

## Role of family pathology and home environment in attention deficit hyperactive disorder (ADHD)

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### ABSTRACT

This study is aimed to investigate the relationship between ADHD and psycho-social variables (Family Pathology and Home Environment). The sample consists of 100 school students selected from Lalitpur, Uttar Pradesh, India. A set of tools containing Family Pathology Scale (FPS), Home Environment Inventory (HEI) and Children Behaviour Checklist were administered to gather information. The result revealed that there are significant relationship between ADHD and family pathology and three home environment dimensions namely protectiveness, nurturance and rejection.

**Keywords:** Pathology, Home Environment, Attention Deficit Hyperactive Disorder (ADHD)

An increasing number of parents are often complaining about their child's impulsivity or emotional disturbance, and lack of concentration in studies. The teachers also feel frustration with such children as they do not pay enough attention while being taught, show emotional outburst with classmates and do not sit quietly in a place long enough to complete their assignments. Some of these children are found to suffer with attention deficit disorder (ADD) or attention deficit hyperactive disorder (ADHD). Such children usually have special educational needs which require specific attention in all microenvironments in which education takes place, including the family.

Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood neuropsychological disorders characterized by a persistent pattern of inattention and/or hyperactivity-impulsivity. It can continue through adolescence and adulthood. It affects the intrapersonal, interpersonal, social, emotional, and academic aspect of life. Symptoms of ADHD depend on the age of the sufferer. The infants and young children show crying inconsolably, restlessness, poor or little sleep, temper-tantrums etc. The older children show impulsivity, clumsiness, destructive behaviour, aggressiveness, poor concentration, withdrawal behavior, underachievement, hyperactive behaviour etc. Studies suggest that prevalence of ADHD has increased as compared to the last ten years.

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On the basis of symptoms ADHD is divided in three subtypes: (i) Predominantly hyperactive-impulsive (ii) Predominantly inattentive and (iii) Combined hyperactive-impulsive and inattentive (DSM-IV-TR, 2000).

Most ADHD diagnoses are made in school-aged children, as cases are usually identified and referred because of classroom disruptiveness and/or academic difficulties. School aged children with ADHD tend to be impaired in terms of academic achievement, family interactions, peer relationships, and have elevated rates of psychiatric comorbidity (Barkley, 2006).

Scientists are not sure about causes of ADHD, although many studies suggest that genes play a vital role. Alike other illnesses, ADHD probably results from a combination of a number of factors like, (i) neurobiological factor, (ii) neuro-chemical factors, (iii) hormonal factors, (iv) brain related factors, (v) genetic factors, (vi) drugs and intoxication, (vii) potential factors (food additives, refined sugar, poor nutrition, food allergies) and (viii) psycho-social factors.

It is maintained that ADHD is disorder of biological-genetic origin which are intrinsic to the individual. However, there has now been a shift in focus towards environmental variables, including the family, which are it is claimed can enhance or minimize the negative effects of these difficulties and, therefore, must be thoroughly examined and taken into consideration. Various studies have diagnosed school children over periods of 4 to 14 years. The studies have found that all of them tend to show persistence of hyperactivity and inattention, poor school achievement and a higher rate of disruptive behaviour disorders. The various studies have been reviewed, successively by Klein and Mannuzza (1991), Hill and Schoener (1996) and Faraone and colleagues (2006).

Some evidence has been received of ADHD stems from home environment. According to Cherkasova et. Al. (2013), parenting practices have been found to predict emotional and behavioural adjustment, as well as ODD symptoms in children with ADHD. Rutter and his colleagues (1975) have made the studies and it revealed that it was the aggregate of adversity factors (severe marital discord, low social class, large family size, paternal criminality, maternal mental disorder and foster care placement) rather than the presence of any single factor that may have led to impaired child development (Rutter et al., 1975).

Biederman and colleagues (1995), using Rutter's indicators of adversity, found a positive association between adversity indicators and the risk for ADHD as well as for its associated psychiatric, cognitive, and psycho-social impairments, supporting the importance of adverse family-environment variables as risk factors for children with ADHD.

Impaired family relationships have been reported in families of children with ADHD. Mothers of children with ADHD have more difficulty in child behaviour management practices and coping with their child's behaviour and display higher rates of conflict behaviours, such as negative comments, social irritability, hostility and maladaptive levels of communication and involvement (August et al., 1998; Fletcher et al., 1996).

Cunningham and Barkley (1979) compared the interactions of hyperactive and normal boys and their mothers in both free play and task settings. They found that during free play, mothers of hyperactive children interacted less with their children. They initiated fewer contacts, responded less, and encouraged play less. When they did interact, they tended to be

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more controlling. In the task setting, again mothers of hyperactive children initiated fewer contacts and responded less than mothers of control subjects. Mothers of hyperactive children were more controlling and gave more commands, but even though the children complied less, their mothers rewarded compliance less and tended to be inconsistent in rewarding desired behaviours. The authors concluded that the intrusive, controlling style of the mothers of hyperactive boys, while initially a response to the child's overactive, impulsive, inattentive style, may further contribute to the child's behavioural difficulties.

Lahey and others (1988) compared parental pathology in children (6 to 13 years of age) with conduct disorder (N = 37), with ADHD (N = 18), and with both disorders. Fathers of children with ADHD were more likely to have a history of aggression, arrest, and imprisonment. Tallmadge and Barkley (1983) found that fathers of hyperactive children were more directive than fathers of control children.

### ***Objectives of the study***

The main aim of the present study is to examine the relationship of psycho-social factors with ADHD. Objectives are:

1. To investigate the relationship between Family Pathology and ADHD.
2. To examine the relationship between Home Environment and ADHD.
3. It is expected that:
4. Family Pathology would be related to ADHD
5. Home Environment would be related to ADHD

## **METHOD AND PROCEDURE**

### ***Sample***

The survey was conducted in Elementary and Junior schools of the Lalitpur, Uttar Pradesh, India. A sample of 100 students were administered the home environment inventory. Their parents were asked to respond to a behavior checklist and family pathology scale. The students were randomly selected from their school and they are studying from 3rd to 6th grade. The age range of students was between 6-11 years.

### ***Measuring Tools***

1. **The Children Behavior Checklist of ADHD**, prepared by Dr. S. J. Singh and Ms. Anula Jain (2006) was administered to measure ADHD. Behavioural property categories included inattentive behaviour, impulsive behaviour, hyperactive behaviour, physical harms to other person and objects, physical properties and inappropriate behaviours. These symptoms were based on D.S.M.-IV (2000) and some other sources.
2. **Family Pathology Scale (FPS)**: Family Pathology Scale (FPS) was used for the measurement of family pathology perceived by the parents. FPS is constructed by Veeraraghavan and Dogra (2000). It measures the degree of maladaptive behaviour present in the interaction of family members. Test contains 42 items. The split-half reliability using Spearman Brown formula for doubling the test length was found to be  $X_{tt} = 0.57$  within index of reliability of this test is  $X_{tt} = 0.70$ . The test-retest reliability of this test is  $X_{tt} = 0.79$ . The face validity of the questionnaire is high. The content validity was assured by using only those items for which there was complete agreement among experts.
3. **Home Environment Inventory (HEI)** constructed by Mishra (1993) was used to measure the home environment. Inventory is divided into ten dimensions namely control, protectiveness, punishment, conformity, social isolation, reward, deprivation

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of privileges, nurturance, rejection and permissiveness. The inventory is a reliable and valid instrument.

### *Research Design and Procedure*

Ex-post facto correlation design is used in this study. ADHD was measured using a behaviour checklist administered to the parents of the subject. The parents also reply to the family pathology scale. Subjects have responded to home environment inventory. The concerns were contacted individually in the school or home. The score of ADHD was correlated to (i) Family pathology scores and (ii) home environment score, using a product moment correlation.

## **RESULT AND DISSCUSSION**

*Table 1: Correlation between ADHD and Family Pathology and different dimensions of Home Environment*

No.	Dimensions		r (correlation)	Level of significance
1	ADHD	Family Pathology	.300	P<.01
2	ADHD	Control (A)	-.013	p>.05
3	ADHD	Protectiveness (B)	.916	P<.01
4	ADHD	Punishment (C)	-.0326	p>.05
5	ADHD	Conformity (D)	.007	p>.05
6	ADHD	Social Isolation (E)	.122	p>.05
7	ADHD	Reward (F)	-.018	p>.05
8	ADHD	Deprivation of privileges (G)	.151	p>.05
9	ADHD	Nurturance (H)	-.199	P<.05
10	ADHD	Rejection (I)	.868	P<.01
11	ADHD	Permissiveness (J)	.036	p>.05

Table-1 is showing the relationship between ADHD and Family pathology. The analysis indicated that the relationship is highly significant ( $r = +0.300$ ,  $p < .01$ ). This relationship suggests that the presence of pathology in the family may influence the strength of ADHD. Indication to this effect is available in other study also. Lange (2005) has suggested that the psychological health problems and pathology of parents may influence the psychological health of ADHD children. Similar effects were found by Monstra (2005). These evidences indicate that problem of ADHD children may be aggravated by the parents with pathological history.

Table-1 also shows the correlation between ADHD and ten dimensions of Home Environment. Table indicates that out of ten dimensions, three are significantly correlated to ADHD. These three variables are Protectiveness ( $r = .916$ ,  $p < .01$ ), Rejection ( $r = .868$ ,  $p < .01$ ), and Nurturance ( $r = -.199$ ,  $p < .05$ ).

The analysis revealed that the relationship between ADHD and Protectiveness is highly significant. This result suggests that the parents of ADHD subjects are overprotective of their children.

Second significant variable is Rejection. Nurturance is negatively and significantly correlated with ADHD. Finding of this study suggests that parents of ADHD children are less nurturing.

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On the whole, the analysis reveals that the ADHD subjects perceived their parents as overly protective, less nurturing, and highly rejecting. The findings are compatible with common sense and the findings of other related studies. Gedler (2005) has proved that the negative interaction with children increases ADHD symptom in children. If mother has negative interaction with child, he/she feels rejected. Williams (2005) has also found that the mother-child interactions of children with ADHD are more conflicted and negative. A number of studies have found Parent Training Programs are effective for both pre-schoolers and school-aged children in terms of reducing symptoms, increasing parental competence, and reducing the level of family distress (Young and Myanathi, 2010).

### SUMMARY AND CONCLUSION

ADHD is often a lifelong condition; whose presentation evolves across development. Having a child with ADHD places stress on parents and is associated with strained family relationships. Clinical practices for ADHD need to be developmentally informed and may include: optimal prenatal practices; parent training for parents of pre-school and school aged children; pharmacological or multimodal treatment during school years. Children with ADHD need guidance and understanding from their parents and teachers to reach their full potential and to succeed in school. Before a child is diagnosed, many factors like frustration, blame, and anger may have built up within a family. Parents and children may need special help to overcome bad feelings.

On the basis of our findings it may be suggested that, for the comfort of ADHD children, the home environment may be modified. The parents need to decrease their protectiveness, increase nurturance and acceptance of the child. As a lifelong condition, ADHD may require ongoing treatment to promote optimal long-term outcome.

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### ***Conflict of Interest***

The author declared no conflict of interest.

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