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COMPARING THE INCIDENCE OF (ADHD) DISORDER AMONG ADOLESCENTS LIVING IN WELFARE BOARDING CENTERS AND THEIR NORMAL COUNTERPARTS IN TEHRAN

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ABSTRACT

The purpose of this study was to investigate the Comparing the Incidence of Attention Deficit Hyperactivity Disorder among Adolescents Living in Welfare Boarding Centers and Their Normal Counterparts. In this cross-sectional descriptive study, the statistical population includes all adolescents living in a well-being boarding school in the age group of 15 to 18 years old with normal IQ rang and their regular counterparts in Tehran. The statistical sample was selected by convenient sampling and simple random sampling method. Sample size was 52 (26 boys and 26 girls) from adolescents living in well-being boarding centers and 52 (26 boys and 26 girls) from their normal counterparts who were selected after sampling. Descriptive statistics (including mean, standard deviation,) and inferential statistics (independent t-test) were used to analyze the data. The results showed that 71% of the under-cured and 14% of the control group received attention deficit hyperactivity disorder (ADHD), The results also showed that adolescents living in well-being boarding centers and their regular counterparts in attention and response control components have a significant difference, so that adolescents living in well-being boarding centers have lower scores in attention and attention control components of attention deficit disorder And hyperactivity. It is suggested that according to the results of the present study, appropriate interventions and appropriate training with attention deficit hyperactivity disorder should be presented in well-being boarding centers.

Keywords: *Adolescents, Attention Deficit Hyperactivity Disorder, Incidence, Welfare Boarding Centers.*

INTRODUCTION

There is a strong relationship between attention deficit hyperactivity disorder and poor academic performance and progress, defective job performance, high potential to commit crime, drug abuse, interpersonal communication problems and psychiatric disorders such as depression and anxiety disorders. As one ages, the problems relevant to impulsivity decrease; however, attention problems continue to exist in the adulthood and cause many problems for the individual. Longitudinal studies show that about 75% of children with this disorder also experience it in adolescence, and the percentage reach around 50 in adulthood. Today, many efforts are made regarding the areas of prevention, treatment and education in domain of drug addiction. But the issue has been neglected that there is a strong relationship between attention deficit hyperactivity disorder and drug use disorder. A 10-year longitudinal study of 268 addicted children in the United States found that this disorder was one of the childhood

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predictors of drug addiction in adolescence and adulthood, and this group had a higher rate of smoking and consuming a variety of addictive substances compared to the group of normal children (Arabgol, Hayati and Hadid, 2004).

In recent years, the psychological problems of children and adolescents have been widely considered. In fact, the identification of cases that have psychological problems and studying the type, severity and distribution of mental disorders of children and adolescents can be used to assess the prevalence of psychological disorders, the determination of their current trend and the development of the causal hypothesis. The attention deficit hyperactivity disorder is a behavioral disorder that its prevalence among students leads to problems in families, schools and society. In this regard, the epidemiology of behavioral disorders in children and adolescents is one of the strategies to identify and diagnose the disorders, and studying the prevalence plays an important role in the development of comprehensive health programs and preventive measures (Sayal et al., 2018).

Moradi et al. (2009) reported in their research the prevalence of attention deficit hyperactivity disorder in the children in Nishapur in the academic year of 2006-2007 to be 12.5%. Shahim, Mehrangiz and Yousefi (2007) reported a prevalence of 5-8% in primary school children (7-11 years old) in Shiraz. Shefa'at et al. (2013) in their survey on 14-17 year-old high school students in Sari in the academic year of 2011-2012, reported a prevalence of 14% among the population. Namdari et al. (2008) also reported a prevalence of 17% in their study on 1st-5th grade primary schools students in Khorramabad in the academic year of 2004-2005.

Many studies have been conducted in Iran, and in different cities; however, they report different statistical results that might be due to the different types and scales of measurement. The common point of all these studies is that the high prevalence of this disorder in the reports of prevalence of attention deficit hyperactivity disorder in the United States varies from 2 to 20 % in primary school children. Cautious count of the prevalence rate indicates about 3 to 7 % in primary school children in pre-puberty age. The American Psychological Association also reported a prevalence of 5% in children and 2.5% in adults (Rowland, Lesesne and Abramovitz, 2009).

The prevalence of ADHD in adults is derived from longitudinal studies that traced the course of ADHD from childhood to adulthood. The results of several of these longitudinal studies indicated that the disorder was generally constant in the developmental course, and in 30-70% of cases, the symptoms persisted until adulthood (Sobanski, 2006). This disorder was formally accepted as a disorder in adults in early 1990s (Barkley, 2006), but there is still little information about the prevalence of this disorder in adults. In a study recently conducted on a large sample of adult population in the United States, the prevalence of this disorder was estimated at 5% in adults (Barkley, Murphy and Fischer, 2008). Also, various studies estimated the incidence of this disorder between 2 and 8 % in students (Rowland, Lesesne and Abramovitz, 2009). In a study conducted by Arabgol, Hayati, Hadid (2004) on female students of Shahid Beheshti University, the prevalence of this disorder was 3.7%. Another study by Bakhshani, Raghibi and Babaei on students in Sistan and Baluchestan University estimated the prevalence of attention deficit disorder at 9.7%, hyperactive disorder at 7.9%, and impulsivity 6.7%; these statistics indicate the high prevalence of this disorder among adult population. There are few studies available that compare the subtypes of the disorder among adults, but there is some evidence that the symptoms of hyperactivity/impulsivity are usually reduced in

adults, but the symptoms of attention deficit disorder are constant till adulthood and may even increase (Barkley, 1997). Pliszka (2009) examined three subtypes of this disorder in 149 adults diagnosed with ADHD and found that 56% of them were in the combined subgroup, 37% were in the subgroup of attention deficit, and only 2% were in hyperactivity/Impulsivity subgroups.

ADHD in adults is often associated with a wide range of behavioral problems, such as aggression, hostility, anti-social behaviors, posing personal health risks, carelessness and high speed driving, inability to obtain financial and economic management, abnormal sexual behaviors, marital problems, parenting problems, drug and substance abuse, cigarette and alcohol use, and neurological and psychiatric disorders. More than 80% of people with ADHD have the minimum criteria for 1 disorder, more than 50% have the criteria for 2 disorders and more than one third of them have the criteria for 3 disorders (more than 50% of adults with ADHD have one of the substance abuse disorders as well) (Halmoy, 2011). Antisocial personality disorder occurs in 18-23 % of adults with ADHD, especially in cases of comorbidity with conduct disorder in childhood (Sobanski, 2006). Moreover, studies have shown that the incidence of other personality disorders such as borderline personality disorder and depressed personality, bipolar disorder, sleep disorders and eating disorders in adults with ADHD is higher in comparison to of the clinical and normal population (Arabgol, Hayati and Hadid, 2004).

METHOD

This research was a cross-sectional descriptive study. The population included all adolescents aged 15 to 18, residing in boarding welfare centers in Tehran, and their normal counterparts in Tehran. The statistical sample was selected using convenience sampling and simple random sampling methods. The sample size is 52 people (26 boys and 26 girls) from adolescents residing in boarding welfare centers and 52 (26 boys and 26 girls) from their normal counterparts. Having attended Tehran Welfare Center, we introduced the plan and invited them to participate in the research and having obtained the entrance permit to Shemiranat, Shahrerey, Eslamshahr, and Picheshemran centers, and ultimately, the entrance permit to boarding welfare centers for the accommodation of derelict adolescents we attended these centers and invited the authorities to participate in the research and eventually we invited the adolescent volunteers of these centers and introduced the project and justified them to participate in the research and provided the tests, besides, having attended Tehran Education Center and we introduced the project and invited them to participate in the study and having obtained permit to municipal districts of Tehran we performed the research test on normal adolescents. In the present for the analysis of study results, the comparison of the means is used in data description and independent t-test in data inference.

Research Instruments

Computerized Test: IVA

This test is used to evaluate attention and impulsivity and it focuses mostly on people with ADHD and those with attention deficit. This test is for people aged above six. This test is a computerized test with an instruction that first teaches you the stages of the test and the way you have to answer the test; it starts after an initial practice test; it takes about 20 minutes. It

tests both visual and auditory attention. The study results indicated that the IVA test is designed to detect impaired attention, carelessness and impulsivity, so this test has enough sensitivity (92%) and predictive power (89%) for the correct diagnosis of ADHD in children. The validity of the test in the re-test method shows that the 22 IVA scales have a direct relationship with each other. In general, the findings show that this test has a high degree of validity and reliability regarding the accurate examination of the attention and the diagnosis of ADHD (Sobanski, 2006).

Wechsler Adult Intelligence Scale:

It is suitable for the age group 15+. Since the study sample consists of male and female students with the mean age of 16.5 (grade 10), this intelligence scale has been used. It is an individual test and it lasted at least two hours for each person. The researcher was in the charge of test implementation phase which took around 200 hours. Wechsler adult Intelligence scale is grouped into two scales: verbal IQ test which is used for language assessment (e.g. the test of similarities), and scientific IQ test that is based on the subtests. The intelligence sub-tests are designed to measure special skills such as vocabulary comprehension, recognition of similarities and differences, the ability to memorize numbers, and construct designs with wooden and colorful cubes. Subtests can be scored individually. In his intelligence scaling, Wechsler defined intelligence as: a person's overall talent for purposeful action, logical thinking, and effective encounter with the environment. On the Wechsler scale, the subjects are not arranged on grade levels and instead the similar subjects have been put in the form of sub-tests, and are put in each sub-test in an ascending order of difficulty. In this regard, in these scales, the design used is similar to group tests, which is not observed in Stanford-Binet intelligence scale. In this test, Wechsler Intelligence scale form is revised.

FINDINGS

The mean age of the group under the care of welfare department was 16.21 with a standard deviation of 2.86; and the mean age of the group of normal counterparts was 16.43 with a standard deviation of 2.66. The mean score of general intelligence in the group under the care of welfare department was 98.19 with a standard deviation of 8.13 and the mean score of general intelligence in the group of normal counterparts was 104.65 with a standard deviation of 5.65. Both research groups were homogenous regarding gender (26 boys and 26 girls). In Figure 1, the gender frequency of the specimens is presented.

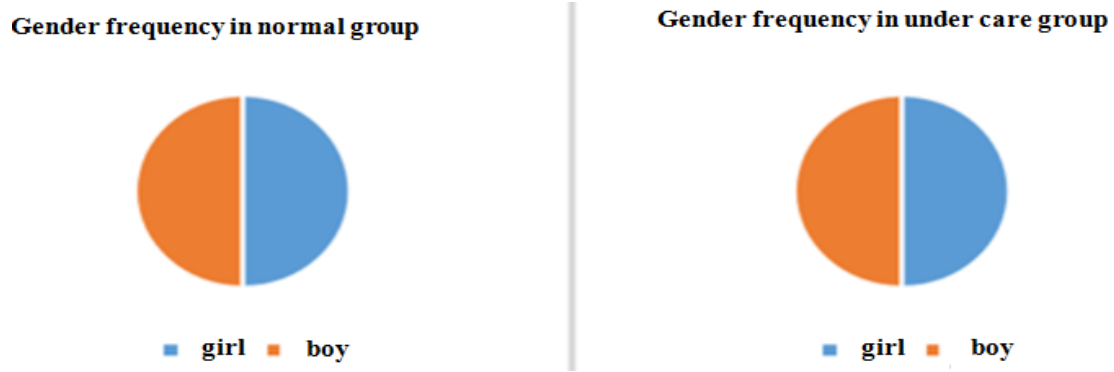

Figure 1: Gender Frequency in Research Groups

Furthermore, given the evaluation of subjects using IVA test and the assessment of diagnostic criteria of attention deficit hyperactivity disorder (ADHD) and according to Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, in the group under the care of welfare department 37 people and in the group of normal counterparts 14 people were diagnosed with attention deficit hyperactivity disorder. Table 1 also provides diagnostic frequency in two research groups.

Table 1: Diagnostic Frequency in Two Research Groups

Gender frequency in the group under the care of welfare department			Gender frequency in the group of normal counterparts		
All specimens Frequency (%)	Girls Frequency (%)	Boys Frequency (%)	All specimens Frequency (%)	Girls Frequency (%)	Boys Frequency (%)
37(71.0)	19 (73.0)	18 (69.0)	14 (26.0)	5 (19.0)	9 (35.0)

As shown in Table 1, 71% in the group under the care of welfare department and 14% in the group of normal counterpart were diagnosed with attention deficit hyperactivity disorder. Figures 1 to 3 show the diagnostic frequency of attention deficit hyperactivity disorder in the research groups.

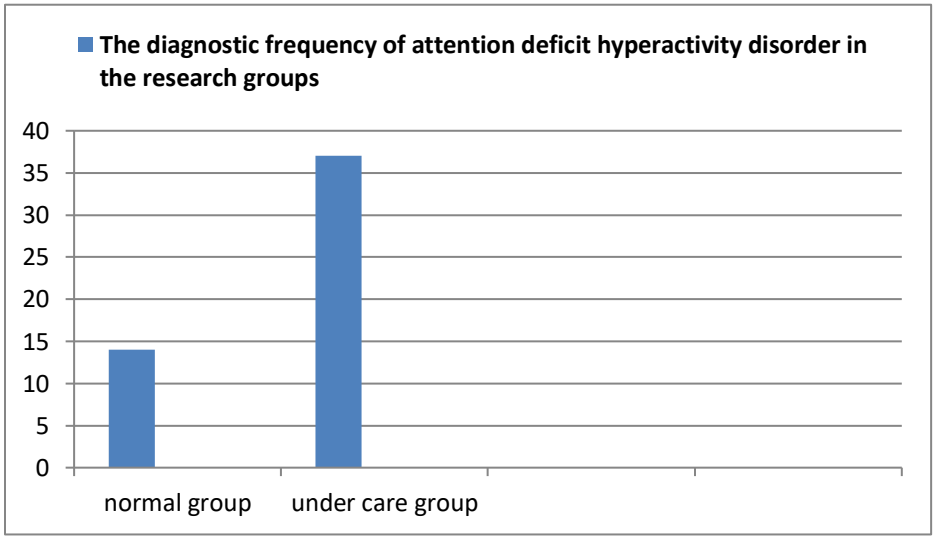

Figure 2: Descriptive Results of Attention Deficit Hyperactivity Disorder in Two Research Groups

In Figures 2 and 3, descriptive results of diagnostic frequency of attention deficit hyperactivity disorder in boys and girls are separately presented in the research groups.

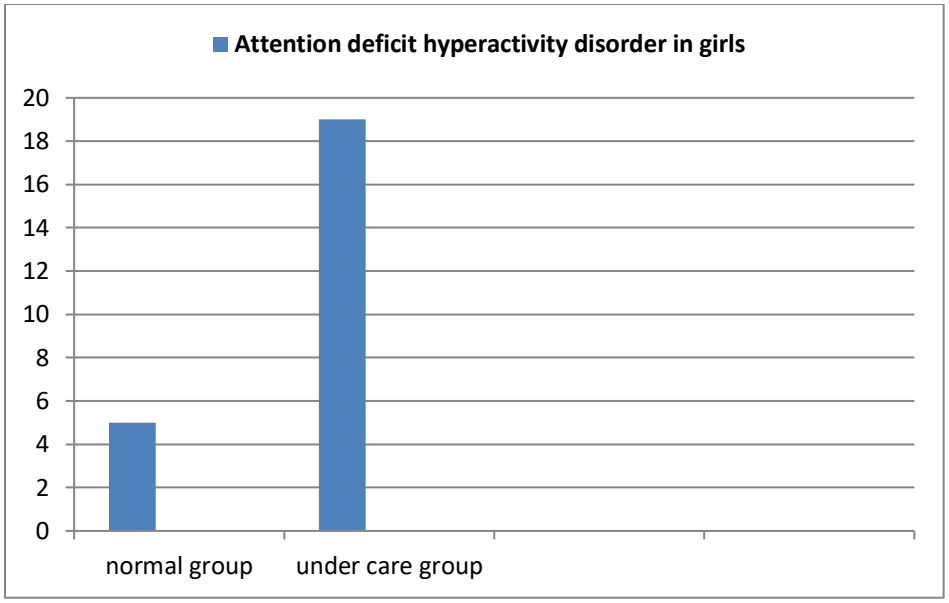

Figure 3: Descriptive Results of Girls' Attention Deficit Hyperactivity Disorder in Two Research Groups

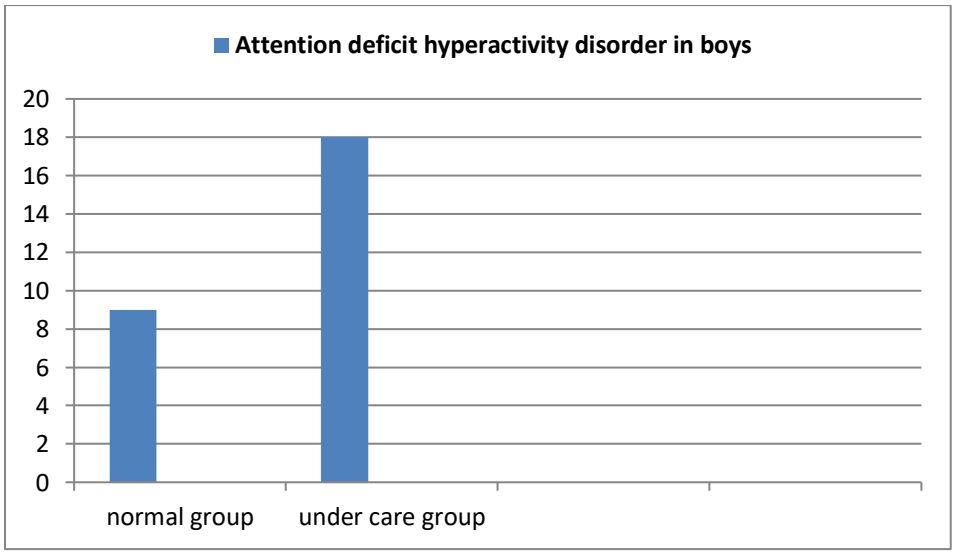

Figure 4: Descriptive Results of Boys' Attention Deficit Hyperactivity Disorder in Two Research Groups

Table 2 represents the descriptive results of the IVA test in two research groups.

Table 2: Descriptive Results of Research Variables in Two Groups

Variables		Normal group		Under care group		Degree of freedom	T	Level of significance
		Mean	SD	Mean	SD			
IVA	Attention	42.138	54.25	78.96	45.10	106	21.4	001.0
	Response control	76.195	57.12	43.104	35.13	106	65.9	001.0

As it is represented, there are significant differences between the two research groups in the components of the IVA test.

DISCUSSION AND CONCLUSION

The results showed that adolescents with normal intelligence range residing in boarding welfare centers had more diagnostic frequency in attention deficit hyperactivity disorder in comparison to the normal counterparts. Also, the results showed that the mean scores of adolescents residing in welfare centers compared to the normal group were higher in the following components, impulsivity, attention deficit, and combined.

This study showed that in the community of children residing in welfare centers, attention deficit hyperactivity disorder (ADHD) has a high prevalence and it is significantly different with normal children. This highlights the importance of the psychologists' presence in these centers, early diagnosis of these disorders at lower ages through screening tests, and thus students' early referral for therapy and treatment. Given the cultural and geographical diversity in the country and the limited sample size, it is recommended to replicate the research in other parts of the country.

ADHD in adults is often associated with a wide range of behavioral problems, such as aggression, hostility, anti-social behaviors, posing personal health risks, carelessness, high speed driving, inability to obtain financial and economic management, abnormal sexual behaviors, marital problems, parenting, drug and substance abuse, smoking and alcohol use (Sobanski, 2006). Antisocial personality disorder occurs in 18-23 % of adults with ADHD, especially in cases of comorbidity with conduct disorder in childhood. Wyandot et al. (2006) reviewed 9 studies on the incidence of ADHD in adult prisoners across countries, they estimated that the incidence rate range from 24% to 64%. In the German study (Vermeiren, 2003), they found that 45% of the prison population showed different subsets of ADHD in comparison to 9.4% of the control group. In this study, they found that 85.5% of people with ADHD had a substance abuse disorder or drug addiction and 30.2% had an antisocial personality disorder. The results of these studies indicate a high incidence of this disorder in the prison population.

It was previously believed that as these children grow older, the problem of hyperactivity and attention deficit are resolved in them. Of course, this is true by very few percentages in children, because even if hyperactivity is eliminated in these children, attention deficit would remain constant in them in adolescence and would result in various damages to their individual and social lives such as marital life and job instability. Of course, it is a true fact that a child may be hyperactive yet it has no hindrance to education. Intelligent children have no problems in this regard since their intelligence compensates for their lack of attention; however, the attention deficit becomes completely evident at higher education levels. Thus, intelligence is a feature that compensates for attention deficit. However, if hyperactivity is not treated, it will affect attention deficit (Ginsberg, Hirvikoski and Lindefors, 2010).

Adult attention deficit hyperactivity disorder (ADHD) is a mental disorder that occurs as concentration disturbance, hyperactivity, impulsivity, and abnormal behaviors. Symptoms of attention deficit hyperactivity disorder in adults can lead to unstable relationships, inadequate work and education performance, and lower self-esteem. Attention deficit hyperactivity disorder (ADHD) always begins in early childhood, but in some cases it is not recognized until adulthood. In the past, attention deficit hyperactivity disorder was thought to be limited to childhood period, but today, it is evident that the symptoms of the disorder are constant in

adulthood. In some patients, adult ADHD causes some problems that are resolved with the treatment (Sadeghi Movahhed and Rezaei Ghalechi, 2012).

Research Proposal

The examination of similar researches with larger sample sizes in order to increase the generalizability of the results

The examination of similar researches that evaluate other types of executive functions

Practical Recommendations

- Providing cognitive rehabilitation services to adolescents residing in welfare centers
- Applying cognitive rehabilitation to reinforce executive functions in adolescents
- Screening of executive functions in adolescents and the provision of necessary psychological programs.

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