

# Prevalence of adult attention deficit hyperactivity disorder (ADHD) among medical students in the Eastern Province of Saudi Arabia

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## ABSTRACT

**الأهداف:** يعد اضطراب تشتت الانتباه وفرط الحركة اضطراباً في النمو العصبي، متمثلاً في عدم الانتباه والتشتت، مع أو دون فرط الحركة المصاحب، والذي من الممكن أن يستمر إلى مرحلة البلوغ، وقد يؤثر على الرضا عن الحياة والأداء الأكاديمي للمصابين. بحث عدد قليل من الدراسات عن معدل انتشار أعراض اضطراب تشتت الانتباه وفرط الحركة لدى البالغين ما بين طلاب الطب البشري في المملكة العربية السعودية، ولم يكن أيًا منها مجرّى في المنطقة الشرقية.

**المنهجية:** قامت هذه الدراسة المقطعية بقياس معدل انتشار أعراض اضطراب تشتت الانتباه وفرط الحركة لدى البالغين ما بين طلاب الطب البشري في المنطقة الشرقية من المملكة العربية السعودية. أجاب ما مجموعه 354 طالبًا وطالبة طب بشري سعودي في جامعة الملك فيصل وجامعة الإمام عبدالرحمن بن فيصل على استبيان ذاتي تم توزيعه على منصات التواصل الاجتماعي المختلفة في الفترة ما بين ديسمبر 2021 وأبريل 2022.

**النتائج:** 26% من المشاركين في الدراسة لديهم أعراض تتوافق بشكل كبير مع اضطراب تشتت الانتباه وفرط الحركة لدى البالغين. ارتبطت صغر السن (أقل من 20 عامًا) والحالة الاجتماعية غير المرتبطة بمعدل أعلى من أعراض اضطراب تشتت الانتباه وفرط الحركة مع اعتماد إحصائي ملاحظ ( $p=0.049$ ) و ( $p=0.048$  على التوالي). لا يوجد ارتباط معتد به إحصائيًا ما بين المعدل التراكمي (GPA) واضطراب تشتت الانتباه وفرط الحركة لدى البالغين ( $p=0.560$ ).

**الخلاصة:** أظهرت هذه الدراسة معدل انتشار مرتفع لاضطراب تشتت الانتباه وفرط الحركة لدى البالغين ما بين طلاب الطب البشري في المنطقة الشرقية مقارنةً بالمعدل المبلغ عنه محليًا وعالميًا. قد يعزى ذلك إلى العوامل الاجتماعية والثقافية، بالإضافة إلى الطريقة المختارة لتقييم أعراض بنود الدليل التشخيصي والإحصائي للاضطرابات العقلية (DSM).

**Objectives:** To determine and compare the prevalence of attention deficit hyperactivity disorder (ADHD) symptoms among male and female medical students in the Eastern Province of Saudi Arabia and evaluate the effect of ADHD on the academic performance of the affected medical students.

**Methods:** This cross-sectional study measured the prevalence of adult ADHD symptoms among medical students in the Eastern Province of Saudi Arabia. A total of 354 Saudi medical students from King Faisal University, Al-Ahsa, and Imam

Abdulrahman Bin Faisal University, Dammam, Saudi Arabia, participated in a self-reported questionnaire. The questionnaire was distributed on different social media platforms from December 2021 to April 2022.

**Results:** Among the study participants, 26% exhibited symptoms highly consistent with adult ADHD. Young age ( $<20$  years,  $p=0.049$ ) and non-marital status ( $p=0.048$ ) were associated with a higher rate of ADHD symptoms with recorded statistical significance. Additionally, there is no significant association between grade point average and adult ADHD ( $p=0.560$ ).

**Conclusion:** The study demonstrated a higher prevalence of adult ADHD among medical students in the Eastern Province than the reported rates locally and globally. This could be attributed to social and cultural factors, as well as the chosen method for assessing the symptoms of Diagnostic and Statistical Manual items.

**Keywords:** adult ADHD, medical students, KFU, IAU, Eastern Province, Saudi Arabia

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Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by inattention and distractibility, with or without accompanying hyperactivity. According to the Diagnostic and Statistical Manual, 5th edition (DSM-5) of the American Psychiatric Association, there are 3 basic forms of ADHD: inattentive, hyperactive-impulsive, and combined. A specific set of criteria must be used to diagnose an individual with ADHD.<sup>1</sup> Attention deficit hyperactivity disorder is often diagnosed clinically based on the behavioral symptoms observed in different settings. These symptoms usually begin early in life, before the age of 12 years old, and persist over time.<sup>1,2</sup> Symptoms can differ depending on age; for example, adults may exhibit intense restlessness instead of hyperactivity.<sup>1</sup>

Students with ADHD face academic difficulties. Therefore, they are less likely to graduate from high school and enroll in college. However, the percentage of ADHD-diagnosed college students is rising. Approximately 25% of college students who receive disability services are diagnosed with ADHD.<sup>3</sup> College life may be stressful, and extra work may be needed to succeed with a sense of self-satisfaction. Students suffer from the significant social and academic impact of ADHD symptoms.<sup>4,5</sup> Early diagnosis of ADHD improves functional impairment and treatment outcomes.<sup>6,7</sup> There are many treatment modalities, but the first-line therapeutic option for adult patients is pharmacotherapy.<sup>2</sup>

According to the DSM-5, the prevalence of ADHD in most societies is approximately 5% in children and 2.5% in adults.<sup>1</sup> This is because some children with ADHD symptoms continue to experience them into adulthood.<sup>8</sup> In the general population, males are more frequently affected by ADHD than females, with a ratio of approximately 2:1 in children and 1.6:1 in adults.<sup>1</sup> Several cross-sectional studies worldwide have evaluated the prevalence of ADHD among medical students.<sup>8-14</sup> All of them showed a higher prevalence than the worldwide prevalence, except for the Chinese study, which found that only 3.5% of medical students had ADHD.<sup>11,15</sup> This year, 3 recent studies were carried out in different countries: Hungary, India, and Iran.<sup>8,12,13</sup> Both the Hungarian and Indian studies showed approximately the same adult ADHD prevalence rate of 15% among medical students.<sup>8,12</sup> The Iranian study, however, found a higher prevalence rate of 20.2%, which had increased since an earlier study carried out in 2013 in a different city in Iran, where it stated that 15% of the medical students had ADHD.<sup>14</sup>

In Saudi Arabia, 3 recent cross-sectional studies showed varying prevalences.<sup>16-18</sup> In 2022, a study carried out by Alghamdi et al<sup>16</sup> stated that 11.9% of college students in Jeddah, Saudi Arabia, were suspected to have ADHD. The other 2 studies were carried out in Riyadh, Saudi Arabia, the capital city of Saudi Arabia.<sup>17,18</sup> In 2022, a study by Alrakaf et al<sup>17</sup> showed a low prevalence rate of 3.31% among medical students. However, in 2019, Alrahili et al<sup>18</sup> showed a higher prevalence rate of 10.9% among medical students as well. Furthermore, there is insufficient data concerning the prevalence of ADHD symptoms among medical students in the Eastern Province of Saudi Arabia.

In light of the aforementioned and the fact that this topic is not as widely studied in Saudi Arabia's Eastern Province, we embarked to carry out this study. This study attempted to determine and compare the prevalence of ADHD symptoms among male and female medical students in the Eastern Province of Saudi Arabia and evaluate the effect of ADHD on the academic performance of the affected medical students.

**Methods.** This is a cross-sectional study carried out from December 2021 to April 2022 through a self-administered online survey among medical students at King Faisal University (KFU), Al-Ahsa, and Imam Abdulrahman Bin Faisal University (IAU), Dammam, Saudi Arabia. All participants consented before answering the questionnaire, and their identities were kept confidential by collecting the questionnaires anonymously. The study has been approved by the institutional review board at KFU, with research number KFU-REC-2021-DEC-EA000264.

Saudi medical students at KFU and IAU, both males and females, who are enrolled in the academic year 2022-2023, were included in this study. Likewise, college students other than those studying in medical colleges, medical students outside the Eastern Province of Saudi Arabia, preparatory-year medical students, non-Saudi students, and questionnaires with unanswered question(s) were excluded from this study. The study utilized the Arabic version of the adult ADHD self-report scale (ASRS-V1.1) screener.<sup>19</sup> The survey, which consists of 19 items arranged in 2 sections, takes around 2-3 minutes to be filled out completely. The first section focused on collecting sociodemographic data, such as age, gender, region, university, college, education level, marital status, income, and grade point average (GPA). The second section included the 6 questions of the ADHD-ASRS-V1.1 screener.

The sample size of this study is at least 336 participants, calculated by a sample size calculator with a 95% confidence interval (CI) and a 5% margin

of error. A total of 397 medical students participated in the study; only 354 met the inclusion criteria of the study.

**Statistical analysis.** Following data extraction, it was reviewed, coded, and put into the Statistical Package for the Social Sciences, version 22.0 (IBM Corp., Armonk, NY, USA). All statistical analysis was carried out using 2-tailed tests. A *p*-value of <0.05 was regarded as statistically significant. All variables, including students' demographic data, college, academic year, age, region, and medical and psychological history, were subjected to descriptive analysis based on frequency and percentages (%) distribution. Also, the student's ADHD assessment was tabulated and graphed using the Adult ADHD-ASRS-V1.1 screener. A cross-tabulation was used to assess the relationship between ADHD and students' academic performance, as well as the factors associated with ADHD. Relations were tested using Pearson's Chi-square test and the exact probability test for small frequency distributions.

**Results.** A total of 354 medical students fulfilling the inclusion criteria completed the study questionnaire. Students ages ranged from 18-26 years old, with a mean age of 21.8±3.7 years old. A total of 201 (56.8%) were from Ahsa governorate, 67 (18.9%) were from Qatif governorate, 50 (14.1%) were from the city of Dammam, 17 (4.8%) were from Khobar governorate, and 12 (3.4%) were from Dhahran governorate. Out of the total, 249 (70.3%) were females, and 295 (83.3%) were single. A monthly income of less than 5000 Saudi Riyals (SR) was reported by 11% of respondents, while 35.3% had a monthly income of 10000-20000 SR, and 29.4% reported a monthly income exceeding 20000 SR. A total of 239 (67.5%) were affiliated with KFU, and 115 (32.5%) were affiliated with IAU. Among the study participants, 121 (34.2%) students were in their pre-clinical years, 191 (54%) were in their clinical years, and 42 (11.9%) were interns. A total of 53 (15%) individuals had chronic health diseases, and 45 (12.7%) individuals had psychiatric disorders (Table 1).

Figure 1 shows the GPA of medical students in the Eastern Province of Saudi Arabia. In addition, over half of the sample (53.7%) had a GPA of 4.5-5.99, 28% had a GPA of 4-4.49, and 44 (12.4%) had a GPA of 3.5-3.99.

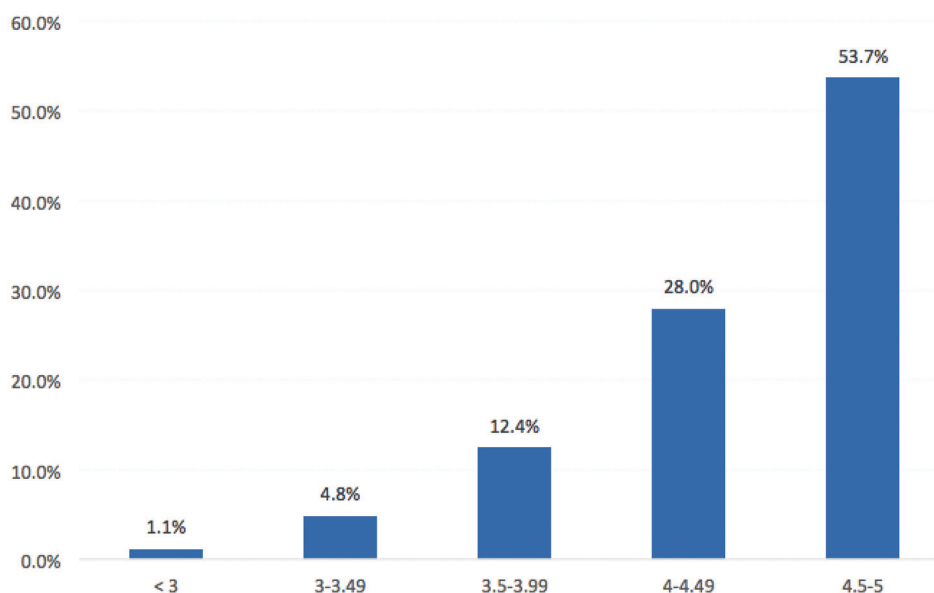
Table 2 shows adult ADHD-ASRS-V1.1 screener among medical students in the Eastern Province of Saudi Arabia. Approximately 89% of the students reported that they tend to avoid or delay starting tasks that require a significant amount of thought. Further, among the study participants, 78.2% have trouble

**Table 1 -** Bio-demographic data of sampled medical students in the Eastern Province of Saudi Arabia.

Bio-demographic data	n (%)
<i>Regions</i>	
Dammam city	50 (14.1)
Ahsa governorate	201 (56.8)
Dhahran governorate	12 (3.4)
Khobar governorate	17 (4.8)
Qatif governorate	67 (18.9)
Other governorates	7 (2.0)
<i>Age in years</i>	
<20	100 (28.2)
21-23	186 (52.5)
24-26	68 (19.2)
<i>Gender</i>	
Male	105 (29.7)
Female	249 (70.3)
<i>Monthly income</i>	
<5000 SR	39 (11.0)
5000-10000 Saudi Riyals	86 (24.3)
10000-20000 Saudi Riyals	125 (35.3)
>20000 Saudi Riyals	104 (29.4)
<i>Marital status</i>	
Single	295 (83.3)
Married	56 (15.8)
Divorced/widow	3 (0.8)
<i>Universities</i>	
King Faisal University	239 (67.5)
Imam Abdulrahman Bin Faisal University	115 (32.5)
<i>Academic year</i>	
2.00	63 (17.8)
3.00	58 (17.8)
4.00	48 (13.6)
5.00	46 (13.0)
6.00	97 (27.4)
7.00	42 (11.9)
<i>Academic phase</i>	
Pre-clinical	121 (34.2)
Clinical	191 (54.0)
Internship	42 (11.9)
<i>Have chronic health diseases</i>	
Yes	53 (15.0)
No	301 (85.0)
<i>Have psychiatric disorders</i>	
Yes	45 (12.7)
No	309 (87.3)

Values are presented as numbers and percentages (%).

wrapping up the final details of a project once the challenging parts have been completed; 77.7% have difficulty getting things in order when they have to do a task that requires organization; 77.1% fidget or squirm with their hands or feet when they have to sit down for a long time; 73.4% have problems remembering appointments or obligations; and 57.6% feel excessively active and compelled to engage in activities as if being driven by a motor.



**Figure 1** - Grade point average of medical students in the Eastern Province of Saudi Arabia.

**Table 2** - Adult Attention deficit hyperactivity disorder self-report scale - version 1.1 screener among medical students in the Eastern Province of Saudi Arabia.

ASRS-V1.1 items	Never	Rarely	Sometimes	Often	Very often
How often do you have trouble wrapping up the final details of a project once the challenging parts have been carried out?	77 (21.8)	88 (24.9)	119 (33.6)	51 (14.4)	19 (5.4)
How often do you have difficulty getting things in order when you have to do a task that requires organization?	79 (22.3)	96 (27.1)	90 (25.4)	60 (16.9)	29 (8.2)
How often do you have problems remembering appointments or obligations?	94 (26.6)	130 (36.7)	72 (20.3)	41 (11.6)	17 (4.8)
When you have a task that requires a lot of thought, how often do you avoid or delay getting started?	39 (11.0)	61 (17.2)	100 (28.2)	97 (27.4)	57 (16.1)
How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?	81 (22.9)	69 (19.5)	74 (20.9)	65 (18.4)	65 (18.4)
How often do you feel overly active and compelled to do things, like you were driven by a motor?	150 (42.4)	88 (24.9)	57 (16.1)	38 (10.7)	21 (5.9)

Values are presented as numbers and percentages (%). ASRS-V1.1: attention deficit hyperactivity disorder self-report scale - version 1.1

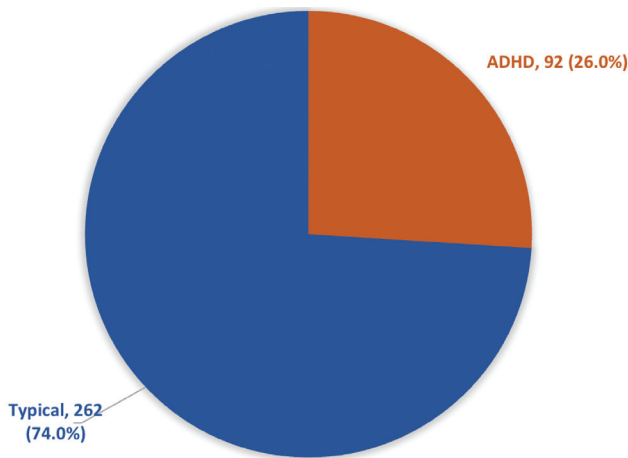
A total of 92 (26%) students had symptoms that were highly consistent with ADHD, while 262 (74%) did not (**Figure 2**).

Approximately 33% of young students (<20 years) exhibited ADHD symptoms compared to 22.1% of individuals aged 24-26 years, with recorded statistical significance ( $p=0.049$ ). Also, the prevalence of ADHD symptoms was significantly higher among 27.9% of non-married students versus 16.1% of the married group ( $p=0.048$ ). A total of 60% of students with psychiatric disorders exhibited ADHD symptoms in comparison to 21% of those without ( $p=0.001$ ; **Table 3**).

A total of 53.3% of ADHD students had a GPA of 4.5-5 compared to 53.8% of typical students, while

2.2% had a GPA <3 versus 0.8% with no statistical significance ( $p=0.560$ ; **Table 4**).

**Discussion.** This study examined the prevalence of adult ADHD among medical students at KFU, Al-Ahsa, and IAU, Dammam, in the Eastern Province of Saudi Arabia. The analysis of the study results indicates that 26% of medical students exhibit symptoms highly consistent with adult ADHD. According to the DSM-5, a prevalence rate of 26% is considered high; the prevalence of ADHD in most societies is approximately 5% among children and 2.5% among adults. Adults who present with ADHD symptoms



**Figure 2** - Prevalence of adult attention deficit hyperactivity disorder among medical students in the Eastern Province of Saudi Arabia.

most commonly experience ADHD symptoms during childhood as well.<sup>20</sup> A recent study carried out in India in 2023 among medical students showed that 46% of children diagnosed with ADHD continued to experience ADHD symptoms in adulthood.<sup>8</sup>

In comparison to recent Saudi studies, all 3 studies showed a lower prevalence rate than our study.<sup>16-18</sup> A cross-sectional study carried out in 2020 examined 1177 medical students from 3 medical schools in Riyadh, Saudi Arabia. The study found that only 39 (3.31%) students were diagnosed with ADHD and were using stimulants.<sup>17</sup> In 2019, Alrahili et al<sup>18</sup> carried out a recent cross-sectional study involving 487 medical students from 3 medical schools in Riyadh, Saudi Arabia. The study used adult ADHD Self-Report Scale which revealed that only 53 (10.9%) students were suspected to have ADHD. Apart from the 2 Riyadh studies, only one cross-sectional study concerning this matter was carried out in Jeddah, Saudi Arabia in 2022.<sup>16</sup> The study included 2,059 students from 11 colleges at King Abdulaziz University, Jeddah, Saudi Arabia. Along with adult ADHD Self-Report Scale it was stated that 11.9% of the students were most likely to have adult ADHD, and out of the total sample, only 6.5% were diagnosed with ADHD during childhood.

Globally, several studies have investigated the prevalence of adult ADHD among medical students, which varies significantly.<sup>8-14</sup> This difference could be due to the analogous method chosen to assess the symptoms and address DSM-5 items. Only 2 studies demonstrated a prevalence that was most comparable to our study.<sup>10,13</sup> The latest study was carried out in Tehran, the capital city of Iran, and was published in 2023.<sup>13</sup> It was stated

that 20.2% of the 168 medical students tested positive for the adult ADHD screening. The second study was carried out in Kenya in 2011.<sup>10</sup> The study found that the prevalence rate of ADHD symptoms among medical students was 23.7%. Both of these studies used the World Health Organization (WHO)-validated ASRS screener, which is the same screener that was used in our study. Moreover, 4 studies carried out in 3 countries (Hungary, India, and Iran) showed a consistent adult ADHD prevalence rate of approximately 15% among medical students.<sup>8,9,12,14</sup> Interestingly, and in contrast to the previously mentioned studies, a Chinese study with a large sample of 5,693 college students stated that only 3.5% had ADHD.<sup>11</sup>

One of the objectives of this study was to estimate and compare the prevalence of ADHD symptoms among male and female medical students. We found that the prevalence in females was slightly higher than in males (26.1% versus 25.7%), but this difference was not statistically significant. Similar results were found in the studies carried out by Alrahili et al<sup>18</sup> and Atwoli et al.<sup>10</sup> Contrarily, although the prevalence of males was higher than that of females in the studies carried out by Alghamdi et al<sup>16</sup> and Pritesh et al,<sup>9</sup> it was not statistically significant.

Additionally, this study explored other factors associated with ADHD and found some to be statistically significant among medical students diagnosed with ADHD. The first factor was the age of the students. The prevalence among younger students (<20 years) was higher than the prevalence among older students. Likewise, this is consistent with the findings of Atwoli et al.<sup>10</sup> Furthermore, one of the Indian studies stated that none of the students over the age of 25 had any ADHD symptoms.<sup>9</sup> In contrast to our study, 2 Saudi studies showed no significant association between ADHD symptoms and age.<sup>16,18</sup> The second factor was marital status, which was more prevalent among non-married students. However, it was not found to be significant in the Alghamdi et al's study.<sup>16</sup> The third and last factor was the previous diagnosis of any psychological disorders. The prevalence of ADHD symptoms among individuals diagnosed with any psychological disorder was higher than the prevalence among those who were not. Other studies have shown similar results, indicating a higher prevalence of ADHD in students with a history of depression or anxiety.<sup>7,11,14</sup> Interestingly, Alghamdi et al<sup>16</sup> found that students with suspected adult ADHD were more likely to have a previous diagnosis of depression but not anxiety. It is worth recommending that all students who complain of symptoms of depression or anxiety or who have

**Table 3** - Adult Attention deficit hyperactivity disorder self-report scale - version 1.1 screener among medical students in the Eastern Province of Saudi Arabia.

Factors	ADHD		Typical		P-values*
	n (%)	95% CI	n (%)	95% CI	
<i>Regions</i>					
City of Dammam	20 (40.0)	14.3-31.0	30 (60.0)	8.0-15.7	0.205 <sup>†</sup>
Ahsa Governorate	51 (25.4)	45.2-65.3	150 (74.6)	51.2-63.1	
Dhahran Governorate	3 (25.0)	0.9-8.4	9 (75.0)	1.7-6.2	
Khobar Governorate	4 (23.5)	1.5-10.0	13 (76.5)	2.8-8.1	
Qatif Governorate	13 (19.4)	8.2-22.3	54 (80.6)	16.1-25.8	
Other Governorates	1 (14.3)	0.1-5.0	6 (85.7)	1.0-4.7	
<i>Universities</i>					
KFU	64 (26.8)	69.6-59.7	175 (73.2)	60.9-72.3	0.625
IAU	28 (24.3)	30.4-21.7	87 (75.7)	27.7-39.1	
<i>Academic phase</i>					
Pre-clinical	38 (31.4)	41.3-31.6	83 (68.6)	26.3-37.5	0.236
Clinical	45 (23.6)	48.9-38.9	146 (76.4)	49.7-61.6	
Internship	9 (21.4)	9.8-5.0	33 (78.6)	9.0-17.0	
<i>Age in years</i>					
<20	33 (33.0)	35.9-26.6	67 (67.0)	20.6-31.1	0.049 <sup>‡</sup>
21-23	44 (23.7)	47.8-37.8	142 (76.3)	48.1-60.2	
24-26	15 (22.1)	16.3-9.8	53 (77.9)	15.7-25.4	
<i>Gender</i>					
Male	27 (25.7)	29.3-20.8	78 (74.3)	24.5-35.5	0.939
Female	65 (26.1)	70.7-60.8	184 (73.9)	64.5-75.5	
<i>Monthly income</i>					
<5000 SR	13 (33.3)	14.1-8.2	26 (66.7)	6.7-14.0	0.464
5000-10000 SR	23 (26.7)	25.0-17.0	63 (73.3)	19.2-29.5	
10000-20000 SR	27 (21.6)	29.3-20.8	98 (78.4)	31.7-43.4	
>20000 SR	29 (27.9)	31.5-22.7	75 (72.1)	23.4-34.3	
<i>Marital status</i>					
Not-married	83 (27.9)	90.2-82.9	215 (72.1)	77.1-86.3	0.048 <sup>‡</sup>
Married	9 (16.1)	9.8-5.0	47 (83.9)	13.7-22.9	
<i>Have chronic health diseases</i>					
Yes	14 (26.4)	15.2-9.0	39 (73.6)	11.0-19.6	0.939
No	78 (25.9)	84.8-76.4	223 (74.1)	80.4-89.0	
<i>Have psychiatric disorder</i>					
Yes	27 (60.0)	29.3-20.8	18 (40.0)	4.3-10.4	0.001 <sup>‡</sup>
No	65 (21.0)	70.7-60.8	244 (79.0)	89.6-95.7	

Values are presented as numbers and percentages (%) and 95% confidence interval (CI). \*Pearson X<sup>2</sup> test. <sup>†</sup>Exact probability test. <sup>‡</sup>A p-value of <0.05 (significant). ADHD: Attention deficit hyperactivity disorder, KFU: King Faisal University, IAU: Imam Abdulrahman Bin Faisal University, SR: Saudi Riyals

been diagnosed with these conditions be screened for a possible diagnosis of ADHD, especially if they are taking medication without experiencing any benefits, as ADHD can present symptoms that resemble both disorders.<sup>7</sup> On the other hand, students with adult ADHD are better screened for co-occurring or secondarily developing psychiatric disorders.<sup>21</sup>

The association between adult ADHD and GPA among medical students is an area of interest. Multiple studies have indicated that college students with ADHD are more likely to achieve a lower GPA.<sup>7,16,18,22</sup> A possible justification for this result is that ADHD symptoms can affect the family aspect of the students' lives as well as

their relationships with teachers and colleagues, causing disturbances in their academic outcomes.<sup>5</sup> Furthermore, academic performance could improve considerably with the use of multimodal treatment.<sup>7</sup> In 2023, an intriguing experimental study was carried out in the United States among 72 college students, 36 of whom were diagnosed with ADHD.<sup>6</sup> On comparing medicated students to unmedicated students, researchers found that the unmedicated students performed worse than the control group in the given tests, while the medicated students performed similarly to the controls. This finding highlights the importance of early diagnosis and treatment, as it can result in better outcomes in students'

**Table 4** - Relationship between attention deficit hyperactivity disorder and grade point average among medical students in the Eastern Province of Saudi Arabia.

GPA	ADHD		Typical		P-value
	n (%)	95% CI	n (%)	95% CI	
<3.5	8 (8.7)	3.3-19.7	13 (5.0)	2.5-9.5	0.334
3.5-3.99	13 (14.1)	8.2-22.3	31 (11.8)	8.3-16.2	
4-5	71 (77.2)	59.2-96.5	218 (83.2)	71.9-94.9	

Values are presented as numbers and percentages (%) and 95% confidence interval (CI).  
GPA: grade point average, ADHD: attention deficit hyperactivity disorder

personal and academic lives. However, interestingly, our study showed no significant association between adult ADHD and GPA. This could be attributed to the severity of adult ADHD symptoms. The participants may not be severely suffering from the symptoms to the point that it can affect their GPA. Similarly, Gács et al<sup>12</sup> found that, with the exception of depersonalization, there is no significant difference in the relationship between academic attitudes (engagement and burnout) and ADHD symptoms.

**Study limitations.** There is little data concerning the prevalence of adult ADHD symptoms among medical students in the Eastern Province of Saudi Arabia, making this study a beneficial reference for upcoming research. The limitations of this study involve its cross-sectional design, as it does not allow for the assessment of other factors that may contribute to ADHD, such as anxiety or sleep disorders, and it may introduce response bias due to the nature of the ADHD-ASRS. Moreover, we did not provide further details regarding whether the participants had been previously diagnosed with ADHD during childhood, which is crucial for diagnosing ADHD in adulthood. Lastly, the results cannot be generalized to the entire population of Saudi Arabia.

In conclusion, the prevalence of adult ADHD is an important topic that needs to be addressed, particularly among aspiring physicians. This study concludes that the prevalence of adult ADHD among medical students at KFU, Al-Ahsa, and IAU, Dammam, Saudi Arabia, is markedly higher than the reported rate according to the DSM-5. Several factors were associated with ADHD: the age of the students, marital status, and history of psychiatric disorders. Although many studies have shown that ADHD might affect the academic performance of affected individuals, this study has not shown the same result. It is recommended to carry out a comprehensive screening for adult ADHD among college students. This is because ADHD can be effectively managed through both behavioral and medical interventions, which can significantly improve life satisfaction.

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