

# Factors Responsible for Tension Headache Among Medical Students in Karachi

Faheem Ahmed, Tafazzul H Zaidi and Kiran Mehtab

## ABSTRACT

**Objective:** To assess the frequency of tension headache episodes among medical students in Karachi.

**Study Design:** Cross-sectional study.

**Place and Duration of Study:** This study was conducted at the Sindh Medical College, Dow Medical College and Sindh Institute of Oral Health Sciences, Karachi from April 2018 to November 2018.

**Materials and Methods:** Non-probability purposive sampling. An informed verbal consent was taken from the candidates. Pilot study was conducted to assess the authenticity of the questionnaire. A structured questionnaire was then distributed, got filled, data was entered and analyzed using SPSS version 20, with 95% confidence interval and 0.05 p-value.

**Results:** A total of 429 medical students of DMC, SMC and DIKHIOS were asked about the tension headache. Out of these 307(71.6%) were female and 122(28.4%) were male. Among these, 79.7% of students felt tension headache during exams, 9.8% felt it before presentation, and 5.4% felt due to undue circumstances of the city, 3.3% while watching T.V and 1.9% felt while watching news. About 44.3% of these students felt more tension headache/anxiety in examination hall, 23.1% at home, 16.3% experience it at some new place, 10.3% at university and 6.1% at their work. 70.9% of these students could not concentrate on their studies due to tension headache, 9.8% could not concentrate on their health, 8.6% on their work, 5.8% could not give attention to their family and 5.1% could not tend to their outdoor activities. According to 48% of the medical students, tension headache got relieved by sleeping while 23.5% used tea/coffee to get rid of it, 14.5% students did other activities, 9.1% listened to songs and 4.9% got relieved by smoking. 64.3% students felt their GPA/grade was not affected by tension headache and 57.1% avoided socializing when they had tension headache and 63.9% of them thought that the tension headache was not affecting their relationship with friends and family.

**Conclusion:** This study concluded that stress and anxiety is the most common complaint among medical students this leads to tension type headache due to numerous psychological and physical stressors, tough medical curriculum and socio-economic conditions.

**Key Words:** Tension headache, anxiety/stress, impact, medical students

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## INTRODUCTION

Anxiety can be defined as a feeling of worry, nervousness, or unease about something with an uncertain outcome in medical terms it is a nervous disorder marked by excessive uneasiness and apprehension, typically with compulsive behaviour or panic attack.<sup>1</sup> Anxiety is a normal human emotion that everyone experiences at times. Some anxiety is good for you. It keeps you alert and can help you to perform well. If it excess it can make you depressed and damage your physical health.<sup>2</sup>

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Appearance looks strained, with increased sweating from the hands, feet, and axillae.<sup>3</sup> Peoples are prone to flare up at times of high stress and are frequently accompanied by physiological symptoms such as headache, sweating, muscle spasms, tachycardia, palpitations, and hypertension.<sup>4</sup> At times, anxiety or stress can be presents as tension headache alone Many people feel anxious, or nervous, when faced with a problem at work, before taking a test, or making an important decision. Anxiety can cause such distress that it interferes with a person's ability to lead a normal life.<sup>5</sup> Anxiety in greater or lesser degree is found in agitated, depression and obsessional states particularly, and also in such states as organic dementia hysteria and schizophrenia<sup>6</sup>.

Tension-type headache (TTH) is usually described as a pain that feels like a tight band round your head or a weight on top of it. The pain can last from 30 minutes to several days, or may be continuous<sup>7</sup>. Any activity that causes the head to be held in one position for a long time without moving can cause a headache. Such activities include typing or other computer work, fine work with the hands, and using a microscope. Sleeping

in a cold room or sleeping with the neck in an abnormal position may also trigger a tension headache.<sup>8</sup>

Psychosocial stressors play an important role in precipitating and maintaining TTH. Hence, a biopsychosocial approach should be adopted for care.<sup>9</sup> Anxiety mediates the effect between headache frequency and quality of life, but not the effect of either headache intensity or duration. Anxiety totally mediates the effects of headache frequency on vitality, social functioning and mental health.<sup>10</sup>Headaches are one of the physical symptoms of anxiety.<sup>11</sup>

Tension-type headache is the common type of headache that most people have at some time. One study found that, on average that about half of adults have a tension-type headache every now and then - less than one a month. This is called infrequent episodic tension-type headache. About a third of adults have two or more tension-type headaches per month, but fewer than 15 a month. This is called frequent episodic tension-type headache.<sup>12</sup>

Studies show that people who are prone to the effects of stress as well as anxiety and depression are more likely to suffer from frequent headaches.<sup>13</sup>In this research our aim was to determine the prevalence of anxiety and tension headache in medical students

## MATERIALS AND METHODS

A Cross-sectional study was conducted on a sample of 429 medical students. The sample was taken through Non-Probability Purposive Sampling from 3 medical Universities of Karachi, within a study period of 8 months from April to November 2018. An informed verbal consent was taken from the candidates. Pilot

study was conducted to assess the authenticity of the questionnaire. A structured questionnaire was then distributed, got filled, data was entered and analyzed using SPSS version 20, with 95% confidence interval and 0.05 p-value.

## RESULTS

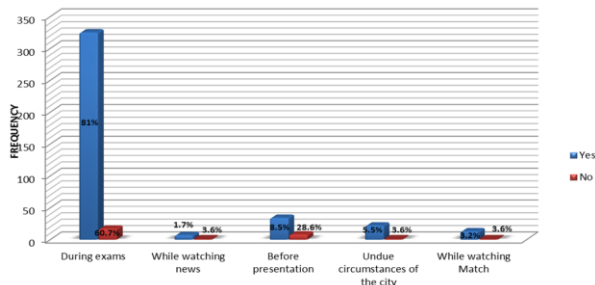
A total of 429 medical students of SMC, DMC and SIOHS were asked about the tension headache. Out of these 307(71.6%) were female and 122(28.4%) were male. Among these, 79.7% of students feel tension headache during exams, 9.8% feel it before presentation, and 5.4% feel due to undue circumstances of the city, 3.3% while watching T.V and 1.9% feel while watching news. About 44.3% of these students feel more tension headache/anxiety in examination hall, 23.1% at home, 16.3% experience it at some new place, 10.3% at university and 6.1% at their work.70.9% of these students can't concentrate on their studies due to tension headache, 9.8% can't concentrate on their health, 8.6% on their work, 5.8% can't give concentration to their family and 5.1% can't give concentration to their outdoor activities. According to 48% of the medical students, tension headache get relieved by sleeping while 23.5% use tea/coffee to get rid of it, 14.5% students do other activities, 9.1% listen to songs and 4.9% get relieve by smoking. 64.3% students feel their GPA/grade is not affected by tension headache and 57.1% avoid socializing when they have tension headache and 63.9% of them think that the tension headache is not affecting their relationship with friends and family.

**Table No.1: Questionnaire**

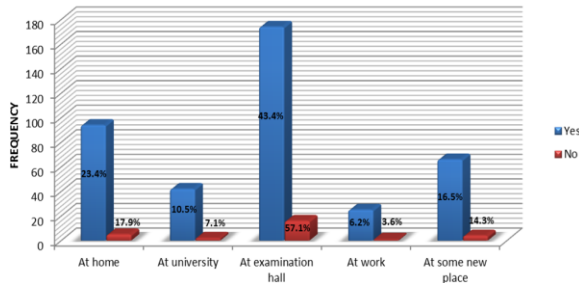
Sr. No.	Question asked	During Exams %	While Watching News %	Before Presentation %	Under Circumstances Of The City %	While Watching Match %
1	When do you frequently feel tension headache/ anxiety?	79.7	1.9	9.8	5.4	3.3
2	At which place do you feel more tension headache/ anxiety ?	23.1	10.3	44.3	6.1	16.3
3	I cannot concentrate due to tension headache/ anxiety on my	70.9	5.6	9.8	8.6	5.1
4	Identify from below how your tension headache/ anxiety is relieved	23.5	4.9	48.0	9.1	14.5

**Table No.2: Questionnaire**

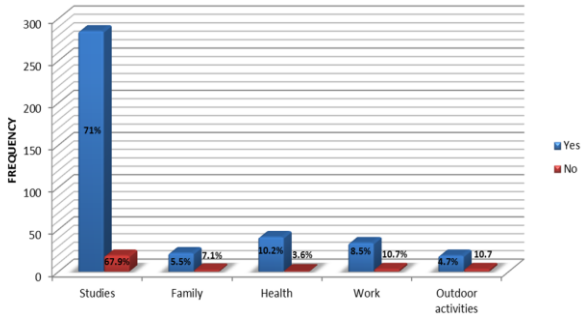
S.No	Question Asked	Yes %	No %
5	Is this tension headache / anxiety affecting your grades/ GPA?	35.7	64.3
6	Do you avoid socializing when you have tension headache/ anxiety?	57.1	42.9
7	Do you think your tension headache/ anxiety is affecting your relationship with friends and family?	36.1	63.9



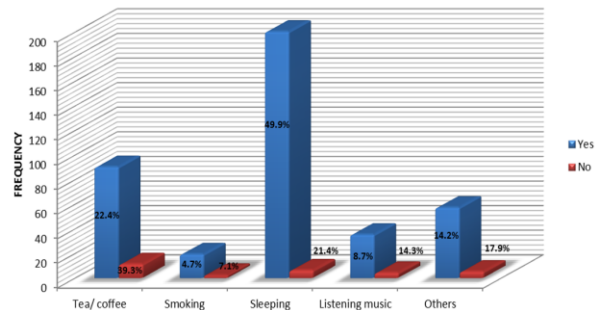
Majority of medical students experienced tension headache/Anxiety during examination  
**Figure No.1: Frequencies of Medical Students Experienced Tension Headache / Anxiety (N=429)**



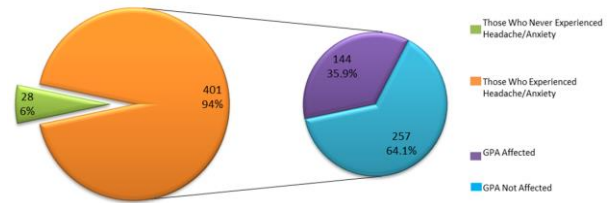
Majority of medical students experienced tension headache/Anxiety at examination hall  
**Figure No.2: Frequencies of At What Place Medical Students Experienced Tension Headache / Anxiety (N=429)**



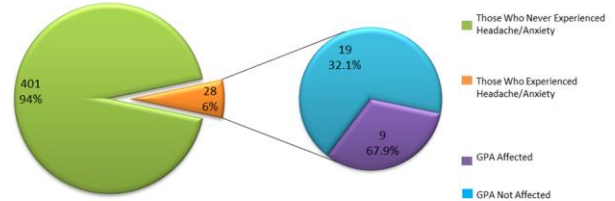
**Figure No.3: Frequencies of Medical Students Couldn't Concentrate on Studies (N=429)**



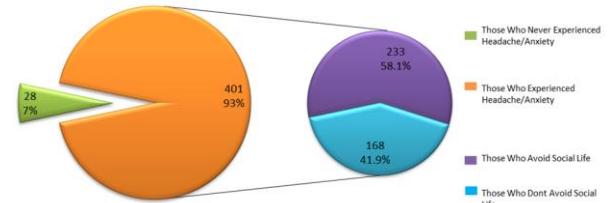
Majority of tension headache/Anxiety relieved by sleeping  
**Figure No.4: Frequencies of Tension Headache/ Anxiety Relieving Factors (N=429)**



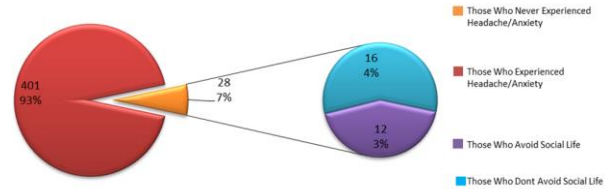
**Figure No.5 (a): Those who Experienced Headache/ Anxiety**



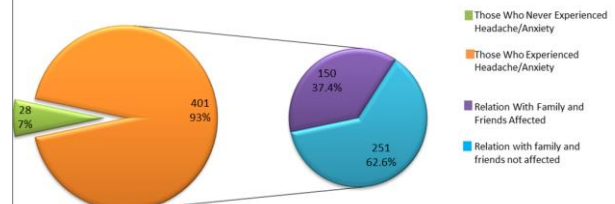
**Figure No.5 (b): Those who Never Experienced Headache/ Anxiety**



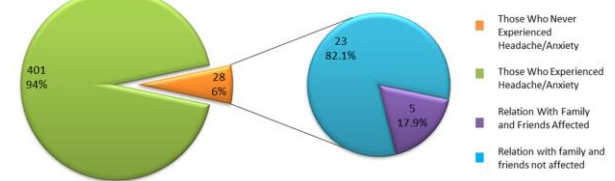
**Figure No.6 (a): Those who Experienced Headache/ Anxiety**



**Figure No.6 (b): Those who Never Experienced Headache/ Anxiety**



**Figure No.7 (a): Those who Experienced Headache/ Anxiety**



**Figure No.7 (b): Those who Never Experienced Headache/ Anxiety**

## DISCUSSION

Tension headaches occur when neck and scalp muscles become tense, or contract. The muscle contractions can be a response to stress, depression, a head injury, and anxiety.<sup>14</sup> Other triggers of tension headaches include, Alcohol use, Caffeine (too much or withdrawal) even too much use of caffeine in coffee can make a person uncomfortably anxious, Colds, the flu, or a sinus infection, Dental problems such as jaw clenching or teeth grinding, Eyestrain, Excessive smoking, Fatigue or overexertion.<sup>15</sup> Any activity that causes the head to be held in one position for a long time without moving can cause a headache. Such activities include typing or other computer work, fine work with the hands, and using a microscope. Sleeping in a cold room or sleeping with the neck in an abnormal position may also trigger a tension headache. It presents as dull, pressure-like (not throbbing) a tight band or vise on the head all over (not just in one point or one side) Worse in the scalp, temples, or back of the neck, and possibly in the shoulders.<sup>16</sup>

Tension-type headaches can be episodic or chronic. Infrequent episodic, if it occurs less than 1 day a month, Frequent episodic, if it occurs more than 1 day but fewer than 14 days each month or chronic if it occurs 15 or more days each month for at least 3 months.<sup>17</sup> Tension-type headaches predominated in males and was more frequent among medical students.<sup>18</sup> Headache is one of the most common complaints during medical curriculum and it occurs due to numerous psychological and physical stressors, which are more common in medical students than general population.<sup>19</sup>

The purpose of our study was to evaluate the frequency of tension types of headache in medical students and associated factors. The results demonstrate that prevalence of headache is high among medical students. A total of 429 medical students of SMC, DMC and SIOHS were asked about the tension headache. Out of these 307(71.6%) were female and 122(28.4%) were male. 79.7% of students felt tension headache during exams, 9.8% feel it before presentation, and 5.4% feel due to undue circumstances of the city, 3.3% while watching T.V and 1.9% feel while watching news. This Was Similar To A Study where the Tension headache accounted for 59% and migraine 22% in medical Students.<sup>20</sup>

The Study Showed About 44.3% of students felt more tension headache/anxiety in examination hall, 23.1% at home, 16.3% experience it at some new place, 10.3% at university and 6.1% at their work. 70.9% of these students could not concentrate on their studies due to tension headache, 9.8% could not concentrate on their health, 8.6% on their work, 5.8% could not give attention to their family and 5.1% could not tend to their outdoor activities . Frequent headaches can

interfere with daily life such as, making daily decisions, affect studies as a result of lack of concentration and the person try to avoid friends and family. Students with Tension Headache tend to perform some non pharmacological maneuvers like scalp massage, smoking, take tea or coffee or try to sleep.<sup>21</sup>

The study also showed that 64.3% students felt their GPA/grade was not affected by tension headache .This was in contrast to a study conducted in Brazil in 2011 where it was found that academic performance was affected by Tension Headaches. <sup>22</sup>57.1% avoided socializing when they had tension headache and 63.9% of them thought that the tension headache was not affecting their relationship with friends and family.

Tension headaches often respond well to treatment, and do not cause serious medical problems.<sup>23</sup> However, chronic tension headaches can have a negative impact on the quality of life and work.<sup>24</sup>

## CONCLUSION

The study concluded stress and anxiety is the most common complaint among medical students this leads to tension type headache due to numerous psychological and physical stressors, tough medical curriculum and socio-economic conditions.

### Author's Contribution:

Concept & Design of Study:	Faheem Ahmad
Drafting:	Tafazzul H Zaidi
Data Analysis:	Kiran Mehtab
Revisiting Critically:	Faheem Ahmad, Tafazzul H Zaidi
Final Approval of version:	Faheem Ahmad

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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