

# Generalized anxiety disorder among saudi university medical students

*Trastorno de ansiedad generalizada en estudiantes de universitarios saudíes*

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**Received:** 10 - IV - 2022

**Accepted:** 15 - IV - 2022

**doi:** 10.3306/AJHS.2022.37.03.162

## Abstract

**Background:** Generalized Anxiety Disorder is a common mental health problem associated with high morbidity and mortality. The disorder is highly prevalent among undergraduate medical students. The objectives of the current study were to determine the prevalence of Generalized Anxiety Disorder and its relation to socio-demographic characteristics among medical students at Majmaah University, Saudi Arabia.

**Methods:** This is a cross-sectional study conducted on medical students at the Medical Colleges of Majmaah University, Saudi Arabia. The colleges were Colleges of Medicine, Dentistry, and Applied Medical Sciences. The medical students of both sexes who were registered for the current academic year performed the sample frame of the study. The sample was calculated as 369. The data collection was performed by a pre-tested questionnaire. The data analysis was performed using SPSS version 24.

**Results:** Students with mild, moderate, and severe Generalized Anxiety Disorder were 49.6%, 21.7%, and 13.8% respectively. Male students who had mild, moderate, and severe GAD were 55.4%, 17.4%, and 7.1 % respectively. Female students who had mild, moderate, and severe GAD were 47.0%, 24.9%, and 15.1% respectively. Students of the College of Medicine who had severe Generalized Anxiety Disorder were 14.7%. Students of the College of Dentistry and the College of Applied Medicine Sciences who had severe GAD were 6.3% and 5.6% respectively.

**Conclusion:** Generalized Anxiety Disorder among medical students at Majmaah University, Saudi Arabia is high and the severe form of the disease is higher compared with other studies. The rate of the disorder is higher in females than male students.

**Keywords:** Generalized anxiety disorder, medical students.

## Resumen

**Antecedentes:** El Trastorno de Ansiedad Generalizada es un problema de salud mental común asociado a una alta morbilidad y mortalidad. Este trastorno tiene una alta prevalencia entre los estudiantes de medicina. Los objetivos del presente estudio fueron determinar la prevalencia del Trastorno de Ansiedad Generalizada y su relación con las características sociodemográficas entre los estudiantes de medicina de la Universidad de Majmaah, Arabia Saudí.

**Métodos:** Se trata de un estudio transversal realizado en estudiantes de medicina de las facultades de medicina de la Universidad de Majmaah (Arabia Saudí). Las facultades eran las de Medicina, Odontología y Ciencias Médicas Aplicadas. Los estudiantes de medicina de ambos sexos inscritos en el curso académico actual constituyeron el marco muestral del estudio. La muestra se calculó en 369. La recogida de datos se realizó mediante un cuestionario previamente probado. El análisis de los datos se realizó con el programa SPSS versión 24.

**Resultados:** Los estudiantes con Trastorno de Ansiedad Generalizada leve, moderado y grave fueron el 49,6%, el 21,7% y el 13,8% respectivamente. Los estudiantes varones que presentaban un TAG leve, moderado y grave eran el 55,4%, el 17,4% y el 7,1% respectivamente. Las alumnas que presentaban un TAG leve, moderado y grave eran el 47,0%, el 24,9% y el 15,1%, respectivamente. Los estudiantes de la Facultad de Medicina que presentaban un trastorno de ansiedad generalizada grave eran el 14,7%. Los estudiantes de la Facultad de Odontología y de la Facultad de Ciencias Médicas Aplicadas que padecían TAG grave eran el 6,3% y el 5,6% respectivamente.

**Conclusiones:** El Trastorno de Ansiedad Generalizada entre los estudiantes de medicina de la Universidad de Majmaah (Arabia Saudí) es elevado y la forma grave de la enfermedad es mayor en comparación con otros estudios. La tasa del trastorno es mayor en las mujeres que en los estudiantes varones.

**Palabras clave:** Trastorno de ansiedad generalizada, estudiantes de medicina.

## Introduction

Generalized Anxiety Disorder is a mental condition characterized by excessive or unrealistic anxiety about two or more aspects of life such as work, social relationships, and financial matters. The condition is often accompanied by symptoms such as palpitations, shortness of breath, or dizziness. Extreme worrying almost every day for six months or more may suggest generalized anxiety disorder<sup>1</sup>.

Generalized Anxiety is associated with high morbidity and mortality. According to a report by the World Health Organization, about 264 million people live with anxiety disorder<sup>2</sup>. Mental disorders are increasing in the East Mediterranean Region (EMR), Generalized disorders rank number two after Depression as a cause of mental illness in the region.<sup>3</sup> It was estimated that the prevalence of the condition is 10.4% and females have a higher prevalence compared to males<sup>4</sup>. The average age of GAD onset is the typical college age ranging from 18 to 24 years, 75 percent of all individuals with an anxiety disorder will experience symptoms before the age of 22 years<sup>5</sup>.

The estimated prevalence of generalized anxiety disorder for undergraduate students is 15.6%. Studies showed that students with financial constraints were at higher risk for anxiety disorders<sup>6</sup>. The medical field is one of the most demanding undergraduate degrees, and mental health problems are more frequently encountered among medical students than is generally recognized. Anxiety disorder is one of the issues frequently addressed in the medical education field<sup>7</sup>.

In Medical college life students experience different types of stress such as new lifestyle, exposure to new cultures, difficult lessons, language barriers, quizzes, and exams. If students are not adequately prepared to cope with the new challenges of a college environment, they could easily become susceptible to many psychological disorders including anxiety. In college life, competition is more significant and there is continuous pressure on students to do better and the demands usually come from family and the student<sup>8</sup>. It is more likely for medical students to develop generalized anxiety disorder due to the fact that they tend to link symptoms and signs of serious medical conditions they are studying with body sensations<sup>9</sup>.

The objectives of the current study were to determine the prevalence of Generalized Anxiety Disorder among medical students at the Medical Colleges of Majmaah University, Saudi Arabia and to determine its relationship to socio-demographic characteristics.

## Materials and methods

This is a cross-sectional study conducted among medical students at the Medical Colleges, Majmaah

University, Saudi Arabia. The colleges were the College of Medicine, the College of Dentistry, and the College of Applied Medical Sciences (AMS). The medical students of both sexes registered for the current academic year performed the sample frame of this study. The size of the sample, which was calculated as 369, was collected by stratified sampling.

The data collection was performed by a pre-tested questionnaire after acquiring the ethics approval from Majmaah University IRB. Informed consent was obtained from the students. Cronbach's alpha was employed to confirm the reliability of the questionnaire. The reliability of the questionnaire was Cronbach's alpha = 0.835. The questionnaire included questions related to socio-demographic characteristics of the sample and questions to determine the presence or absence of Generalized Anxiety Disorder. The pretest of the questionnaire was conducted on medical students at the College of Applied Medical Sciences at Qassim University. The revision took place for ambiguous and difficult questions. Generalized Anxiety Disorder Assessment (GAD-7) was used to assess GAD. The GAD-7 score is calculated by assigning scores of 0, 1, 2, and 3, to the response categories of 'not at all', 'several days', 'more than half the days', and 'nearly every day, respectively. A summation of the scores for the seven questions took place. Scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate, and severe anxiety, respectively. Data analysis was conducted using SPSS version 24. The Chi-square test was used to compare qualitative data. The p-value of less than 0.05 was considered significant.

## Results

**Table I** shows the social characteristics of the sample. Female and male students were 50.1% and 49.1% respectively. Students from colleges of Medicine, Dentistry and Applied Medical

**Table II** shows the response to some questions related to Generalized Anxiety Disorder. One hundred and sixty-eight (45.5%) of the students were not aware of their dryness of mouth while 26.5% and 10.3% had some degree and very much degree of awareness. Two hundred and ten (56.9%) students experienced breathing difficulty while 20.7% and 11.4% showed some degree and very much

**Table I:** Gender and college distribution of the students.

Item	Frequency	%
<b>Gender</b>		
Female	185	50.1
Male	184	49.9
Total	369	100.0
<b>College</b>		
Medicine	218	59.1
Dentistry	80	21.7
Applied Medical Sciences	71	19.2
Total	369	100

Sciences were 59.1%, 21.7% and 19.2% respectively

**Table II:** Generalized Anxiety Disorder among university students.

Item	No n (%)	Some degree n (%)	Considerable degree n (%)	V. much n (%)
I was aware of dryness of my mouth	168(45.5)	98(26.6)	65(17.6)	38(10.3)
I experienced breathing difficulty	210(56.9)	77(20.7)	40(10.8)	42(11.4)
I experienced trembling (e.g. in the hands)	180(49)	97(26.4)	46(12.5)	44(11.9)
I was worried about situations in which I might panic and make a fool of myself	167(45.3)	95 (25.7)	59(16.0)	48 (13.0)
I felt I was close to panic	209(59.6)	75(20.3)	42(11.4)	41(11.1)
I was aware of the action of my heart in the absence of physical exertion	180(49.0)	83(22.6)	51(13.9)	53(14.4)
I felt scared without any good reason	205(55.7)	74(20.1)	38(10.3)	51(13.9)

**Table III:** Relation between Generalized Anxiety Disorder and social characteristics.

Social characteristics	Anxiety					p
	No n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Total n (%)	
<b>Gender:</b>						
Male	37(20.1)	102(55.4)	32(17.4)	13(7.1)	184(100)	0.008
Female	24(13.0)	87(47.0)	46(24.9)	28(15.1)	185(100)	
<b>College:</b>						
Medicine	37(17.0)	99(45.4)	50(22.9%)	32(14.7)	218(100)	0.063
Dentistry	11(13.8)	51(63.7)	13(16.3%)	5(6.3%)	80(100)	
AMS	13(18.3)	39(54.9)	15(21.1%)	4(5.6%)	71(100)	

Rate of disease in males= 79.9%. Rate of disease in females=87%

degree of breathing difficulty. One hundred and eighty (49.0%) students were aware of the action of their hearts in the absence of physical exertion while 22.6%, 13.9%, and 14.4% had some degree, considerable degree, and very much consideration of awareness respectively. Two hundred and five students (55.7%) feel scared without any good reason while 20.1%, 10.3%, and 13.9% show some degree, considerable degree, and very much degree of scaring without reason.

**Table III** shows the relation between Generalized Anxiety Disorder and social characteristics. Male students who had mild, moderate, and severe GAD were 55.4%, 17.4%, and 7.1 % respectively. Female students who had mild, moderate, and severe GAD were 47.0%, 24.9%, and 15.1 % respectively.

## Discussion

This study was conducted to determine the level of Generalized Anxiety Disorder among 369 students of Majmaah University, Saudi Arabia. Three hundred and fourteen students (85.1%) had simple, moderate and, severe GAD. This rate is higher compared with the rate of the disorder among medical students in different parts of the world: 45.3% in Nepal<sup>10</sup>, 66% in Turkey<sup>11</sup>, 25% in Spain<sup>12</sup>, and 62.4% in Egypt<sup>13</sup>. This rate of Generalized anxiety disorder is also higher than the findings of studies conducted among medical students in Saudi Arabia which found that 17% and 31.7% of students were suffering from the disease<sup>2,14</sup>. Our study revealed that 13.8% of students had a severe level of GAD. This finding is lower than the finding of a study conducted in Saudi Arabia which found that 14.3% of the students had a severe form of the disorder<sup>14</sup>. Our finding is higher

than that reported among medical students in Taibah University, Saudi Arabia in which only 4% of the students were suffering from the severe form of the disease<sup>15</sup>.

Our study found that the rate of GAD is higher among females compared to male students (87.0% and 79.9%,  $p= 0.008$ ). This is finding is consistent with studies conducted among Turkish, Spanish, and Egyptian medical students<sup>11-13</sup>. This finding is also consistent with studies conducted among medical students in different parts of Saudi Arabia<sup>14,16,17</sup>.

The prevalence of Generalized Anxiety Disorder is higher among the students of the College of Dentistry followed by the students of the College of Medicine. The students of the Applied Medical Sciences had the least level of GAD (86.2%, 83.0%, 81.7%;  $p=0.063$ ), but the relation between the prevalence of GAD and type of college is not significant.

This finding is consistent with a study conducted in KSA, which showed that the students of the College of Medicine reported lower levels of anxiety compared to students from the College of Dentistry; However, during their clinical rotations, the students of the College of Medicine used to have higher levels of Generalized Anxiety Disorder<sup>18</sup>.

## Conclusion

This study concluded that Generalized Anxiety Disorder among medical students at Majmaah University, Saudi Arabia is high and the severe form of the disease

is higher compared with other studies. The rate of Generalized Anxiety Disorder is higher in females than in male students. The disorder is higher among students of the college of Dentistry while the severe form is higher among the students of the College of Medicine.

Student counseling programs emphasizing coping techniques are advised to be implemented, especially in the College of Medicine and the College of Dentistry. This urges periodic mental health screenings, providing individual guidance and psychological counseling services for medical students could be beneficial.

## Acknowledgment

The author would like to acknowledge the Deanship of Scientific Research, Majmaah University for supporting this research.

## Conflict of interest

The researcher declares that he has no conflict of interest in this study.

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