Original Research Paper

Volume-8 | Issue-5 | May-2018 | PRINT ISSN No 2249-555X

Psychiatry

ESTIMATING THE INTERNALIZING AND EXTERNALIZING PROBLEMS IN SIBLINGS OF PATIENTS WITH ADHD

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ABSTRACT

OBJECTIVE: This study investigated the internalizing and externalizing problems in siblings of patients with attention deficit hyperactivity disorder.

METHOD: The study conducted was a cross sectional study in design. A total of 30 patients of ADHD and their siblings were assessed. DSM IV TR was chosen for diagnosis of Attention Deficit Hyperactivity disorder in children and appropriate scales were applied to assess the severity of ADHD(CARS), to rule out comorbid psychiatric illness(K-SADS) and for screening of internalizing and externalizing symptoms(CBCL).

RESULTS: The sibling group had 23.3% children falling in clinical range of externalizing symptoms, 36.67% in the borderline range, and 40% in the normal range. Internalizing symptoms were measured by anxious/depressed, withdrawn/depressed and somatic complaints assessed on the Child Behavior Checklist. With respect to internalizing problems, more children i.e. 70% fell in the clinical range, 10% in the borderline range and 20% in the normal range.

CONCLUSION: This study found that the sibling group had almost 1/4th children with clinical range of externalizing problems, and more than 1/3rd in borderline range (as assessed by CBCL). More than 2/3rd of the sibling group had clinical range of internalizing problems, and 1/10th had borderline range of internalizing problems. More (twice) the number of siblings were in normal range for externalizing problems than internalizing problems.

KEYWORDS :

INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is the most common childhood psychiatric disorder (1, 2). ADHD always begins in childhood and may be followed by a lifelong expression of symptoms, including inattention, excessive motor hyperactivity or restlessness, and poor impulse control. ADHD children experience significant problems both at home and school. Apart from their main illness these children suffer from significant psychological stresses while dealing with their illness and other difficulties.

Along with the children who suffer from ADHD, the families also have silently suffered till the recent past. Researchers have recognized and studied the increased psychological stress experienced by the parents of these children. Till now, the focus of most studies has been on the parent functioning. Siblings of these children have been largely a neglected group, although few studies have been conducted on them. It is found that siblings too are affected, but, the research in this arena is limited.

Research that has focused on the experience of siblings of children with ADHD is principally in two areas. Some studies have focused on the sibling relationships, whereas other studies have examined the sibling's functioning, independent of his or her sibling with ADHD.

India is a nation with a high proportion of children and adolescents and consequently has a huge population of children with ADHD. However, there are only few studies done earlier on ADHD in Indian context. There is specifically a dearth of Indian studies exploring the symptomatology in siblings of children with ADHD or any study that looked for relationship between severity of ADHD and sibling symptomatology.

INTERNALIZING AND EXTERNALIZING PROBLEMS

The concept of internalizing and externalizing behaviors as given by psychoanalyst Karen Horney literally means tendency to 'move away from the world' and tendency to 'move against the world', respectively. Externalizing characteristics have also been defined as a range of disruptive childhood behaviors such as conduct disorder (CD) and oppositional defiant disorder (ODD), adult antisocial personality disorder (ASPD), and a combination of personality characteristics (e.g. impulsivity and sensation seeking) and physiological and cognitive attributes related to childhood behavioral problems(3). Internalizing characteristics include problems of anxiety, depression and somatic complaints.

Internalizing and externalizing spectrums have several connotations. They tend to include several things: disorders, symptoms, behaviors and personality traits. Previous research has focused only on disorders and the studies focusing on the entire range externalizing spectrum are almost non-existent.

EFFECT ON SIBLINGS OF CHILDREN WITH ADHD

Johnston and Mash (4) in a review of literature on families and ADHD highlighted the need to expand such research beyond mother-child dyads to include other family subsystems including sibling relationships. Siblings are considered to play an important role in many areas of a child's psychological development (5) and such relationships are considered to be an important antecedent to peer and later adult relationships(6). Despite increasing acknowledgement of the important and influential nature of sibling relationships, this has yet to be documented extensively in terms of the impact on typically developing children of having a brother or sister with ADHD. There is now a greater recognition that siblings of children with illness or disorders may be affected in some qualitatively different way by their experiences as a sibling, than siblings of children without such conditions. However, much of the literature thus far has tended to focus on clearly visible difficulties such as severe learning disabilities, physical or sensory impairments(7,8,9). It has been suggested that a developmental disorder such as ADHD has its own unique variables with regards to familial adjustment, as its existence and effects may only be realized gradually over the course of a child's development (10).

Siblings of children with ADHD do appear to be affected by this disruption in the family environment (11, 12). Higher rate of antisocial and affective disorders has also been shown in the relatives of ADHD children (13, 14, 15, 16, 17). Studies have demonstrated significantly poorer quality sibling relationships (18) and more negative behaviors in observations of play (19) between such siblings and control groups. Mikami and Pfiffner (20) found that sibling relationships where one child had ADHD comprised greater levels of conflict but no significant differences in warmth, when compared to a control group. This study focused primarily on the child with ADHD and had a relatively small control group of 14 children compared to the 77 children with ADHD. Jones et al (21) in 2006 explored psychological functioning in 45 siblings of children with ADHD and found significantly higher levels of anger, but no differences in depression or anxiety when compared to a control group.

Limited attention has been given to sibling relationships in families

with ADHD children. While it has been reported that siblings of children with ADHD are at increased risk for conduct and emotional disorders (22). A more recent study by Kendall, presenting sibling accounts of ADHD, identified disruption caused by symptoms and behavioral manifestations of ADHD as the most significant problem. This disruption was experienced by siblings in three primary ways: victimization, caretaking, and sorrow and loss. Siblings reported feeling victimized by aggressive acts from their ADHD brothers through overt acts of physical violence, verbal aggression, and manipulation and control. In addition, siblings reported that parents expected them to care for and protect their ADHD brothers because of the social and emotional immaturity associated with ADHD. Furthermore, as a result of the ADHD symptoms and consequent disruption, many siblings described feeling anxious, worried, and sad. They also reported high levels of anger and resentment in siblings(23).

MATERIALS AND METHODS

Universe of study was siblings of patients with ADHD attending outpatient services of any tertiary care centre. Study population was siblings of children presenting to child and adolescent psychiatry clinic, a speciality OPD at A tertiary care teaching hospital in mental health, behavioral sciences, and neurosciences, located in Delhi. The study conducted was a cross sectional study in design. A total of 30 patients of ADHD and their siblings were assessed. The first patient who came for registration to child and adolescent psychiatry OPD , with a diagnosis of ADHD, after detailed examination, was chosen. DSM IV TR was chosen for diagnosis of Attention Deficit Hyperactivity disorder in children. Following scales were used

1. Conners Abbreviated Rating Scale (24): in children to assess the severity of Attention Deficit Hyperactivity Disorder. It consists of ten items which are rated on a four point scale. Although not necessary for diagnosis, a score of 12 or greater places the patient in the 95th percentile of childhood "hyperactivity".

2. K-SADS for children to rule out comorbid psychiatric illness: Kiddie schedule for affective disorders and schizophrenia (K-SADS) is a semi- structured interview to the screen psychiatric disorders in the age group of 5 to 17 based on DSM-III and DSM-IV criteria. Diagnoses are made by a psychiatrist using the information gathered from the interview with the child and the mother (25).

3. Child Behavior Checklist (CBCL) to screen for internalizing and externalizing symptoms (26). The Child Behavior Checklist (CBCL) is a component in the Achenbach System of Empirically Based Assessment developed by Thomas M. Achenbach. Problems are identified by a respondent who knows the child well, usually a parent or other care giver. The checklists consist of a number of statements about the child's behavior, responses recorded on a likert scale, and similar questions are grouped into a number of syndromes. Some syndromes are further summed to provide scores for internalizing and externalizing problem scales.

Inclusion criteria for patients

1. Children (or adolescents) of age less than or equal to 15 years.
2. Children diagnosed as Attention Deficit Hyperactivity Disorder as per DSM IV TR criteria.
3. Children with at least one living parent or any other family member who can provide reliable information (on Child Behaviour Checklist).
4. Children having at least one sibling who is staying along with the patient.

Exclusion criteria for patients

1. Children diagnosed with mental retardation or any comorbid psychiatric illness.
2. Any current disabling physical illness eg) epilepsy in patient.
3. Family history of major psychiatric illness in first degree relatives (except the sibling to be studied).

Inclusion criteria for siblings of patients

1. Siblings of age range 4-12 years.
2. In case of more than one sibling available, fulfilling the age criteria, one sibling will be chosen randomly (based on draw of lots).

Exclusion criteria for siblings of patients

1. Siblings with severe and disabling physical illness e.g.) epilepsy.
2. Evidence of developmental delay/subnormal intelligence (either reported or observed).

METHODOLOGY OF STUDY

Assessment was done after choosing patients coming in child and adolescent psychiatric OPD at tertiary neuropsychiatry centre, diagnosed with ADHD. After confirming the diagnosis of ADHD, inclusion and exclusion criteria were applied and the purpose of study explained. Patients, whose care givers gave consent, were included. Diagnosis of ADHD was by using DSM IV TR criteria and Conners Abbreviated Rating Scale (CARS) had been used For the assessment of severity of ADHD in patient. Child Behavior Checklist (CBCL) had been used for the assessment of internalizing and externalizing problems in siblings and controls.

RESULTS

Sample characteristics

Patients diagnosed with ADHD were identified and their 30 siblings were studied by applying CBCL scale. They were compared with a control group of apparently normal children, chosen with similar inclusion and exclusion criteria, as the sibling group, and had been matched with siblings for age and gender. They were also studied using CBCL scale.

Table 5.1: Distribution of externalizing problems in sibling group

		N	%
RANGE OF EXTERNALIZING PROBLEMS	Clinical (CBCL raw scores>15)	7	23.33
	Borderline (CBCL raw scores 12-15)	11	36.67
	Normal (CBCL raw scores<12)	12	40
	Total	30	100

Table 5.1 show the distribution of externalizing problems in sibling group. The sibling group had 7 (23.3%) children falling in clinical range of externalizing symptoms, 11 (36.67%) in the borderline range, and 12 (40%) in the normal range. The ranges of externalizing problems were defined by the raw scores on CBCL scale as mentioned in the table in brackets.

Table 5.2: Distribution of internalizing problems in sibling group

		N	%
RANGE OF INTERNALIZING PROBLEMS	Clinical (CBCL raw scores>11)	21	70
	Borderline (CBCL raw scores 9-11)	3	10
	Normal (CBCL raw scores<9)	6	20
	Total	30	100

Table 5.2 show distribution of internalizing problems in sibling group. More children, 21 (70%) fell in the clinical range, 3 (10%) in the borderline range and 6 (20%) in the normal range. These ranges were defined by the raw scores on CBCL scale as mentioned in the table in brackets.

DISCUSSION OF THE RESULTS

A study by Mikami in 2008 concluded that children with ADHD displayed greater comorbid externalizing and internalizing problems(20). Greene and colleagues (2001) report that children with ADHD who have comorbid internalizing disorders, and those with comorbid externalizing disorders, both show increased parent-reported impairment on the "problems with siblings" subscale on the SAICA relative to children with ADHD only(18). In current study externalizing symptoms were measured by rule-breaking behavior and aggressive behavior assessed on the Child Behavior Checklist. The sibling group had 23.3% children falling in clinical range of externalizing symptoms, 36.67% in the borderline range, and 40% in the normal range. Internalizing symptoms were measured by anxious/depressed, withdrawn/depressed and somatic complaints assessed on the Child Behavior Checklist. With respect to internalizing

problems, more children i.e. 70% fell in the clinical range, 10% in the borderline range and 20% in the normal range. Thus, in this study, more siblings of ADHD patients had internalizing problems than externalizing problems. Social problems, thought problems and attention problems in siblings were also measured on the Child Behavior Checklist.

CONCLUSIONS

The study was carried out cross-sectionally in the Child and Adolescent Psychiatry Outpatient Department of tertiary neuropsychiatry center. This study found that the sibling group had almost $1/4^{th}$ children with clinical range of externalizing problems, and more than $1/3^{rd}$ in borderline range (as assessed by CBCL). More than $2/3^{rd}$ of the sibling group had clinical range of internalizing problems, and $1/10^{th}$ had borderline range of internalizing problems. More (twice) the number of siblings were in normal range for externalizing problems than internalizing problems.

LIMITATIONS

As the study was conducted in a tertiary care hospital, it would be difficult to generalize the results to all children with ADHD. Also, the patients were taken only from a speciality OPD, thereby compromising the representativeness of the sample. Sample size was small and thus the generalizability of findings to population at large is difficult and needs further validation with a larger sample size.

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