Determining the Prevalence of Attention Deficit Disorder Hyperactivity in Medical Students of Bandar Abbas University of Medical Sciences in 2011-2014

Ameneh Panah [1], Shahram Zare [2]*

[1] Student Reseach Committee, Hormozgan University of Medical Sciences, Bandar Abbas, Iran
[2] Hormozgan University of Medical Sciences, Bandar Abbas, Iran

The purpose of this study was to determine the prevalence of attention deficit disorder/hyperactivity in medical students of Bandar Abbas University of Medical Sciences in 2011-2014. This research is a descriptive study. In this study, 176 students were selected through available sampling among medical students from Bandar Abbas University of Medical Sciences from 2011 to 2014. In this study, the Wender Utah and rating scale were completed by students through self-reporting The population of the study included 176 students who 105 were female students, and 71 were male students. Based on the findings of this study, the rate of attention deficit disorder hyperactivity among students was 1.7%, and 10.8% of students were suspected of this disorder. In this study, there was no statistically significant relationship between the items such as gender, marital status, age, total score, and history of mental disorders and mean scores for attention-deficit / hyperactivity disorder. The prevalence of attention deficit disorder hyperactivity in students is significant. Due to the interactions that this disturbance causes in the student's academic and occupational performance, student assessments should be made at university registration as well as at university by the academic advisers in order to diagnose and treat them.

Introduction

Attention Deficit Disorder / Hyperactivity is a neurodevelopmental disorder that is associated with a disability to maintain attention, hyperactivity, and impulsivity. This disorder is one of the most common psychiatric disorders that occur in childhood and ranges from 3 to 7%. In its studies, the prevalence in the country was 14.4% to 6.5%. [1]. ADHD is a childhood disease whose effects are not so evident in adolescence, as recent research has shown that many of these children also experience symptoms of their illness during adulthood [2]. Hyperactivity disorder occurs in adolescents between 30% and 50% of cases. However, the disruption is not accurate in adults, but it is likely that 1 to 5% of adults will also have this disorder [3]. Adult hyperactivity disorder causes problems, especially for students. Adults with this disorder have difficulty performing tasks such as planning, completing tasks, and controlling attention during

the study [4]. Attention-Deficit Hyperactivity Disorder (ADHD) is an important disease that needs diagnosis and treatment because it has been shown in clinical studies that there is a relationship between attention deficit disorder and substance abuse disorder so that boys with this disorder are at higher risk in relation to their healthy counterparts in terms of drug use tendency [5,6]. Although hyperactivity in our society has a relatively high prevalence, studies in this disorder are limited in adults and especially in students since this disorder can be treated appropriately in case of timely diagnosis and according to The Importance of the Students' Role in the Society [5,6]. The purpose of this study was to determine the prevalence of attention deficit hyperactivity disorder in Bandar Abbas University of Medical Sciences.

Materials and Methods

This study cross-sectional and descriptive-analytic research was conducted on medical students of Hormozgan University of Medical Sciences. Based on the calculated volume,

* Corresponding author: **Shahram Zare**. Hormozgan University Of Medical Sciences, Bandar Abbas, Iran. Email: Sh.Zare@Hums.Ac.Ir

according to Cochran's formula with a 5% error rate, 176 students of Medical Sciences University were selected according to available sampling and if they met the inclusion criteria. Wender Utah ADHD Rating Scale was used to examine the samples. Students completed the questionnaire during the period of 2011 to 2014 after obtaining informed consent to participate in the study.

The Wender Utah Score Rating Scale (WURS)

The WURS test, which consisting of 61 questions, was designed in the United States in 1993, which can help retrospectively diagnose ADHD for adults. This test is based on the Lacrite system. The validity and reliability of this study have been investigated in the study of Sarami in Iran. To test the validity of the test, this test was administered to two groups of adult patients with ADHD and healthy individuals. At the standardization stage, the mean test score was 62.2 in 154 adults, and the standard deviation of the scores was 23.67. Reliability was determined by Pearson's formula, which was higher than the table value at $p<0.01$. In the validity phase, a t-test was used to compare the mean score of the test in the patient and non-patient groups ($p <0.01$). According to the norm table found in this study, the WURS test score can interpret in an adult and find out that his score is higher than the healthy population. Therefore, it is possible to use the WURS test for diagnostic (research and therapeutic) purposes. According to this study WURS score less than 42 is considered normal, a score of more than 42 and less than 56 is considered suspicious and score more than 56 is considered as abnormal. According to the results of the study, the test has good validity and reliability.

Statistical analysis

Normality distribution of data was evaluated using the Kolmogorov-Smirnov test. Also, in this study, the relationship between quantitative variables based on the chi-square test was investigated. Mann-Whitney test and one-way ANOVA were used to examine the relationship between quantitative variables. All analyses were performed with SPSS (version 24) software.

Results

The mean age of students was 23.01 ± 1.7. between all patients also one person had mental disorder and others had not this history. The population of the study included 176 people who

105 were female students and 71 were male students whose mean scores for attention-deficit/hyperactivity disorder between them base on gender were not statistically significant (p=0.105) (Table 1). Also, Comparison of the WURS mean score base on year of University entrance among students was not significant.(p=0.429) (Table 2).

Of these students, 140 were single, and 36 were married which WURS mean score between them was not significant. (p=0.649) (Table 3).

Table 1. Comparison of the WURS mean score base on gender among students

	Number	%	Mean score
female	105	59.7	27.14
male	71	40. 3	30
p-value	0.105		

Table 2. Comparison of the WURS mean score base on Year of University entrance among students

	Number of students enrolled each year	%	Mean score
2011	40	22.7	28.48
2012	55	31.3	26.42
201 3	43	24.4	28.70
2014	38	21.6	30.37
p-value	0.429		

Table 3. Comparison of the WURS mean score base on gender among students

	Number	%	Points mean
single	140	79.5	28.53
married	36	20.5	27.39
p-value	0.649		

Only 1 of these students had a history of psychiatric disorder, and the rest of them rejected any history of mental health disorder. WURS mean score base on the history of mental disorders was studied that there was no significant different between scores (Table 4).

Table 4. Comparison of the WURS mean score base on the history of mental disorders

	Number	%	Points mean
history of mental disorder	1	0.6	27
history of non-mental disorder	175	99.4	28.30
p-value	0.910		

Spearman correlation coefficient (which is non-parametric) was used for two quantitative variables, age and total mean score, which did not have a normal distribution.

There was no correlation between age and score (correlation coefficient= 0.004, P-value=0.995).
Also, any correlation was not seen between total score and other variables (p>0.05). Studied students were divided into three natural groups with a score of less than 42, suspicious or scores of 56-42, and afflicted with a score of more than 56 according to

the Wender Utah rating scale (1993). In this study, the lowest score was 5, and the highest score was 59.

Discussion

According to the study, the rate of students (a child who has been diagnosed) to attention-deficit / hyperactivity disorder was 1.7%, and 10.8% was suspected to this disorder with a relatively high percentage. The prevalence of this disorder has reported in researches of Miri Eskandari et al. (2007) 4.4% [8], Sadeghi Movahed et al. (2013) 8.6% [4] and in the Arabgol et al. (2004) 3.7% [2]. In different studies, there was a similar outbreak, for example, in the study of Adler and Cohen (2004) 4.7% [9] and in the study of Fayyad et al. (2007), 3.5% were prevalent [10].

In this study, the history of psychiatric disorder in individuals with attention-deficit / hyperactivity relationship is lesser than the previous studies .The questionnaire pointed out that only the Wender Utah rating scale was used here and the subjects were divided into three groups, although in most previous studies, the subjects were in two groups of healthy and afflicted.

Several issues can be identified to explain the differences reported in the prevalence of this disorder, including differences resulting from different definitions, evaluations by different individuals, self-reporting, different evaluation tools, and various participants [3].

In this study, there was no relationship between the history of psychiatric disorders in the individual with ADHD, but it should be noted that the history of psychiatric disorders is due to several reasons such as fear or embarrassment of individuals from the community and society in expressing this type disorders, or even in some cases, a person's lack of knowledge of the disease, cause the incidence of these disorders to be lower than their real value [4].

The cases of a person's lack of awareness of the cause of the disease make them less likely to report their actual levels [4]. Attention-Deficit / Hyperactivity Disorder (ADHD) is a common disorder in adults, which, if properly diagnosed, is merely curable, so more studies are needed to determine its prevalence in the community. Also, due to the interactions that this disorder plays in academic performance and the occupation of the infected person. In order to diagnose and treat it, students should make psychological assessments when enrolling the students and at the university by academic advisors.

Conflicts of interest

None.

References

1. Nejati V, Shahidi SH, Shiri E, Khoshhalipanah M. Comparing explicit and implicit memory in children with attention deficit- hyperactivity disorder and their typical developing counterparts. J Res Rehabil Sci 2014;10(1):131-138(Persian).
2. Arabgol F, Hayati M, Hadid M. Prevalence of Attention - Deficit/Hyperactivity Disorder in a Group of University Students. Advances in Cognitive Sciences. 2004;6(1 and 2):73-87
3. Niusha B, Ganji K, Sotodeh M. Prevalence of Attention Deficit / Hyperactivity Disorder (ADHD) Symptoms in Middle School Gifted Students of Kohgiluyeh & Boyer-Ahmad Province in 2010–2011. Psychology of Exceptional Individuals. 2012;2(6):61-94.
4. Sadeghi Movahed F, Mulavi P, Samadzadeh M, Shahbazzadegan B, Askari Moghadam R. Prevalence of hyperactivity disorder in dormitory students of Ardabil University of Medical Sciences. Journal of Ardabil University of Medical Sciences. 2013;12(5):87-94.
5. Alizadehgoradel J, Imani S, Nejati V, Fathabadi J. Comparing the effectiveness of transcranial Direct Current Stimulation, mindfulness-based substance abuse treatment and combined therapy of these two methods on emotion dysregulation in adolescents with Substance use disorders. Journal of Research on Addiction. 2019;13(52):163-182.
6. Shabani M, Yadegari A. Prevalence of Attention Deficit Hyperactivity Disorder (ADHD) in Elementary School Children in Zanjan 2004 - 2005. J Adv Med Biomed Res. 2005;13(51):42-48.
7. Moayedi F, Moayedi A, Goli G, Hamedi Y. Prevalence of attention deficit hyperactivity disorder in Bandarabbas primary school students in 2010. Hormozgan Medical Journal. 2014;17(3):241-247. [Persian]
8. Miri Eskandari, F. (2007). Construction and standardization of diagnostic scale of attention deficit Hyperactivity in Students of Ferdowsi University of Mashhad in the academic year of 2007-2007. Allameh Tabataba'i University. [dissertation]
9. Adler L, Cohen J. Diagnosis and evaluation of adults with attention-deficit/hyperactivity disorder. Psychiatr Clin North Am. 2004;27(2):187-201.
10. Fayyad J, De Graaf R, Kessler R, Alonso J, Angermeyer M, Demyttenaere K, et al. Cross national prevalence and correlates of adult attention-deficit hyperactivity disorder. Br J Psychiatry. 2007;190(5):402-409.