

Original Article**Study of Level of Stress in the Parents of
Children with Attention-Deficit/ Hyperactivity Disorder**

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ABSTRACT

Background: Parents who have children with attention-deficit hyperactivity disorder (ADHD) often experience high level of stress related to caring for their children. But not much research has been conducted in this area in India. This study aimed to assess the stress of parenting children with ADHD.

Methods: This is a clinic based comparative study wherein the parents of fifty children with ADHD were compared with parents of 50 healthy children. DSM-IV diagnostic criteria for ADHD and Conner's Parent Rating Scale were administered to diagnose and assess subtype of ADHD and the severity of ADHD respectively. Parental Stress scale (PSS) was used to examine subjective stress experienced by the parents.

Results: Parents in the case group were more stressed than in control group and the difference was statistically significant. Stress was associated with all 3 subtypes of ADHD but it was highest with combined type and least with inattentive type. Also the combined subtype was the most severe form of ADHD.

Conclusion: The results of the study highlight that the parents of children with ADHD experience immense stress. Combined subtype (CT) was the most severe form of ADHD while the inattentive subtype was the least severe one. Further CT was associated with the highest levels of stress in parents, probably because of its highest degree of severity.

Key words: attention-deficit/ hyperactivity disorder, parents, stress.

INTRODUCTION

Attention- deficit/hyperactivity disorder (ADHD) is one of the most common childhood onset psychiatric disorders with a prevalence rates ranging from 10-20% [1]. ADHD is a neurodevelopmental disorder characterised by hyperactivity, inattention and impulsivity. Children with ADHD are defiant, more demanding of others and less able to play and work independent of their parents and these difficulties are much more when ADHD is combined with other comorbid conditions such as conduct disorder [3-4]. All these differences add to stress of parenting. Parents of children with ADHD not only experience more parenting stress and decreased sense of parenting competence but also increased alcohol consumption, increased marital conflict, divorce and maternal depression have been reported in them [2-4]. Studies done in this area have focused only on parenting the children with ADHD and compared with children suffering from other disorders. Further to the best of our knowledge there is no work from India in this area. The index study was planned to measure the stress in parents of ADHD children and to compare it with that in the parents of normal children.

MATERIAL AND METHODS

This was a clinic based comparative study conducted in the Department of Psychiatry, Pt. B. D. Sharma University of Health Sciences, Rohtak from August, 2010 to September, 2011. The study was designed to test the hypothesis that the parents of children with ADHD experience higher levels of stress than those of normal children.

Study sample:

50 consecutive children attending the psychiatry outpatient services, and their parents, who met inclusion and exclusion criteria of the study were selected as cases. All selected children were evaluated by the clinical psychologist for their intellectual functioning (IQ). For the control group, 50 healthy children, of the same gender and age along with their parents, were selected from purposively selected schools of Rohtak through systematic random sampling using the attendance registers of students. The control group was screened for ADHD with a clinical interview, and Child Behaviour Checklist (CBCL) was used to rule out any other behavioural/emotional problems. The inclusion criteria for children with ADHD group were i) age 4-16 years ii) current diagnosis of ADHD according to DSM-IV, iii) drug naïve and that for normal children group were i) age between 4-16 years ii) either gender. Only those parents who were staying with the child for more than 2 years and provided written informed consent were included in the study. Exclusion criteria for both groups included i) associated mental retardation, severe sensory loss, language disorder, cerebral palsy and pervasive development disorder ii) history of chronic medical illness or physical disabilities (ruled out with detailed history and physical examination done by the investigators).

Tools

A special performa designed for this study was used to gather socio-demographic information about the children and their parents (both groups). DSM-IV [5] criteria for ADHD were used to diagnose as well as to subtype the disorder. The behavior of children with ADHD was assessed using Conners Parent's 10 item abbreviated index [6] which is an abbreviated version of the Conners Parent Rating Scale (CPRS) which originally has 93 items. It contains 10 items with rating from zero to three (0=not at all present, 1=just a little present, 2=pretty much present, 3=very much present), with a range of possible total scores between 0 and 30. The scale was completed by the investigators with the parents rating their child's symptoms from zero to 3.

Parents of children of both groups were assessed using Parental Stress Scale (PSS) [7] is a self-report scale that contains 18 items representing pleasure or positive themes of parenthood (emotional benefits, self-enrichment, personal development) and negative components (demands on resources, opportunity costs and restrictions). Respondents are asked to agree or disagree with items in terms of their typical relationship with their child or children and to rate each item on a five-point scale: strongly disagree (1), disagree (2), undecided (3), agree (4), and strongly agree (5). The 8 positive items are reverse scored so that possible scores on the scale can range from 18 to 90. Higher scores on the scale indicate greater stress. The scale is intended to be used for the assessment of parental stress for both mothers and fathers and for parents of children with and without clinical problems. This tool is a self-reported scale in English language. Hindi being the first language of this part of India necessitated the translation of this scale into Hindi

vernacular, following the appropriate method of translation. (To check the translation problems, it was then translated back to English by an independent translator who had no knowledge of the tool.)

Normality of data was checked by Shapiro – Wilk test and the detailed statistical analysis was done using appropriate parametric or nonparametric tests such as Chi Square test, unpaired t test and one-way ANOVA.

RESULTS

Table 1 presents demographic description of the children and parents that constituted the study sample. Participants in the two groups were demographically well matched. The only significant difference between the two groups was found in literacy level of father (p value = 0.019) reflecting higher literacy level of fathers in the control group. However, it was not likely to affect our results much. Two groups did not show any statistically significant difference in terms of profession and socioeconomic status.

The mean duration of illness was 2.5 years.

Table 1: Sociodemographic characteristics of study population

Variable	Cases N=50	Controls N=50	t/X2	P VALUE
Age (Mean \pmSD	8.64 \pm 2.126	9.24 \pm 2.832	1.198*	0.234*
Gender				
Male	37	35	0.198 [†]	0.656 [†]
Female	13	15		
School grade				
1-5	45	34	11.28 [†]	0.257 [†]
6-10	5	16		
Birth order				
1	32	31	2.85 [†]	0.416 [†]
2	16	15		
3	1	4		
5	1	0		
Locality				
Rural	13	12	0.817 [†]	0.053 [†]
Urban	37	38		
Age of parents				
Father (in years)	37.46 \pm 3.20	37.04 \pm 5.49	0.467*	0.642*
Mean \pm SD	34.62 \pm 3.989		0.313*	0.755*
Mother (in years)		34.3 \pm 6.021		
Mean \pm SD				
Literacy level of father				
Illiterate			15.13 [†]	0.019 [†]
Upto 5th	0	2		
Upto 8th	6	2		
Upto 10th	1	3		
Upto 12th	5	2		
Graduate	10	4		
Post graduate	20	16		
	8	21		

Literacy level of mother				
Illiterate	3	3		
Upto 5th	2	2		
Upto 8th	1	0		
Upto 10th	3	2	3.16 [†]	0.789 [†]
Upto 12th	16	12		
Graduate	15	15		
Post graduate	10	16		
Paternal occupation				
Shopkeeper				
Businessman	6	7		
Doctor	8	8		
Labourer	3	4	6.97 [†]	0.64 [†]
Teacher	3	0		
Farmer	6	11		
Lawyer	10	7		
Engineer	2	3		
Govt job	1	2		
Unemployed	10	8		
	1	0		
Maternal occupation				
Housewife				
Unskilled worker	31	24		
Self employed	1	1	2.75 [†]	0.43 [†]
Professional	0	1		
	18	24		

*unpaired t test

†Chi square test

Table 2 shows that the scores on the Parental Stress Scale were higher in the case group than in the control group and the difference was statistically significant. [P value = <0.001].

Table 2: Comparison of level of stress in parents of ADHD and healthy children

	Cases [Mean ± SD]	Controls [Mean ± SD]	t* statisti c	Sig. (2- tailed)	Mean Differenc e	SE Differen ce	95% Confidence Interval of the Difference	
							Low er boun d	Uppe r boun d
PSS	52.98±10.3 38	36.68 ± 6.222	9.522	0.001	16.300	1.706	12.91 4	19.68 6

*Unpaired t test

39 out of 50 parents in the case group experienced significant stress whereas in the control group only 5 parents were stressed [P value = <0.001] (Table 3).

Table 3: Association of stress in parents and ADHD in children

PSS	Case (n=50)	Control (n=50)	χ^2 *	P
Stressed (ie, scores 45 and above)	39 (78%)	5 (10%)	46.916*	<0.001*
Not stressed (ie, scores less than 45)	11 (22%)	45 (90%)		

- Chi square test was applied

Table 4 shows that the stress was associated with all the 3 subtypes of ADHD but it was the highest with combined type and the least with inattentive type. Also the combined subtype seems to be the most severe form of ADHD.

Table 4: PSS and Conner's scores among various subtypes of ADHD

Type of Scale	Subtype of ADHD	N	Mean score	Std. Deviation	95% Confidence Interval for Mean		F statistic*	P value
					Lower Bound	Upper Bound		
PSS	Combined	34	56.24	9.692	52.85	59.62	6.473	0.003
	Inattentive	8	45.5	9.725	37.37	53.63		
	Hyperactive-impulsive	8	46.62	7.009	40.77	52.48		
	Total	50	52.98	10.338	50.04	55.92		
Conner's	Combined	34	23.79	4.169	22.34	25.25	1	<
	Inattentive	8	15.88	3.523	12.93	18.82	6.	0.
	Hyperactive-impulsive	8	18.38	3.503	15.45	21.3	2	0
	Total	50	21.66	5.061	20.22	23.1	5	1

*one way ANOVA was applied

DISCUSSION

This study compared the level of stress in the parents of normal children and children with ADHD. Results indicated that the parents of children with ADHD report significantly higher levels of stress as compared to the parents of normal children as has been reported by other researchers [2, 8-12].

Further, combined subtype (CT) was the most severe form of ADHD while the inattentive subtype was the least severe one. When the level of parenting stress was compared among various subtypes of ADHD, CT was associated with the highest levels of stress in parents, probably because of its highest degree of severity. These findings are in keeping with the previous studies by Ross et al [13] and West et al [14]. Yang et al explored the cross-cultural variations of the nosological distribution in ADHD subtypes and their relation to parental stress [15]. The results were in concordance with our study that the parents of children with combined subtype of ADHD experience higher parenting

stress. But these findings are in conflict with other studies wherein the caregiver stress was associated with inattentive subtype [11, 16-17].

Though the parents (in the case group) from joint families reported more stress than those from the nuclear families, this difference was not statistically significant. Joint family structure may seem to buffer and share the stress of parenting but the relationships can be strained if the family members differ in their views regarding the child's illness, behavior and methods of coping. Kendall reported that children with ADHD can isolate the families [18]. Also the behavior of children with ADHD can adversely affect the relationship with extended family [19].

The index study however, has certain limitations. First, comorbid conditions such as CD, ODD are quite common with ADHD but have not been taken into account here. Second, there are other reasons such as shared genetic risk among family members, parenting practices and child rearing attitudes eg; harsh disciplining, inconsistency, stressful and conflicted family environments, parental psychiatric history eg; depression and anxiety in mothers, and general life adversities which could add to parental stress. Third, physical and/or psychiatric morbidity in siblings can be another source of stress for parents. Also, though every effort was made to select the two groups quite similar, proper matching would have been ideal. However, it would be difficult to control a large number of confounding variables through matching.

The case control design, adequate sample sizes of the groups and similarity of socio-demographics of two groups are the strengths of this study.

CONCLUSION

The results of the study highlight that the parents of children with ADHD experience immense stress. Combined subtype (CT) was the most severe form of ADHD while the inattentive subtype was the least severe one. Further CT was associated with the highest levels of stress in parents, probably because of its highest degree of severity.

IMPLICATIONS

Stress in parents as a result of parenting children with ADHD can adversely affect the child-parent relationship leading to psychopathology in both. There is a need to identify the disorder at the earliest and to employ appropriate interventions so as to protect both children with ADHD and their parents from its adverse consequences.

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