity, the total number of diagnoses exceeded the total number of subjects. Family environment was found to be poor and moderately unsatisfactory in 33 (32.03 %) children and family history of psychiatric illness in first or second degree relatives were present in 45 (43.69 %) children.

Disorders in the Group 1 was seen in 57 (50 %) children. Group 2 disorders were found in 25 (21.93 %), Group 3 disorders were seen in 29 (25.44 %) and Group 4 disorders were found in 3 (2.63 %) children. Comorbidity was high in the sample. 11 of the 103 children (10.7 %) was found to have comorbidity. High comorbidity was noted especially between behavioural disorders and developmental disorders. Out of the 25 cases of behavioural disorders, 10 had comorbid developmental disorders and of the 29 cases of developmental disorders, 10 had comorbid behavioural disorder and one had comorbid emotional disorder.

On comparing children with emotional and behavioural disorders, it was found that the mean age is higher in children with emotional disorders (10.06 years). The mean age of children with behavioural disorders was 6.63 years. Emotional disorders were seen more in girls and behavioural disorders were seen more in boys and the gender difference seen between the groups of disorders was statistically significant. No statistically significant difference was found between the groups in socioeconomic status, locality and

family type. In case of academic performance, 23 of the 25 children with behavioural disorders were below average in academics whereas only 22 of the 57 children with emotional disorders were of below average academic performance and the difference was statistically significant.

Variable	Number	Percentage
Gender		
Boys	59	57.28
Girls	44	42.72
Socioeconomic Status		
Low	68	66.02
Middle and High	35	33.98
Locality		
Rural	7	6.8
Urban	96	93.2
Family Type		
Nuclear	81	78.64
Others	22	21.36
Academic Performance		
Average	50	48.54
Below Average	53	51.46
Family History Of Psychiatric Illness		
Present	45	43.69
Absent	58	56.31

Table 1. Sociodemographic Profile

Disorder	No. of Patients	Percentage
Emotional Disorder	57	50
Behavioural Disorder	25	21.93
Developmental Disorder	29	25.44
Others	3	2.63

Table 2. Diagnostic Split Up of the Sample

Disorder	No. of Cases	Above 70	Below 70
Emotional Disorders	57	38	19
Behavioural Disorders	25	16	9
Developmental Disorders (Comorbid Cases Excluded)	18	14	4
Others	3	2	1

Table 3. Global Family Environment Scale

Variable	Emotional Disorder	Behavioural Disorder
Gender		
Boys	23	18
Girls	34	7
Socio-Economic Status		
Low	38	12
Middle and High	19	13
Locality		
Rural	1	3
Urban	56	22
Family Type		
Nuclear	45	18
Others	12	7
Academic Performance		
Average	35	2
Below average	22	23
Family History of Psychiatric Illness		
Present	30	11
Absent	27	14

Table 4. Comparing Emotional Disorders and Behavioural Disorders

No statistically significant difference was found between the group of children with reference to family history of psychiatric illness in first and second-degree relatives. Positive family history of mental illness was seen in 52.7 % of children with emotional disorders and 44 % of children with behavioural disorders.

Of the 57 children with emotional disorders, 38 had a GFES score of above 70 and 19 scored below 70. In cases of behavioural disorders, 16 scored above 70 and 9 below 70 i.e. 33.33 % of emotional disorders and 36 % of behavioural disorders were from poor and moderately unsatisfactory environment. But no statistically significant difference was found in the influence of family environment between groups of children.

DISCUSSION

Though child psychiatric disorders are common, often they are under diagnosed, especially in young children. Adverse familial and environmental factors play a role in the aetiology and prognosis of many child and adolescent psychiatric disorders.[10] The findings of the present study are discussed comparing children from Group 1 (emotional disorders) and Group 2 (behavioural disorders)

The mean age of the children in the sample was 8.5 years. The mean age was higher for emotional disorders than for behavioural disorders (10.06 vs. 6.63). This phenomenon could be due to the higher levels of cognitive development the children achieve with advancement of age. The increase in the number of life events as age advances and increased demands in academic and other areas of performance in older children could be another factor which increases the risk of developing emotional disturbances. In behavioural disorders, majority was constituted by Attention Deficit Hyperactivity Disorder and it is well known that this is a condition which manifest early in childhood and is most frequently diagnosed in the first few years of school life. These findings are consistent with the studies by Malhotra et al and Canino et al. where older age was related to a higher rate of emotional disorder and younger age was related to a higher rate of behavioural disorders.[6,19]

There was a male preponderance in the sample. Statistically significant difference was seen between boys and girls in Emotional and Behavioural disorders. Emotional disorders were observed to be more common in girls (34 girls vs. 23 boys) and behavioural disorders were observed to be more common in boys (18 boys vs. 7 girls). Studies by Srinath et al. and Malhotra et al. were also demonstrated that emotional disorders were more common in girls and behavioural disorders were more common in boys. But these studies did not find statistically significant difference in gender.[5,6]

The present study reported a statistically significant difference in academic performance of children with emotional and behavioural disorders. Majority of children with behavioural disorders were below average in academics whereas majority of children with emotional disorders were of average academic performance. This significant difference in academic performance can be explained by the fact that behavioural disorders are usually accompanied by learning disorders. Venkatesh et al. also reported similar findings.[20] The significant comorbidity between behavioural disorders and developmental disorders noted in the present study explains this finding of poor academic achievement in children with behavioural disorders. It is also notable that in Attention Deficit Hyperactivity Disorder child has inattention and easy distractibility which in turn results in poor academic performance.

In the present study, 32.03 % of children were having poor and moderately unsatisfactory family environment. This is consistent with findings form the studies by Bayer et

al. and Sato et al. which demonstrated family conflict and less cohesive family environments were associated with childhood emotional and behavioural problems.[5,11,12] Poor and moderately unsatisfactory family environment was found in 33.33 % of children with emotional disorders and 36 % of children with behavioural disorders in the present study. Although poor and moderately unsatisfactory environment is associated more with behavioural disorder, the difference is not significant. This may be due to the small sample size. If a sufficiently large sample was studied, it might be possible that this trend may reach the levels of statistical significance. Malhotra et al. also reported no difference in the amount of care given, or control exercised on the child by the parents in different groups of psychiatric illness.[6]

Family history of psychiatric illness was present in 43.7 % of the sample and there was no significant intergroup difference. Studies reported significant association between parental mental disorder and psychiatric morbidity in children aged 4 - 16 years.[5] Low levels of maternal mental health and high maternal stress were found to increases behavioural and emotional problems in children.[13,15] Maternal substance misuse is also reported to be associated with emotional and behavioural problems in children.[15]

Considerable comorbidity was seen in the study. Many children had more than one diagnosis. Because of the considerable comorbidity, the total number of diagnoses exceeded the total number of subjects. Comorbidity among childhood psychiatric disorders were reported in other Indian studies.[21]

CONCLUSIONS

Psychiatric disorders are common in children below the age of 12 years. Emotional disorders were seen more commonly in girls, and in older age group; whereas, behavioural disorders were seen more commonly in boys, and in younger group. High comorbidity was noted in the sample especially between behavioural disorders and developmental disorders. Children with behavioural disorders were below average in academics and the difference between the groups weas statistically significant. Family history of psychiatric illness and poor and moderately unsatisfactory family environment were observed in a large proportion of children. Though there was no statistically significant difference in family environment between the two groups, 33 of the total 103 children (32 %) were found to have poor or moderately unsatisfactory family environment.

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