

Prevalence of Attention Deficit Hyperactivity Disorder (ADHD) and its Personal correlates among Adolescents

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ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most frequently diagnosed child psychiatric disorders which manifest itself in early childhood, American Psychiatric Association, (1994). The objective of the present study to find out the prevalence of Attention Deficit Hyperactivity Disorder (ADHD) and the personal correlates (like Gender, Consanguineous marital status, Order of birth and Parental monthly Income) among Adolescents. Sample for the current study consisted of 1125 adolescents (Boys=627, Girls=498) randomly selected from Government-aided, private and concept schools in three north coastal districts of Andhra Pradesh. It's a Descriptive and survey method which was exploratory in nature to examine the prevalence of ADHD among adolescents. For this study we used the Attention Deficit Hyperactivity Disorder (ADHD) Self-report (11-18 yrs) developed by Raju & Tarakaramarao (2013). The findings revealed that Attention Deficit Hyperactivity Disorder (ADHD) and sub- types od ADHA are in association with personal correlates like Gender, Consanguineous marital status, Order of birth and Parental monthly Income

RESUME

Les troubles de l'attention avec hyperactivité (THADA) est un des troubles psychiatriques de l'enfant les plus fréquemment diagnostiqué. Il se manifeste dans la petite enfance. American Psychiatric Association, (1994). L'objectif de cette étude est de définir la prévalence du THADA of Attention Deficit Hyperactivity Disorder (ADHD) et des corrélates personnelles (comme le genre, l'état marital avec consanguinité des parents , l'ordre de naissance dans la fratrie et le niveau socio économique.des parents) parmi les Adolescents. L'échantillon pour cette étude consiste de 1125 adolescents (garçons=627, filles=498) choisis au hasard dans les écoles avec aide du gouvernement, les écoles privées et les écoles orientées dans les tris department de la coste nord de l'Andhra Pradesh. Nous présentons une méthode descriptive et la methode exploratoire pour examiner la prévalence du THADA parmi les adolescents. Pour cette étude nous avons utilise l'Attention Deficit Hyperactivity Disorder (ADHD) Self-report (11-18 yrs) developpé par Raju & Tarakamarao (2013).

Nous avons trouvé que le THADA et les sous-types de THADAThe findings revealed that Attention Deficit Hyperactivity Disorder (ADHD) and sub- types de THADA sont en association avec des corrélates personnelles comme le genre, l'état marital avec consanguinité des parents , l'ordre de naissance dans la fratrie et le niveau socio économique.des parents

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most frequently diagnosed child psychiatric disorders which manifest itself in early childhood, (American Psychiatric Association, 1994). It is characterized by developmentally inappropriate level of inattention, hyperactive/impulsive-motor activity that appears at least in two contexts *i.e.* home and school and has been present for at least six months before the age of 7 years.

Attention deficit disorder affects about 5% of the world's population. It is frequently referred to as neurobehavioural development disorder. Attention deficit hyperactivity disorder is most often diagnosed during young childhood, and is characterized by a constant pattern of inattention or hyperactivity as well as forgetfulness, lack of impulse control or impulsivity and distractibility (American Psychiatric Association, 1994).

According to American Psychiatric Association (1994), the modern concept and views related to the child's disorder known previously as 'defective moral control', 'minimal brain injury or dysfunction', 'hyperactive child syndrome', and 'Attention Deficit Disorder' are now known worldwide by the term Attention Deficit Hyperactivity Disorder (ADHD) coined and defined by the American Psychiatric Association in its mental disorders manual.

Prevalence estimates vary according to the diagnostic criteria used and the population sampled. These estimates can be further affected by influences on the diagnosis, such as the cultural environment and the differing attitudes of parents, clinicians and society towards acceptable children's behaviour (Dwivedi, 2005). According to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR) (APA, 2000), prevalence estimates among school children in the US are between 3% and 7% (APA, 2000). Boys are diagnosed with ADHD three times more often than girls. Evidence attests to the strong influence of genetic factors on the expression of symptoms, however psychosocial, environmental and cultural factors also play a role (Swanson, 2001).

According to the National Co-morbidity Survey Adolescent Supplement Replication (NCSA-R) epidemiologic survey, attention-deficit/hyperactivity disorder (ADHD) occurs at a rate of approximately 8% among adolescents between 13 and 18 years of age in the United States. Also revealed that 59.8% of adolescents with Attention Deficit Hyperactivity Disorder (ADHD) had received mental health services. Boys were more likely to receive mental health services for Attention Deficit

Hyperactivity Disorder (ADHD) than girls (64.8% vs 44.6%; $P = .0002$) (Merikangas et al.,2011) .

The National Survey of Children's Health and Centers for Disease Control and Prevention (CDC) (2010) revealed that prevalence of parent-reported Attention Deficit Hyperactivity Disorder (ADHD) among children between 4 and 17 years of age had increased 21.8%, but among those between 15 and 17 years of age, the prevalence had risen by 42%.

Attention-deficit/hyperactivity disorder (ADHD) is one of the most widely diagnosed disorders, an estimated 8% to 12% of children are affected worldwide (Cortney Mears, 2009).The National Institute of Mental Health (NIMH) (2006) estimates that between 3% and 5% of preschool and school-age children have ADHD or approximately two million children in the United States.

In addition, studies by Steven P. Cuffe et al. (2011) revealed that the prevalence of clinically significant Attention Deficit Hyperactivity Disorder (ADHD) symptoms is 4.19% (males) and 1.77% (females). Male prevalence by race is 3.06% for Hispanics, 4.33% for Whites, and 5.65% for Blacks. Significant differences in prevalence occur across gender ($p < .01$) and among males across race ($p < .01$), age ($p < .01$), and income ($p < .02$). In the full sample, 6.80% of males and 2.50% of females have a parent-reported lifetime Attention Deficit Hyperactivity Disorder (ADHD) diagnosis but are negative for Attention Deficit Hyperactivity Disorder (ADHD). Likewise, 1.59% of males and 0.81% of females are positive for Attention Deficit Hyperactivity Disorder (ADHD) but negative for parent report of Attention Deficit Hyperactivity Disorder (ADHD) diagnosis.

Ruchkin (2008) uncovered that the prevalence of individual Attention Deficit Hyperactivity Disorder (ADHD) symptoms ranges between 3.3% and 35%. Only 8.9% of boys and 3.6% of girls have positive ratings on six items in either inattention or hyperactivity subtype.

Similarly, Michael Huss et al. (2008) divulged that the overall lifetime prevalence of Attention Deficit Hyperactivity Disorder (ADHD) diagnosis was 4.8%. As expected, there was a significant gender difference between boys (7.7%) and girls (1.8%). Additionally, 4.9% of subjects had scores above the threshold on the Inattention/ Hyperactivity subscale of the SDQ. As expected, a significant age effect was found for Attention Deficit Hyperactivity Disorder (ADHD) diagnosis (1.5% preschool age; 5.3% primary school; 7.1% secondary school). There were neither German east/west differences nor differences for rural versus urban areas. However, socioeconomic status was significantly associated with the prevalence of diagnosis (low socio economic status: 6.4%, medium socio economic status: 5.0%; high socio economic status: 3.2%).

In his studies Rucklidge (2008) uncovered that Attention Deficit Hyperactivity Disorder (ADHD) females are significantly impaired when compared to non- Attention Deficit Hyperactivity Disorder across all domains of functioning including cognitive, psychiatric, psychosocial, and academic and struggle with similar rates of these problems as their male counterparts. Moreover, female profiles of Attention Deficit Hyperactivity Disorder (ADHD), little is known about gender differences. Small number of female subjects in the Attention Deficit Hyperactivity Disorder (ADHD) literature hinders the knowledge of this disorder in women.

In the same way, Paul et al. (2006) indicated that although girls were less likely to have Attention Deficit Hyperactivity Disorder (ADHD), when they did have the disorder, their impairments were as or possibly more severe than boys in relative to non- Attention Deficit Hyperactivity Disorder peers of the same gender.

On the other hand, Biederman et al. (2005) divulged that there were no differences between the genders in age of onset of Attention Deficit Hyperactivity Disorder (ADHD), duration of the disorder, and individual Attention Deficit Hyperactivity Disorder (ADHD) symptoms and found that male and female ADHD subjects reported similar impairments in emotional, school, family, and

interpersonal functioning. It was also found that Attention Deficit Hyperactivity Disorder (ADHD) in both genders was associated with high levels of psycho educational impairments. Further, found that both males and females did not differ in subtypes of Attention Deficit Hyperactivity Disorder (ADHD) with the combined type of Attention Deficit Hyperactivity Disorder (ADHD) being most prevalent across the genders.

In the same vein, Daniel F. Hermens et al. (2005) found out that Attention Deficit Hyperactivity Disorder (ADHD) occurs more frequently in male children and adolescents than in females, with a ratio of approximately 3 to 1.

Correspondingly, Bongers et al. (2003) reported that boys showed more externalizing problems such as social problems, attention problem, thought problems, rule –breaking behaviour and aggressive behaviour and girls showed more internalizing problems such as anxiety, depression and somatic complaints.

According to Mash and Dozois (2003) Attention Deficit Hyperactivity Disorder (ADHD) is one behavioural disorder that is commonly studied, diagnosed, and treated in predominantly male populations. Generally, there has been consensus in the field that males are more likely to have an externalizing disorder (i.e. Attention Deficit Hyperactivity Disorder, Conduct Disorder) where girls are more likely to have an internalizing disorder (i.e. Generalized Anxiety Disorder, Major Depressive Disorder). While these gender differences have been well established, their meaning has not been well understood.

According to Karahmadi (2007) studies of environmental adversity have implicated pregnancy and delivery complications, marital distress, family dysfunction and low social class.

Objectives

- I. To find out the prevalence of Attention Deficit Hyperactivity Disorder (ADHD) and if personal correlates among Adolescents.
- II. To find out the differences between Demographical variables and Attention Deficit Hyperactivity Disorder (ADHD) among Adolescents.

Sample :

The population of the study consisted of adolescents from Government-aided, private and concept schools in three north coastal districts of Andhra Pradesh. Sample for the current study consisted of 1125 adolescents (Boys=627, Girls=498) randomly selected.

Design of the Study

The present study consisted of Descriptive and Survey method which was exploratory in nature to examine the prevalence of ADHD among adolescents.

Description of the research tools

Attention Deficit Hyperactivity Disorder (ADHD) Self-report was developed by Raju & Tarakaramarao (2013). The tool assesses inattention, hyperactivity and impulsive problems of adolescents between (11-18 yrs). There are 32 items in this self report measure. The items assessing inattention are 16 and those measuring hyperactivity – impulsivity are 16. The checklist can be responded to by selecting any of the three options: ‘1’ indicates ‘Never’, ‘2’ indicates ‘sometimes’ and ‘3’ indicates ‘very often/always’. Content validity was established on the basis of the psychology experts’ opinions and comments. The reliability for Attention Deficit Hyperactivity Disorder (ADHD) Self report (11-18 Years) in the English version was .83 for all the 32 items.

Demographic Variables

The demographical or Institutional variables included in the present study are Gender, Consanguineous marital status, Order of birth and Parental monthly Income.

Procedure

The present study consisted that obtained permission from the schools. An official letter was secured from the Head of the Department of Psychology, Andhra University. After seeking permission from the concerned principals of the different schools, the students were informed and explained about the purpose of the study. They were also informed that the responses will be kept highly confidential and used for research purposes only. The instrument was administered. Wherever doubts were raised, the researcher explained to the sample.

Statistical analysis:

After scoring, the collected responses were tabulated, analyzed and interpreted using SPSS (Windows-16) by means of Percentages, Mean, Standard Deviation, t- test and One-way ANOVA,

Results and Discussion

Table-1

Frequency distribution of the diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) and Sub-types on the basis of Gender

ADHD Sub-types	Category	Gender			
		Boys		Girls	
ADHD		No.	Percentage	No.	Percentage
	Normal	613	97.6	485	97.1
	Borderline clinical range	10	1.7	4	.9
	Both clinical and borderline range	1	.2	4	.9
	Clinical Range	3	.5	5	1.1
	Total	627	100.0	498	100.0
	Inattentive Type	Normal	603	96.1	469
	Borderline range	14	2.3	24	4.9
	Clinical Range	10	1.6	5	1.0
	Total	627	100.0	498	100.0
Hyperactive- Impulsive type	Normal	595	94.8	476	95.5
	Borderline range	22	3.6	12	2.5
	Clinical Range	10	1.6	10	2.0
	Total	627	100.0	498	100.0

The frequency distribution of the respondents or adolescents on the basis of gender in Table-1 shows that, of the total number of boys, 97.6% are in the normal range and 1.7% in the borderline clinical range for Attention Deficit Hyperactive Disorder while .2% fall in both the clinical and borderline clinical ranges and .5% fall in the clinical range with respect to the same. Among girls, 97.1% reported to be in the normal range, .9% in the borderline

clinical range, .9% in both clinical and borderline clinical range and .1% in the clinical range for Attention Deficit Hyperactivity Disorder.

The results obtained with regard to the gender groups indicate that adolescent girls experienced a greater degree of Attention Deficit Hyperactive Disorder in clinical and both clinical & borderline clinical ranges and a lesser degree of the same in the borderline clinical range as compared to adolescent boys.

The frequency distribution of the ADHD diagnosis on the basis of gender shows that in inattentive type, the percentage of boys in the normal range was predominantly at 96.1%, whereas 2.3% fall in the borderline clinical range and 1.6% falls in the clinical range. With regard to girls, 94.0% fell in the normal range for ADHD predominantly inattentive type and 4.9% in the borderline clinical range and 1.0% in the clinical range.

The proportions of gender results indicates that adolescent boys experienced ADHD predominantly in inattentive type to a greater extent in the clinical range and to a lesser extent in the borderline clinical range as compared to adolescent girls.

The frequency distribution of ADHD diagnosis on the basis of gender also showed that with regard to ADHD predominantly hyperactive-impulsive type, the percentage of boys in normal range is 94.8%, in the borderline clinical range is 3.6%, and in the clinical range is 1.6%, whereas the percentage of girls in the normal range is 95.5%, in the borderline clinical range is 2.5% and in the clinical range is 2.1%.

Thus the proportions of gender results indicates that adolescent girls experienced ADHD predominantly hyperactive-impulsive type more in clinical range and less in the borderline clinical range as compared to adolescent boys.

Table-2

Results on mean differences between gender groups with Attention Deficit Hyperactivity Disorder and its Sub-types

ADHD Sub-types	Gender	N	Mean	Std. Deviation	t-value
Inattention Type	Boys	24	35.32	1.43	1.84
	Girls	29	34.74	.712	
Hyperactive-impulsive Type	Boys	32	36.87	2.50	1.63
	Girls	22	38.14	3.12	
ADHD	Boys	14	71.64	2.92	1.10
	Girls	13	72.85	2.76	

The results on one-independent sample t-test in Table -2 shows that with regard to the mean scores of the adolescents predominantly in the inattentive subtype, the mean score (M=35.32) of adolescent boys is higher than the mean score (M=34.74) of girls and the t-value is 1.84, which does not indicate any significant differences among the gender.

For adolescents with ADHD predominantly in hyperactive –impulsive type, the mean score (M=38.14) of girls is higher than the mean score (M=36.87) of boys and the t-value is 1.63 which does not indicate any significant differences between gender.

Among adolescents with Attention deficit hyperactive disorder, the mean score (M=72.85) of girls is higher than the mean score (M=71.64) of boys and the t-value is 1.10 which does not indicate any significant difference.

Table-3

Frequency distribution by parents with and with out consanguinity marriage in adolescents diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and Sub-types

ADHD and Sub-types	Category	Parents with and with out consanguinity marriage			
		Parents with consanguinity marriage		Parents with out consanguinity marriage	
ADHD		No.	Percentage	No.	Percentage
	Normal	251	96.2	847	97.7
	Borderline clinical range	5	2.1	9	1.1
	Both clinical and Borderline range	2	.9	3	.4
	Clinical Range	2	.9	6	.8
	Total	260	100.0	865	100.0
	Inattentive Type	Normal	248	95.2	824
	Borderline range	10	4.0	28	3.3
	Clinical Range	2	.8	13	1.5
	Total	260	100.0	865	100.0
Hyperactive-Impulsive type	Normal	246	94.4	825	95.3
	Borderline range	7	2.8	27	3.2
	Clinical Range	7	2.8	13	1.5
	Total	260	100.0	865	100.0

The frequency distribution of adolescents whose parents had a consanguinity marriage showed that with regard to Attention Deficit Hyperactive disorder, the percentage of respondents in the normal range is 96.2 %, borderline clinical range is 2.1 %, both clinical and borderline clinical range is .9% and clinical range is .9% respectively. Among

adolescents whose parents did not have a consanguinity marriage, the percentage of respondents in the normal range is 97.7 %, borderline clinical range is 1.1 %, both clinical and borderline clinical range is .4% and clinical range is .8% respectively.

The proportions of the results obtained thus indicates that adolescents whose parents had a consanguinity marriage experienced Attention Deficit Hyperactive disorder more in the clinical, borderline clinical and both clinical & borderline clinical ranges, as compared to adolescents whose parents did not have a consanguinity marriage.

The frequency distribution of the respondents or adolescents whose parents had a consanguinity marriage showed that with regard to ADHD and predominantly in the inattentive type, the percentage of respondents in the normal range is 95.2%, borderline clinical range is 4.0% and clinical range is .8% respectively. Among adolescents whose parents did not have a consanguinity marriage, the percentage of respondents in the normal range is 95.2%, borderline clinical range is 3.3% and clinical range is 1.5% respectively.

The proportions of the results thus obtained indicates that adolescents whose parents had a consanguinity marriage experienced inattentive symptoms more in the borderline clinical range and less in the clinical range as compared to adolescents whose parents did not have a consanguinity marriage.

The frequency distribution of the respondents or adolescents whose parents had a consanguinity marriage showed that with regard to ADHD predominantly in hyperactive-impulsive type, the percentage of respondents in the normal range is 94.4%, borderline clinical range is 2.8% and clinical range is 2.8% respectively. Among adolescents whose parents did not have a consanguinity marriage, the percentage of respondents in the normal range is 95.3%, borderline clinical range is 3.2% and clinical range is 1.5% respectively.

The proportions of the results thus obtained indicates that adolescents whose parents did not have a consanguinity marriage experienced hyperactive-impulsive symptoms more in the borderline clinical range and less in the clinical range as compared to adolescents whose parents had a consanguinity marriage.

Table-4

Results on mean difference on parents with and with out consanguinity marriage in adolescents diagnosed with Attention Deficit Hyperactive –Impulsive Disorder and Sub-types

ADHD sub-types	consanguinity	N	Mean	Std. Deviation	t-value
Inattention Type	Parents with consanguinity	12	35.00	.8944	.000
	Parents with out consanguinity	41	35.00	1.19	
Hyperactive-impulsive type	Parents with consanguinity	14	37.57	2.41	.289
	Parents with out consanguinity	40	37.32	2.97	
ADHD	Parents with consanguinity	9	72.44	3.68	.280
	Parents with out consanguinity	18	72.11	2.47	

The results on one-independent sample t-test shows that with regard to the mean scores of the respondents or adolescents in the predominantly inattentive type Table-4, the mean score (M=35.00) of adolescents whose parents had a consanguinity marriage is equal to the mean score (M=35.00) of adolescents whose parents did not have a consanguinity marriage, which does not indicate any significant difference among the two groups.

Predominantly in hyperactive–impulsive subtype, the mean score (M=37.57) of adolescents whose parents had a consanguinity marriage is higher than the mean score (M=37.32) of adolescents whose parents did not have a consanguinity marriage and the t-value is .289, which is not significant.

With respect to Attention deficit hyperactive disorder, the mean score (M=72.44) of adolescents whose parents had a consanguinity marriage is higher than mean score

(M=72.11) of adolescents whose parents did not have a consanguinity marriage and the t-value is (.280), which is not significant.

Table-5

Frequency distribution by order of birth in adolescents diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and Sub-types.

ADHD Sub-types	Category	Order of birth					
		First born		Second born		Third born	
		No.	Percentage	No.	Percentage	No.	Percentage
ADHD	Normal	525	96.6	443	97.8	130	99.2
	Borderline clinical range	10	2.0	4	1.0	0	.00
	Both clinical and borderline range	4	.8	0	.00	1	.8
	Clinical Range	3	.6	5	1.2	0	.00
	Total	542	100.0	452	100.0	131	100.0
	Inattentive Type	Normal	515	94.9	430	95.0	127
	Borderline range	18	3.4	16	3.6	4	3.1
	Clinical Range	9	1.7	6	1.4	0	.00
	Total	542	100.0	452	100.0	131	100.0
Hyperactive-Impulsive type	Normal	519	95.6	429	94.8	123	93.8
	Borderline range	15	2.9	13	2.9	6	4.6
	Clinical Range	8	1.5	10	2.3	2	1.5

	Total	542	100.0	452	100.0	131	100.0
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The frequency distribution of the respondents on the basis of the order of birth showed that with regard to Attention Deficit Hyperactive disorder the percentage of first-born adolescents in the normal range is 96.6 %, in clinical range is .6%, in borderline clinical range is 2.0% and in both clinical and borderline clinical range is .8% respectively. The percentage of second-born adolescents in the normal range for Attention Deficit Hyperactive disorder is 97.8%, borderline clinical range is 1.0 %, both clinical and borderline clinical range is .00% and clinical range is 1.2%, respectively. The percentage of third born adolescents in the normal range for Attention Deficit Hyperactive disorder is 99.2% borderline clinical range is .00 %, both clinical and borderline clinical range is .8% and clinical range is .00% respectively.

The proportions of results thus obtained indicates that second-born adolescents experienced Attention Deficit Hyperactive disorder most in the clinical range, followed by first, third born adolescents. First-born adolescents experienced Attention Deficit Hyperactive disorder most in the borderline clinical range, followed by second and third born adolescents. Further, first and third born adolescents experienced Attention Deficit Hyperactive disorder in equal measure in both the clinical & borderline clinical ranges and also to a greater degree as compared to second-born adolescents.

Adolescents in the birth order, third born were not found to have Attention Deficit Hyperactive disorder in the clinical and borderline clinical ranges.

The frequency distribution of the adolescents on the basis of the order of birth showed that with regard to ADHD predominantly inattentive type, the percentage of first-born in the normal range is 94.9%, borderline clinical range is 3.4% and clinical range is 1.7% respectively. The percentage of second-born adolescents in the normal range is 95.0%, borderline clinical range is 3.6% and clinical range is 1.4% respectively and the percentage of third born adolescents in the normal range is 96.9 %, borderline clinical range is 3.1% and clinical range is .00% respectively.

The proportions of the results obtained indicates that second-born adolescents

experience ADHD predominantly inattentive type lying in the borderline clinical range, followed by first born, third born adolescents. First-born adolescents experienced ADHD-predominantly inattentive type more in the clinical range, followed by second and third born adolescents. Third born adolescents were not having ADHD predominantly in inattentive type in the clinical range.

The frequency distribution of the adolescents on the basis of the order of birth with regard to ADHD showed that predominantly in hyperactive-impulsive type, the percentage of first-born in the normal range is 95.6%, borderline clinical range is 2.9% and clinical range is 1.5% respectively. The percentage of second-born adolescents in the normal range is 94.8%, borderline clinical range is 2.9% and clinical range is 2.3% respectively and the percentage of third born adolescents in the normal range is 93.8%, borderline clinical range is 4.6% and clinical range is 1.5% respectively.

The proportions of the results obtained indicates adolescents who were third-born experienced predominantly hyperactive-impulsive symptoms most in the borderline clinical range, followed by first and second born adolescents. Second-born adolescents experienced predominantly hyperactive-impulsive symptoms most in the clinical range, followed by first and third-born adolescents. In the hyperactive-impulsive subtype, first and second born adolescents were found to obtain equal scores in the borderline clinical range, whereas first, third born adolescents obtained equal scores in the clinical range.

Table-6

Results on mean difference on order of birth adolescents diagnosed with Attention Deficit Hyperactive –Impulsive Disorder and Sub-types

ADHD subtypes	Order of birth	N	Mean	Std. Deviation	F- value
Inattention Type	First born	27	35.13	1.33	1.05
	Second born	22	35.00	.89	
	Third born	4	34.25	.50	
	Total	53	35.00	1.12	

Hyperactive-impulsive Type	First born	23	37.23	2.99	.068
	Second born	23	37.45	2.50	
	Third born	8	37.63	3.42	
	Total	54	37.38	2.81	
ADHD	First born	17	71.82	2.88	.481
	Second born	9	73.00	3.00	
	Third born	1	72.00	.	
	Total	27	72.22	2.86	

The results obtained on the computation of ANOVA, shows that with regard to the mean scores of the adolescents in the predominantly inattentive type Table-6 , mean score (M=34.25) of third born adolescents is higher followed by the mean scores of first-borns (M=35.13), and second-born (M=35.00) and the F-value is (1.05), which is not significant.

In the predominantly hyperactive–impulsive subtype, the mean score (M=37.63) of third born adolescents is higher followed by the mean scores (M=37.45) of second-born and (M=37.23) of first-born and the F-value is (.068), which is not significant.

With respect to Attention deficit hyperactive disorder, the mean score (M=73.00) of second-born adolescents is higher than the mean score (M=72.00) of third born adolescents and mean score (M=71.82) of first-born adolescents, and the F-value is (.481), which does not indicate any significant differences.

Table-7

**Frequency distribution by parental monthly income in adolescents diagnosed with
Attention Deficit Hyperactivity Disorder (ADHD) and Sub-types**

ADHD Sub- types	Category	Parental monthly income								
		Below 10, 000		10,000 to 20,000		20,000 to 30,000		30, 000 and above		
		No.	Percenta ge	No.	Percenta ge	No.	Percentage	No.	Percenta ge	
ADHD	Normal	398	97.3	392	98.1	118	94.7	190	97.7	
	Borderline clinical range	5	1.4	4	1.1	2	1.8	3	1.7	
	Both clinical and borderline range	4	1.1	0	.00	1	.9	0	.00	
	Clinical Range	1	.3	3	.8	3	2.6	1	.6	
	Total	408	100.0	399	100.0	124	100.0	194	100.0	
	Inattentive	Normal	387	94.7	377	94.4	120	96.6	188	96.9
	Type e	Borderline range	14	3.5	19	4.8	1	.8	4	2.1
Clinical Range		7	1.8	3	.8	3	2.5	2	1.0	
Total		408	100.0	399	100.0	124	100.0	194	100.0	
Hyperactive- Impulsive type	Normal	384	94.0	391	98.0	117	94.1	179	92.1	
	Borderline range	13	3.3	7	1.8	4	3.4	10	5.2	
	Clinical Range	11	2.8	1	.3	3	2.5	5	2.6	

	Total	408	100.0	399	100.0	124	100.0	194	100.0
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The frequency distribution of the respondents or adolescents on the basis of parental monthly income with regard to Attention Deficit Hyperactive Disorder shows that, the percentage of adolescents with parental monthly income below 10,000 who accounted for in the normal range is 97.3 %, borderline clinical range is 1.4 %, both clinical and borderline clinical range is 1.1% and clinical range is .3% respectively. The percentage of adolescents with parental monthly income ranging from 10,000 to 20,000, who accounted for in the normal range for Attention Deficit Hyperactive Disorder is 98.1 %, borderline clinical range is 1.1 %, both clinical and borderline clinical range is .00% and normal range is .8% respectively whereas the percentage of adolescents with parental monthly income ranging from 20,000 to 30,000 who accounted for in the normal range for Attention Deficit Hyperactive Disorder is 94.7 %, borderline clinical range is 1.8 %, both clinical and borderline clinical range is .9% and normal range is 2.6% respectively. The percentage of adolescents with a parental monthly income of 30,000 & above who accounted for in the normal range for Attention Deficit Hyperactive Disorder is 97.7 %, borderline clinical range is 1.7 %, both clinical and borderline clinical range is .00% and normal range is .6% respectively.

The proportions of results thus obtained indicates that adolescents with parental monthly income ranging from 20,000 to 30,000 experienced Attention Deficit Hyperactive Disorder more in the clinical range, followed by adolescents parental monthly income ranging from 10,000 to 20,000, those with an income of 30,000 & above and those earning below 10,000 per month. Adolescents with parental income ranging from 20,000 to 30,000 per month also experienced Attention Deficit Hyperactive Disorder more in the borderline clinical range, followed by adolescents with a parental income of 30,000 & above, those with parental income ranging between 10,000 and 20,000 and those with a parental income below 10,000. Further adolescents with a parental monthly income below 10,000 highly experienced Attention Deficit Hyperactive Disorder both in clinical & borderline clinical range, followed by adolescents with parental monthly income above 30,000, between 20,000 and 30,000 and between 10,000 and 20,000.

Adolescents with parental monthly income ranging from 10,000 to 20,000 and those with a parental income of 30,000 & above per month, were not prone to Attention

Deficit Hyperactive Disorder in the both clinical & borderline clinical range.

The frequency distribution of the respondents or adolescents on the basis of parental monthly income with regard to ADHD predominantly in inattentive type, the percentage of adolescents with parental monthly income below 10,000 who accounted for in the normal range is 94.7%, borderline clinical range is 3.5% and clinical range is .8% respectively. The percentage of adolescents with parental monthly income ranging from 10,000 to 20,000, who accounted for in the normal range for ADHD predominantly inattentive type is 94.4%, borderline clinical range is 4.8% and clinical range is .8% respectively, whereas the percentage of adolescents with parental monthly income ranging from 20,000 to 30,000 who accounted for in the normal range for ADHD predominantly inattentive type is 96.6%, borderline clinical range is .8% and clinical range is 2.5% respectively. The percentage of adolescents with a parental monthly income of 30,000 & above who accounted for in the normal range for ADHD predominantly inattentive type is 96.9 %, borderline clinical range is 2.1% and clinical range is 1.0% respectively.

The proportions of results thus obtained indicates that adolescents with parental monthly income ranging from 10,000 to 20,000 experienced predominantly inattentive symptoms more in the borderline clinical range, followed by adolescents with parental monthly income below 10,000, above 30,000 and ranging between 20,000 and 30,000. Further adolescents with a parental monthly income ranging between 20,000 and 30,000 experienced predominantly inattentive symptoms found to be more in the clinical range, followed by those with parental income below 10,000, above 30,000 and between 10,000 to 20,000 per month.

The frequency distribution of the respondents or adolescents on the basis of parental monthly income shows that with regard to ADHD predominantly hyperactive-impulsive type, the percentage of adolescents with parental monthly income below 10,000 who accounted for in the normal range is 94.0 %, borderline clinical range is 3.3% and clinical range is 2.8% respectively. The percentage of adolescents with parental monthly income ranging from 10,000 to 20,000, who accounted for in the normal range for ADHD predominantly hyperactive-impulsive type is 98.0 %, borderline clinical range is 1.8% and clinical range is .3% respectively, whereas the percentage of adolescents with parental monthly income ranging from 20,000 to 30,000 who accounted for in the normal range for ADHD-predominantly hyperactive-impulsive type is 94.1 %, borderline clinical range is

3.4% and clinical range is 2.5% respectively. The percentage of adolescents with parental monthly income of 30,000 & above who accounted for in the normal range for ADHD predominantly hyperactive-impulsive type is 92.1 %, borderline clinical range is 5.2% and clinical range is 2.6% respectively.

The proportions of results thus obtained indicates that adolescents with parental monthly income of 30,000 & above experienced predominantly hyperactive-impulsive symptoms were more in the borderline clinical range followed by adolescents with parental monthly income ranging from 20,000 to 30,000, below 10,000, and 10,000 to 20,000 per month. Adolescents with a parental monthly income below 10,000 experienced predominantly hyperactive-impulsive symptoms were more in the clinical range, followed by adolescents with parental monthly income above 30,000 and between 20,000 to 30,000 and 10,000 to 20,000 per month.

Table-8

Results on mean difference on income in adolescents diagnosed with Attention Deficit Hyperactive –Impulsive Disorder and Sub-types

ADHD Sub-types	Income	N	Mean	Std. Deviation	F- value
Inattention Type	Below 10,000	21	35.10	.97	5.65 **
	10,000-20,000	22	34.55	.83	
	20,000-30,000	4	37.00	1.73	
	30,000 & above	6	35.17	1.17	
	Total	53	35.00	1.12	
Hyperactive-impulsive type	Below 10,000	24	38.17	3.56	1.91
	10,000-20,000	8	35.33	.52	
	20,000-30,000	7	37.43	1.81	
	30,000 & above	15	36.93	1.83	

	Total	54	37.38	2.81	
ADHD	Below 10,000	10	72.20	2.70	.008
	10,000-20,000	7	72.25	2.87	
	20,000-30,000	6	72.33	2.66	
	30,000 & above	4	72.00	5.20	
	Total	27	72.22	2.86	

** p< 0.01. Significant level

The results obtained on the computation of ANOVA, with regard to the mean scores of the adolescents in the predominantly inattentive subtype in Table-10 shows that the mean score (M=37.00) of adolescents with parental monthly income ranging from 20,000 to 30,000 is higher followed by the mean score (M=35.17) of adolescents with parental monthly income of 30,000 & above, mean score (M=35.10) of adolescents with parental monthly income below 10,000 and mean score (M=34.55) of adolescents with parental monthly income between 10,000 to 20,000 and the F-value is (5.65), which indicates significant difference.

Conclusion

The present study is an attempt to facilitate adolescents diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and sub- types . The findings revealed that Attention Deficit Hyperactivity Disorder (ADHD) and sub- types is association with Personal correlates like Gender, Consanguineous marital status, Order of birth and Parental monthly Income.

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