

Original Article

Attention Deficit Hyperactivity Disorder Symptom Self-report among Under Graduate Students of BS Computer Science in Mohammed Ali Jinnah University, Islamabad

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ABSTRACT

Objective: To determine the prevalence of self-reported attention deficit hyperactivity disorder (ADHD) symptoms among under graduate students of BSCS in Mohammed Ali Jinnah University, Islamabad.

Study Design: Cross-sectional Descriptive study.

Place and Duration: The study was carried out in MAJU Islamabad during the period September 2014 to October 2014.

Materials & Methods: A cross-sectional descriptive study conducted to determine the prevalence of self-reported attention deficit hyperactivity disorder (ADHD) symptoms among under graduate students during the period Sept. 2014 to Oct. 2014. There are 151 students, with a mean age of 21.0 years (17-25, S.D. 1.8), of whom 73.5% were males. ADHD Symptomatology is measured, using the Adult ADHD Self-Report Scale (ASRS v1.1).

Results: The prevalence rate of self-reported ADHD symptoms was 7.28%. This was significantly associated with being in the age-group 17-19 years compared, 20-22 years ($p < 0.05$). Of these females had a higher prevalence rate (7.5%) and the inattentive type was the most common (90.9%).

Conclusion: The survey reveals that prevalence rate of ADHD symptoms among students was very high and possibly interferes with the students' social and academic functioning.

Key Words: ADHD symptoms, Adult ADHD Self-Report Scale (ASRS), attention-deficit/hyperactivity disorder (ADHD), college students, undiagnosed ADHD.

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Introduction

About 5-8 percent of school age children¹ are affected with attention - deficit /hyperactivity disorder (ADHD). And 60 % of these cases may

further presented into adult ADHD (4% of adult).² ADHD is a neurobiological condition and inherited in families.³ It is a lifespan condition that affects both genders equally and irrespective of all races.⁴ A person with ADHD has problems in their life with

task of daily living including; in school, in jobs, in family and in relationship.²

To establish the ADHD diagnosis for a person must have key deficiency in two settings of his/her life. Examples of impairment are conflicts in marital relationship, economic distress because of failure to payment and educational audition in college due to deteriorating scores.

If symptoms of ADHD do not encounter major insufficiency for a person, he or she may not have ADHD clinical disorder.⁵ A proper understanding of ADHD diagnosis and clinical guidelines are provided in Diagnostic and Statistical Manual of Mental Disorder Fourth Edition Text Revision (DSM-IV^{TR}).⁶

Earlier prevalence studies on ADHD exclude adults in their samples⁴ regardless of the postulation that the symptoms would impair their intellectual functioning and school performance.⁷ A prevalence rate of 0.8-1.0 % was found in a study in universities of developed countries including United States, New Zealand, and Italy.⁸ Another study suggested a role of ADHD symptoms causing academic issues and other vital area of functioning in 7% of college students.⁹ A report from an anonymous medical student's survey suggested that 5.5% of them are affected with ADHD and of these 72.2 % was diagnosed after the age of 18 years.¹⁰ Understanding on ADHD from the emerging nations is more effortful to come by, and this study is amid to upsurge the frame understanding of this syndrome among undergraduate Pakistani students.

Materials and Methods

This cross-sectional descriptive study was carried out in MAJU Islamabad during the period September 2014 to October 2014. It consists of 18 questions derived from the DSM-IV-^{TR} diagnostic criteria for ADHD. A brief questionnaire for collection of socio-demographic data was also used. Data collected included year of birth, gender and year of study. The study protocol was subjected to ethics review by the Institutional Research and Ethics Committee of Islamabad Medical and Dental College (IMDC) Islamabad. A total of 151 students volunteered to participate in the study. Collected data was entered into a Microsoft Access database and analyzed using SPSS version 16.0. Descriptive statistics were used to compute means and standard deviations for numerical variables as well as frequencies for nominal and ordinal variables. The Chi square test statistic (χ^2) was used to test the significance of association between various factors and a positive ASRS screen. A value of $p < 0.05$ was considered statistically significant.

Results

The study involved 151 participants with a mean age of 21.0 years (17-25, s.d= 1.8). 28 (18.5%) of the participants were aged 17-19 years, 98 (64.9%) were aged 20-22 years and 25 (16.5%) were 23 years and older. In this study, 73.5% of the participants were male out of which 54.9% males were in their junior group (1st year and 2nd year) of study. Table-I shows the distribution of the participants by gender and year of study. Two

Table I: Distribution of participants by gender and year of study

Year of study	Male		Female		Total	
	N (%)	Cumulative N (%)	N (%)	Cumulative N (%)	N (%)	Cumulative N (%)
junior group	1 st	25 (22.5)	12 (30)		37 (24.5)	
	2 nd	36 (32.4)	61 (54.9)	08 (20)	20 (50)	81 (53.6)
Senior group	3 rd	31 (27.9)		15 (37.5)		46 (30.4)
	4 th	19 (17.1)	50 (45)	05 (12.5)	20 (50)	70 (46.2)
Grand Total		111 (73.5)		40 (26.5)		151(100)

participants indicated that they had been earlier diagnosed with ADHD out of which only one participant was on treatment at the time of the study. In this study, the prevalence of self-reported ADHD symptoms using the ASRS screener was 7.28% (inclusive of those two). Table-II shows the distribution of self-reported ADHD symptoms with various variables.

Table II: The distribution of self-reported ADHD symptoms with various variables.

Variable (N)	ADHD %	P value
Age-group		
17-19 (28)	25.0	
20-22 (98)	4.08	0.035*
23-25 (25)	0.0	
Gender		
Female (40)	7.5	0.809
Male (111)	7.2	
Year of study		
Junior group (1 st year, 2 nd year) (81)	13.5	0.371
Senior group (3 rd year, 4 th year) (70)	0.0	

*Statistically significant

The only variable showing significant association with an ADHD symptom was younger age-group (17-19 years). Using the modification described in the methods section above (full ASRS symptom checklist) to approximate a DSM IV^{TR} diagnosis, 11 out of 151 (7.28%) met the criteria for possible ADHD. A larger proportion of those meeting these criteria had the inattentive type of symptoms. Table III shows the distribution of symptoms by type of ADHD.

Table III: Distribution of 3 Types of ADHD in our findings:

Type	Frequency (%)
Inattentive	10 (90.9)
Hyperactive/Impulsive	01 (9.09)
Combine	0
Total	11 (100)

Discussion

The ASRS, a self-administered questionnaire, developed by the World Health Organization was used as a screening tool for adult ADHD.¹¹ At hand is inadequate information on adult ADHD in

developing countries.¹² On the whole a literature exploration generated little data of ADHD among undergraduate university students. In Islamabad, receiving computer science programme is challenging and only the best contestants are carefully chosen. Of these many drop out due to substantial loads on their educational and communal life. There is concentration problem related to ADHD, so it is thought that the occurrence of this illness would be very low among Bachelor of Computer Science Students (BCSC) and other perusing advanced learning.

By using ASRS VI.1 screener¹¹ validated by WHO, we establish a self-reported ADHD incidence rate of 7.28% in our study. This is more or less equal to studies described in general population in developed world.^{13, 14} The outcome increases two prospects; one the tool is precise and valid. This interpretation is reinforced by earlier work that has proposed that the incidence of ADHD in the several researches is not due to diverse approaches as opposed to any traditional or environmental variances.^{2, 3, 5, 13} Likewise, the incidence of ADHD in this study is considerably in line with the outcomes across Europe¹⁵ and propose that the sure challenging for treatment initiation is less known or under-treated. The fact that two respondents had been identified with ADHD at the time of study and only one was on treatment, put forward that the second prospects is much accurate than the first-one.

Attention and activity are control by neurological pathway of brain and ADHD affects normal working of these. In our study we found a waning in the warning sign of ADHD with progression of age, consistent with the affinity ascribed elsewhere.^{2, 3, 5} A resemblance was higher incidence of ADHD among junior group (1st year and 2nd year) compared with senior students, though this variance did not influence statistical implication. Mostly people with ADHD are highly intellectual and inventive and after they learn symptom's management their un-limited principal drive on key objectives can be a stealthy defense that others can only desire.

Conclusion

In this study female shows 7.5% ADHD prevalence rate which is very high and is very similar to the results in western population studies.⁷ ADHD affected children reported that boys are more prone to ADHD as compared to girls, On the other hand this change is reduce as they mature. Adults are better than children at developing coping skills and organization and management skills to deal with ADHD, and some may not require medication for it.⁴ For the 85 to 90 percent of those who take medication for ADHD, they say it practically changes their lives. The remaining 10 to 15 percent find the medicines don't work or they have too many side effects, such as difficulty sleeping, decreased appetite, and decreased emotions.^{9,13} Even though, in this study the conclusions those two partakers were known ADHD and one was on the treatment pointed the abovementioned probability that ADHD is incompetently detected and treated. This state is identical in nearly all settings wherever adult ADHD has been considered⁵ and wherever individuals with ADHD acquire health care, it is every so often not meant for the ADHD but for the expressive, developmental and other co-morbidities they existing by, including disruptive character, attitude, apprehension and stuff usage illnesses.¹⁴ Therefore by using a reformed ASRS screener the inattentive type of ADHD has a greater (90.9%) incidence rate than the hyperactive/impulsive type (9.09%) of ADHD. This is similar to a different study on institution of higher education students in which a maximum of the respondents(56%) come across conditions for the inattentive type whereas the rest were just as strewn among the hyperactive/impulsive and combined type(22% each).¹⁶ However, a different study on ADHD concerning institution of higher education students in Eldoret, Kenya, establish the hyperactive/impulsive type (40.5%) to be extra predominant than the inattentive (35.7%) and combined type (23.8%).¹⁰

This study concluded a high incidence rate of self-reported ADHD symptoms amongst Pakistani students of under-graduate level. Despite the fact that there is a decline in symptoms with increasing age. In addition, there is also a need for epidemiological studies on ADHD in the higher-level learning institutions and general population.

Limitation of The Study: This study has a drawback for the reason that medical investigation was not used to check the outcomes of ASRS screener or full symptoms checklist. The unpredicted higher symptoms incidence percentage was bring about because of it. However, opinion was delivered to all partakers showing the score and its consequences, with instruction to look for a session with psychological health professional. Moreover, it is important to note that our conclusions may have practically clinical implication.^{15, 16}

Abbreviations: DSM-IV-^{TR}: Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision; ADHD: Attention Deficit Hyperactivity Disorder; -

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