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Sidra Aurangzeb

Pakistan Institute of Medical Sciences

Muhammad Tariq

Pakistan Institute of Medical Sciences

Ayesha Gul

Pakistan Institute of Medical Sciences

Mehwish Hameed

Pakistan Institute of Medical Sciences

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FREQUENCY OF VARIOUS TYPES OF HEADACHES IN POSTGRADUATE MEDICAL STUDENTS OF A TERTIARY CARE HOSPITAL

Sidra Aurangzeb, Muhammad Tariq, Ayesha Gul and Mehwish Hameed

Department of Neurology, Pakistan Institute of Medical Sciences, Islamabad, Pakistan

Correspondence to: Dr. Aurangzeb, Room no. 19, Federal Lodge 2, Sector G-5/6 Islamabad, Pakistan. Tel: +92-346-500-1269. Email: sidra.zeb@gmail.com

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ABSTRACT

Objective: To determine the frequency of various types of headache among the postgraduate trainees of our institution. **Method:** A cross-sectional descriptive study was conducted at Pakistan Institute of Medical Sciences (PIMS), Islamabad, in March 2006. A structured questionnaire was distributed randomly to postgraduate trainees. Demographics and headache characteristics were documented. Subtypes of primary headache were categorized according to the criteria of the International Headache Society (2004). **Results:** Of 200 randomly selected postgraduate trainees, 126 responded; 21.4% had regular headaches, 54.8% had occasional headaches, while 28.3% had no headaches. Frequency of headache was equal in both sexes, with the highest frequency found in trainees of pediatrics (100%), followed by surgery and allied (80.76%), gynecology and obstetrics (80%), and medicine and allied (68.4%). Only 14.6% experienced severe headaches. Women had more intense headaches than men. Frequencies of migraine, tension-type headache, and secondary headache were found to be 37.5%, 56.3% and 5.2 %, respectively. The most common triggering factors were stress and sleep deprivation. Only 2% of the trainees sought expert medical help; most of them used self-prescribed drugs. **Conclusion:** Headache is common among postgraduate trainees at hospitals. This justifies, in our opinion, the adjustment of the working hours so that trainees can get adequate rest periods. This may help in reducing the prevalence of headaches among postgraduate trainees.

According to estimates from the World Health Organization, mental and neurological disorders collectively account for 30.8% of all years of healthy life lost to disability (DALYs) while migraine, one amongst these, alone accounts for 1.4% and is in the top 20 causes of disability worldwide.¹ Headache disorders impose recognizable burden on sufferers including substantial personal suffering, impaired quality of life and financial cost. Repeated headache attacks, and often the constant fear of the next one damages family life, social life and employment.²

Although the epidemiology of headache disorders is only partly documented, taken together, headache disorders are extraordinarily common. Few population-based studies exist for developing countries where limited funding and large and often rural populations, coupled with the low profile of headache disorders compared with other

diseases, prevent the systematic collection of information.²

The aim of this study was to determine the frequency and types of headaches among the postgraduate trainees of a large academic center, the Pakistan Institute of Medical Sciences (PIMS) in Islamabad.

METHODS

This is a cross-sectional, descriptive study conducted on postgraduate trainees in the Pakistan Institute of Medical Sciences, Islamabad. A structured questionnaire was developed and then distributed randomly to trainees working in medicine, surgery, pediatrics, and gynecology and obstetrics, using random selection from a list. Documented parameters included age, sex, residence,

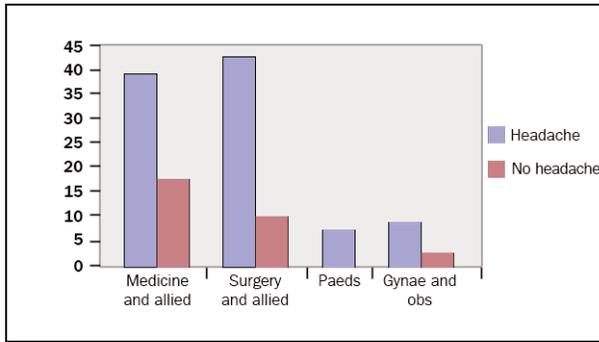


Figure 1. Comparison of the specialty of postgraduate training with the occurrence of headache.

marital status, year and specialty of training. Among the sufferers of headaches, additional information was obtained concerning headache characteristics (frequency, localization, severity, and duration, premonitory and associated symptoms), the therapeutic behaviors used by these trainees and history of any coexisting illness. Various types of headache were diagnosed according to the criteria of the International Headache Society, 2004.³

RESULTS

Of 200 randomly selected postgraduate trainees, 126 responded to our questionnaire (response rate 63%). In those who responded, mean age was 29.52 ± 4.92 (range 25-55). Sixty nine (54.7%) were males, 65 (51.58%) were married, and 43 (34.1%) lived in hostels.

Out of the total 126 respondents, 27 (21.4%) had regular headaches, 69 (54.8%) had occasional headaches, while 30 (28.3%) did not suffer from headaches. The frequency of headache was equal (50%) in both males and females and in married and unmarried trainees. Highest frequency of headache was found in trainees of pediatrics (100% respondents in this category reported headaches), followed by surgery and allied (80.76%), gynecology and obstetrics (80%), and medicine and allied (68.4%) (see Figure 1). Headaches were common in the first year of training (42.7% suffered from headache), followed by 26% and 16.7% in the second and third years of training, respectively. Detailed clinical characteristics of the headaches are listed in Table 1. Only 14 (14.6%) experienced severe headaches, and women reported having more intense headaches than men.

Frequencies of migraine, tension-type headache and secondary headache were found to be 37.5%, 56.3% and 5.2 %, respectively. Women had a higher frequency of migraines (61.1%) while tension-type headache was more common in men (57.4%), as shown in Figure 2 and Table

TABLE 1. Clinical characteristics of headaches

Time of day	
Morning	13 (13.5%)
Evening	20 (20.8%)
Night	5 (5.2%)
Constant	4 (4.1%)
Variable	54 (56.3%)
Severity	
Mild	40 (41.7%)
Moderate	42 (43.8%)
Severe	14 (14.6%)
Frequency	
Daily	12 (12.4%)
Once weekly	13 (13.5%)
Twice weekly	14 (14.5%)
Once monthly	35 (36.5%)
Twice monthly	11 (11.5%)
Thrice monthly	5 (5.2%)
Unspecified	6 (6.3%)
Typical duration	
<1 hr	19(19.8%)
1-6 hrs	40(41.7%)
6-12 hrs	10(10.4%)
12-24 hrs	3(3.1%)
24-96 hrs	5(5.2%)
Variable	17(17.7%)
Location	
Diffuse	41 (42.7%)
Frontal	13 (13.5%)
Frontal/temporal	9(9.4%)
Hemicranial	4(4.2%)
Occipital	6(6.3%)
Retro-orbital	3(3.1%)
Temporal	19(19.8%)
Cervical	1 (1.0%)
Quality of pain	
Aching	27 (28.1%)
Throbbing	49 (51.0%)
Band-like	16 (16.7%)
Others	4 (4.2%)
Aura	
None	84 (87.5%)
Visual disturbances	6 (6.3%)
Sensory disturbances	1 (1.10%)
Photophobia or phonophobia	5 (5.2%)
Associated symptoms	
None	57 (59.4%)
Nausea/vomiting	23 (24.0%)
Photophobia or phonophobia	16 (16.6%)
Triggering factors	
Stress	70 (72.9%)
Sleep deprivation	53 (55.2%)
Menstruation	3 (3.1%)
Others	8 (8.3%)
Relieving factors	
Rest	53 (55.2%)
Medicine	21 (21.9%)
Tea/caffeine	10 (10.3%)
None	12 (12.5%)

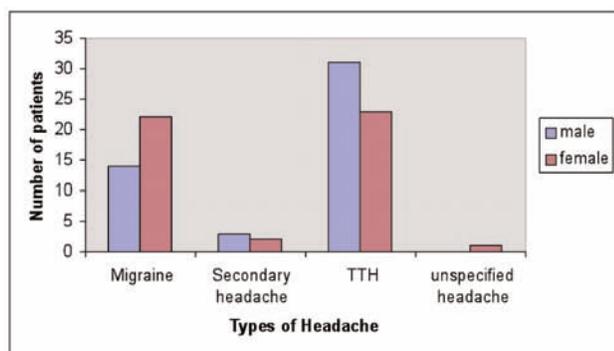


Figure 2. Frequencies of various types of headaches experienced by the study population.

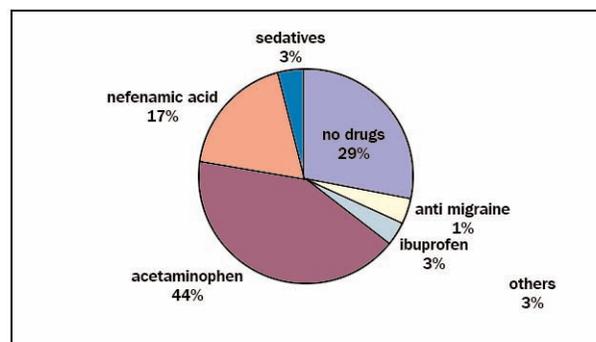


Figure 3. Preferred choice of drugs used for headache relief.

TABLE 2. Headache subtypes in the study population

Primary headache (n=96)	Males (n= 48)	Females (n= 48)
Migraine:		
Migraine without aura (n=16)	9	7
Migraine with aura (n=8)	2	4
Chronic migraine (n=8)	2	6
Probable migraine without aura(n=2)	1	1
Tension Type Headache (TTH):		
Infrequent TTH (n=24)	14	10
Frequent TTH (n=17)	9	8
Chronic TTH (13)	8	5
Secondary headache (n=5)	3	2
Others		
Menstrual migraine		
With aura	-	3
Without aura	-	1
Unspecified headache	0	1

2. Secondary headaches were found in 5.2 % of trainees (attributable to hypertension, hypothyroidism, cervicogenic pain, temporo-mandibular joint dysfunction and post-herpetic neuralgia in one patient each).

The most common triggering factors were stress and sleep deprivation. Rest, medication and tea relieved the headache in 87.5% of these instances. Only 2% respondents sought expert medical help for headache relief. Self-medication was the therapeutic behavior most commonly employed, followed by use of alternative medical treatments and visits to the physician. Acetaminophen (44%) followed by mefenamic acid (17%) were the most commonly used drugs. Interestingly, Only 1% used anti-migraine triptan medications (Figure 3).

DISCUSSION

The frequency of headache in our study population was 76.1%. Most studies done on medical students in various parts of the world report headache prevalence rates of 33-98%.⁴⁻¹¹ Tension type headache was the most common type of headache in our study population of postgraduate medical trainees, followed by migraine. Tension-type headaches often occur more frequently and may become more severe during or following times of mental or emotional stress.¹²⁻¹⁴ Several controlled studies have found tension-type headache sufferers to report higher levels of stress, and to have significantly higher levels of depression or anxiety, significantly greater levels of suppressed anger, or significantly greater muscle tension than those without headaches.¹⁵⁻²⁰ The prevalence of perceived stress seems to be high among medical students, which tends to affect not only their academic performances but also all aspects of health. Inability to cope, helplessness, increased psychological pressure, mental tension and too much workload are 'stress factors' for medical students.²¹ Minimizing stress and getting enough sleep and regular exercise are, therefore, often recommended to people with tension-type headaches.

Stress and sleep deprivation were the most commonly named triggering factors in our study, while rest relieved the headaches in a majority of trainees. In a study of migraineurs evaluating the impact of 21 different headache precipitants, sleep disturbance was the second most frequently endorsed headache precipitant - second only to "stress" in likelihood of provoking headache.²² Penzien et al also concluded that sleep accounted for significant variance in headache over time for 46% of tension-type and 60% of migraine patients.²³ Another study suggested that short sleepers (average sleep period 6 hours) exhibited significantly more frequent and more

severe headaches than individuals who slept longer, and were more likely to exhibit morning headaches on awakening.²⁴

Interestingly, in addition to precipitating headache either by sleep deprivation or excess of sleep, sleep has also been shown to relieve headache.²⁴⁻²⁶ Normalization of sleep, such as increasing short sleep and correcting factors provoking long sleep, may thus prove to be an effective albeit indirect approach to treating or altering headache threshold. Adjustment of working hours such that the trainees can get adequate sleep/rest periods in between may help in reducing the prevalence of headaches in this population.

Despite the high prevalence, the high rate of disability, and the need for analgesic medication, only 2% of the trainees in our study sought medical treatment. In most studies on this subject, self-prescription was highly prevalent.^{4,7,11,27} Other prescription sources were usually friends, relatives or drug-store sellers. The most important reason for this is that analgesics are easily available and can be bought without prescription in Pakistan. Global educational programs are therefore required for patients to recognize the importance of effective migraine treatment.

While those suffering from headache disorders bear much of the burden, they do not carry it all. Because headache disorders are most troublesome in the productive years (late teens to 50s), estimates of their financial cost to society - principally from lost working hours and reduced productivity - are massive. The direct costs of treating headache are small in comparison with the huge indirect-cost savings that might be made by reducing lost working days.²

CONCLUSION

The results of this epidemiological survey show that headache is common among postgraduate trainees at hospitals. Adjustment of working hours such that the trainees can get adequate rest periods may help in reducing the prevalence of these headaches. The evident burden of headache disorders on individuals and on society is sufficient to justify a strategic change in the approach to headache management.

REFERENCES

1. Leonardi M, Steiner TJ, Scher AT, Lipton RB. The global burden of migraine: measuring disability in headache disorders with WHO's Classification of Functioning, Disability and Health (ICF). *J Headache Pain* 2005;**6**(6):429-40.
2. World Health Organization. Fact sheet No. 277 March 2004. <http://www.who.int/mediacentre/factsheets/fs277/en/>
3. International Headache Society Classification Subcommittee. The International Classification of Headache Disorders. 2nd edition. *Cephalalgia* 2004; **24**(1):1-160
4. Sanvito WL, Monzillo PH, Peres MF, Martinelli MO, Fera MP, Gouveia DA, et al. The epidemiology of migraine in medical students. *Headache* 1996;**36**(5):316-9
5. Dzoljic E, Sipetic S, Vlajinac H, Marinkovic J, Brzakovic B, Pokrajac M et al. Prevalence of menstrually related migraine and nonmigraine primary headache in female students of Belgrade University. *Headache* 2002;**42**(3):185-93.
6. Muniz R, Macia C, Montiel I, Gonzalez O, Martin R, Asensio M et al. Prevalence of migraine in the medical student population as determined by means of the 'Alcoi 1992' questionnaire. *Rev Neurol* 1995;**23**(122):870-3.
7. Ho KH, Ong BK, Chong PN. Headache characteristics in university undergraduates presenting to medical attention. *Singapore Med J* 1996;**37**(6):583-4.
8. Amayo EO, Jowi JO, Njeru EK. Headache associated disability in medical students at the Kenyatta National Hospital, Nairobi. *East Afr Med J* 2002;**79**(10):519-23.
9. Mitsikostas DD, Gatzonis S, Thomas A, Kalfakis N, Ilias A, Papageoerghiou C. An epidemiological study of headaches among medical students in Athens. *Headache* 1996;**36**(9):561-4.
10. Deleu D, Khan MA, Humaidan H, Al Mantheri Z, Al Hashami S. Prevalence and clinical characteristics of headache in medical students in Oman. *Headache* 2001;**41**(8):798-804.
11. da Costa MZG, Soares CB, Heinisch LMM, Heinisch RH. Frequency of Headache in the Medical Students of Santa Catarina's Federal University. *Headache* 2000;**40**(9):740-744.
12. Rasmussen BK. Migraine and tension-type headache in a general population: psychosocial factors. *Int J Epidemiol* 1992;**21**:1138-43.
13. Donias SH, Peioglou-Harmoussi S, Georgiadis G, Manos N. Differential emotional precipitation of migraine and tension-type headache attacks. *Cephalalgia* 1991;**11**:47-52.
14. Wittrock DA, Myers TC. The comparison of individuals with recurrent tension-type headache

- and headache-free controls in physiological response, appraisal, and coping with stressors: a review of the literature. *Ann Behav Med.* 1998;**20**:118-34.
15. Myers TC, Wittrock DA, Foreman GW. Appraisal of subjective stress in individuals with tension-type headache: the influence of baseline measures. *J Behav Med.* 1998;**21**:469-84.
 16. DeBenedittis G, Lorenzetti A, Pieri A. The role of stressful life events in the onset of chronic primary headache. *Pain* 1990;**40**:65-75.
 17. DeBenedittis G, Lorenzetti A. The role of stressful life events in the persistence of primary headache: major events vs. daily hassles. *Pain.* 1992;**51**:35-42.
 18. Ficek SK, Wittrock DA. Subjective stress and coping in recurrent tension-type headache. *Headache* 1995;**35**:455-60.
 19. Holroyd KA, Stensland M, Lipchik GL, et al. Psychosocial correlates and impact of chronic tension-type headaches. *Headache* 2000;**40**:3-16.
 20. Serrano-Duenas M. Chronic tension-type headache and depression. *Rev Neurol.* 2000;**30**:822-6.
 21. Shaikh BT, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan NA, Khan S. Students, Stress and Coping Strategies: A Case of Pakistani Medical School. *Educ Health (Abingdon)* 2004;**17**(3):346-53.
 22. Rains JC, Penzien DB. Precipitants of episodic migraine: behavioral, environmental, hormonal, and dietary factors. *Headache.* 1996; **36**(4):274-275.
 23. Penzien DB, Rains JC, Andrew ME, Galovski T, Mohammad Y, Mosely T. Relationship of daily stress, sleep, and headache: a time series analysis. *Cephalalgia.* 2001;**21**:262-263.
 24. Kelman L, Rains JC. Headache and Sleep: Examination of Sleep Patterns and Complaints in a Large Clinical Sample of Migraineurs. *Headache* 2005; **45**(7):904-910.
 25. Inamorato E, Minatti-Hannuch SN, Zukerman E. The role of sleep in migraine attacks. *Arq Neuropsiquiatr* 1993;**51**(4):429-432.
 26. Blau JN. Resolution of migraine attacks: sleep and the recovery phase. *J Neurol Neurosurg Psychiatry* 1982;**45**:223-226
 27. Domingues RB, Kuster GW, Dutra LA, Santos JG. Headache epidemiology in Vitória, Espírito Santo. *Arq. Neuro-Psiquiatr* 2004;**62**:588-91.