A CROSS-SECTIONAL STUDY TO DETERMINE THE FREQUENCY OF HEADACHE AND ITS ORIGIN AMONG STUDENTS OF REHMAN MEDICAL COLLEGE, PESHAWAR

Ayesha Jamal, Lajward Asnath, Iqra Arif, Husn-ul-maaab Ali

ABSTRACT

Introduction: Headache is among the most common of human maladies. In Pakistan a recent study was made on adult population, Headache of any sort in the past year was reported by 3233 participants, an observed 1-year prevalence of 76.6%. Tension-Type Headache was by far the most prevalent headache disorder (44.7%), but migraine was also very common, reported by over one fifth (22.9%) of participants.

Objective: To assess the frequency and origin of headaches among the students of Rehman Medical College, Peshawar.

Materials & Methods: A cross-sectional descriptive study was conducted on 100 students from all the five MBBS years of Rehman Medical College, Peshawar, during the period of April 2017 to June 2017 to determine the frequency of headaches and the common origin of these headaches in the medical students. Data was collected through convenience sampling technique from all the years; a sample of 20 students was taken from each class. A self-administered standard questionnaire containing 17 questions was used for data collection. Students who were present and were willing to participate in the study were included and there were no exclusion criteria. SPSS version 15.0 was used for the data analysis and to obtain descriptive statistics.

Results: Out of a total of 100 students, 50% were males and 50% were females; of which 47.0% rated their headache as 0-2(on a scale of 0-10),56.0% said they usually wake with 0-2, 75.0% said they have a headache 0-30% of times,72.0% said they have headache 0-30% of the times when they wake up, 51.0% rated their headache throughout the day as 0-2, 33.0% rated their worst pain level as 0-2,45.0% said they experienced their worst pain in the afternoon,68.0% experienced worst headache 0-2 times in a week/month,53.0% reported headache of frontal origin, 40.0% described their pain as throbbing, 57.0% said they have not seen a medical practitioner for their problem, 79.0% said they have had no investigations done, 11.0% said they have been using Analgesics for treatment, 36.0% said they use Panadol to prevent it, 33.0% took no medications ,whereas,47.0% said they have pain in the front of their Head/Neck/Shoulder.

Conclusion: The frequency of headache in the students of Rehman Medical College, Peshawar is quite high. Most of the students have been experiencing headache in after college hours but didn't take any medications to prevent it, which might result in worsening of the condition, they should seek medical consultation to find the under lying cause of the persistence of the headaches.

Key Words: Headache; Headache Disorders; Migraine Disorders; Tension-Type Headache; Cephalgia; Students, Medical.

INTRODUCTION

Headache is among the most common of human maladies. So much so that it is generally (and often incorrectly) assumed to be understood, especially by doctors. The classification of headache, with formal definitions of different diagnostic entities, by the International Headache Society into[1] primary—occurring in the absence of external causes, and[2] secondary—some of which may have sinister cause, has greatly simplified the description, understanding, and management of this often challenging symptom. It also allows those headaches with serious or life-threatening consequences to be distinguished from[1.] 50% of the general population has headaches during any given year, and more than 90% report a lifetime history of headache. The average lifetime prevalence of migraine is 18%, and the estimated average prevalence in the past year is 13%. The prevalence of migraine in children and adolescents is 7.7%. Tension-type headache is more common than migraine, with a lifetime prevalence of about 52%. However, only frequent or chronic tension-type headaches are disabling. 3% of the general population have chronic headache, i.e., a headache ≥15 days per month. They are the most severely disabled.[2-3-4]No significant mortality is associated with headache disorders, which is one reason why they are so poorly acknowledged. On the other hand, among the recognizable burdens imposed on people affected by headache disorders are pain and personal suffering, which may be substantial, impaired quality of life and financial cost. Above all, headache disorders are disabling: worldwide, migraine on its own is the cause of 1.3% of all years of life lost to disability (YLDs) [5.] In Pakistan recent study was made on adult

Final Years Students RMC Peshawar.

Address for correspondence:
Ayesha Jamal
Final Years Students RMI Hospital Peshawar
E-mail: Ayesha.jamal@icloud.com

population, Headache of any sort ("all headaches") in the past year was reported by 3233 participants, an observed 1-year prevalence of 76.6%. There was no difference between males and females. TTH was by far the most prevalent headache disorder (44.7%), but migraine was also very common, reported by over one fifth (22.9%) of participants. Headache on ≥15 days/ month was reported by almost one in 12 participants (8.1%), of whom small minorities (0.7%) were diagnosed as pMOH. Only 37 cases (0.9%) were unclassifiable, similar numbers in each gender. Migraine was more prevalent in females in a ratio of 3:2 ($P < 0.001$), pMOH and other headache on ≥15 days/month about two-fold (the latter significantly [$P < 0.001$] but the former not). TTH, on the other hand, was more prevalent in males by a factor of about 4:3 ($P < 0.001$)[15].Treatment for headache depends upon the type, for tension type, A pain reliever may be recommended first for the treatment of tension type headache. These drugs include: Aspirin, Acetaminophen (e.g., Tylenol®), Non steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (e.g., Motrin or Advil), indomethacin, or naproxen (e.g., Naprosyn or Aleve)[6]. The treatment of chronic migraine should focus on preventive therapy while avoiding migraine triggers and limiting the use of acute headache medications to avoid medication overuse headache. Preventive treatments include medicines, behavioral therapy, or physical therapy. Management often requires the simultaneous use of this different treatments.[7-8-9-10] By finding out the frequency of headaches among students of Rehman Medical College, Peshawar, we will know the reason and origin of majority of headaches.

MATERIALS & METHODS

A cross-sectional descriptive study was conducted on 100 students from all the five MBBS years of Rehman Medical College, Peshawar, during the period of April 2017 to June 2017 to determine the frequency of headaches and the common origin of these headaches in the students. Data was collected through convenience sampling technique from all the years; a sample of 20 was taken from each class. A self-administered standard questionnaire containing 17 questions was used for data collection; questions were related to the frequency, origin, location, number of headaches experienced in a week/month, level of worst pain, type and time of pain, treatments and medications used, and location of headache.

Students who were present and were willing to participate in the study were included and there were no exclusion criteria. After obtaining informed consent, the students were instructed in proper filling out of questionnaire; and were asked to return the questionnaire within one day.

SPSS version 15.0 was used for the data analysis and to obtain descriptive statistics.

RESULTS

Out of a total of 100 students (response rate 100%), 50(50%) were males and 50(50%) were females; ages ranging from 17-25 years.

When asked to rate their headache on a scale of 0-10(with 10 being the worst pain around shoulders), 47(47.0%) rated it 0-2, 20(20.05) rated it 3-5, 27(27.0%) rated it 6-8 while only 6(6.0%) rated it 9-10.

As shown in Table 1.1, 23 males and 24 females experienced headache 0-2 times in a week, 11 males and 9 females experienced it 3-5 times, 14 males and 13 females experienced it 6-8 times while only 2 males and 4 females experienced it more than 9 times.

When asked to rate the average headache they usually wake with, 56(56.0%) rated it 0-2, 28(28.0%) rated it 3-5, 14(14.0%) rated it 6-8 while only 2(2.0%) rated it 9-10. The percentage of do you have a headache when you wake up 75(75.0%) reported 0-30%, 17(17.0%) reported 40-70% while 8(8.0%) reported 80-100%.When asked what percentage of their waking time do they have a zero headache without taking any medications, 72(72.0%) reported 0-30%, 11(11.0%) reported 40-70% while 17(17.0%) reported 80-100%.

The average headache level throughout the day (on a scale of 0-10), 51(51.0%) rated it as 0-2, 29(29.0%) rated it 3-5, 19(19.0%) rated it 6-8 while only 1(1.0%) rated it 9-10, and when asked to rate the worst pain

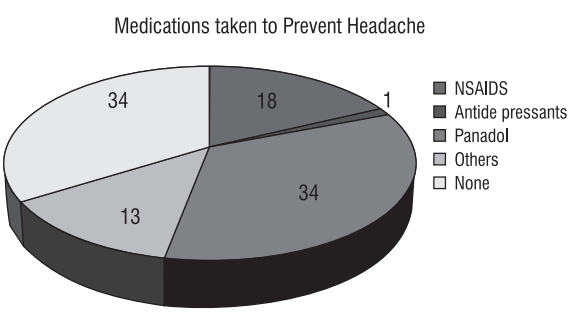

Figure1: Medications taken by the Students to Prevent Headache (n=100)

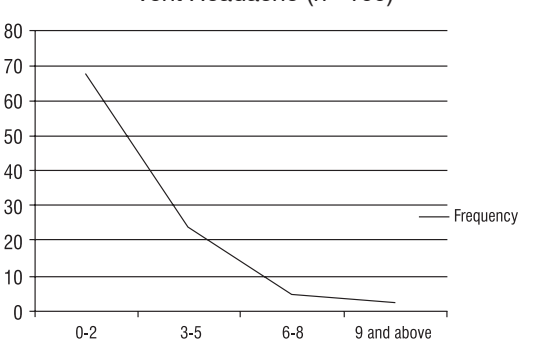

Figure 2: Frequency of Headache in Weeks/Months (n=100)

Table 1.1: Level of Headache Experienced in Males & Females (n=100)

Level of Headache (in mornings above shoulders)	Gender		Total
	Male	Female	
0-2	23	24	47
3-5	11	9	20
6-8	14	13	27
9 and above	2	4	6

Table 1.2: Type & Time of Worst Headache Experienced (n=100)

Type of pain	Time of worst headache					Chi-square value
	Morning	Afternoon	Evening	Night	None	
Throbbing	13.3%	48.9%	39.4%	25.0%	66.7%	0.00
Squeezing	13.3%	2.2%	9.1%	25.0%	0.00%	
Pressure	20.0%	33.3%	27.3%	0.00%	0.00%	
Dull	26.7%	11.1%	9.1%	0.00%	0.00%	
Stabbing	13.3%	2.2%	12.1%	50.0%	0.00%	
Shooting	13.3%	2.2%	3.0%	0.00%	0.00%	
None	0.00%	0.00%	0.00%	0.00%	1.00%	
Total	100%	100%	100%	100%	100%	

Table 1.3: Origin & Number of Headache Experienced in a Week/Month (n=100)

Origin of headache	Experience of worst headache (per week or month)				chi-square value
	0-2	3-5	6-8	9 and above	
Occipital	7.4%	8.3%	0%	0%	0.037
Frontal	50%	58.3%	60%	66.7%	
Neck/shoulder	2.9%	0.0%	40.0%	0.0%	
Orbital	5.9%	0.0%	0.0%	0.0%	
Temporal	33.8%	33.3%	0.0%	33.3%	
Total	68.0%	24.0%	5.0%	3.0%	

Table 1.4: - Type of Pain Experienced in Male and Female Students (n=100)

Gender	Type of pain							Chi-square value
	Throbbing	Squeezing	Pressure	Dull	Stabbing	Shooting	None	
Male	42.5%	85.7%	48.1%	25.0%	75.0%	03.0%	0.0%	.021
Female	57.5%	14.3%	51.9%	75%	11.1%	25.0%	100%	
Total	100%	100%	100%	100%	100%	100%	100%	

level they experience (on a scale of 0-10), 33(33.0%) rated it as 0-2, 23(23.0%) rated it 3-5, 31(31.0%) rated it 6-8 while 13(13.0%) rated it 9-10.The time of the day do they experience their worst pain, 15(15.0%) replied morning, 45(45.0%) replied afternoon, 33(33.0%) replied evening, 4(4.0%) replied night while only 3(3.0%) reported it negative.

As shown in table 1.2, 48.9% of the students experienced throbbing pain in the afternoon, 39.4% in the evening, 25.0% in the night; 20.0% experienced pressure pain in the morning, 33.3% in the afternoon,

27.3% in the evening; 26.7% experienced dull pain in the morning; 50.0% experienced stabbing pain in the night time.

When asked how many times per week/month do they experience their worst pain, 68(68.0%) reported 0-2 times in a week/month, 24(24.0%) reported 3-5, 5(5.0%) reported 6-8 and 3(3.0%) reported 9 and above, a s depicted in figure 2 below.

Regarding origin of the headache, 7(7.0%) reported headache of occipital origin, 53(53.0%) reported frontal origin, 4(4.0%) reported neck/shoulder, 4(4.0%) reported orbital origin while 32(32.0%) reported headache of temporal origin.

As shown in table1.3, 50% students experienced headache of frontal origin 0-2 times in a week/month, 58.3% experienced it 3-5 times, while 60% experienced it 6-8 times while 66.7% experienced it over 9 times or more; 33.8% experienced headache of temporal origin nearly 0-2 times, 33.3% experienced it for 3-5 times, while 33.0% experienced it for over 9 times or more.

When asked to describe their pain, 40(40.0%) replied throbbing, 7(7.0%) replied squeezing, 27(27.0%) replied pressure, 12(12.0%) replied dull, 9(9.0%) replied stabbing, 4(4.0%) replied shooting whereas only 1(1.0%) reported it negative.

As shown in table 1.4, throbbing pain was experienced by 42.5% males while 57.5% females. Squeezing pain was experienced by 85.7% males and only 14.3% females. Pressure pain was experienced by 48.1% males and 51.9% females. Dull pain was experienced by 25.0% males and 75% females. Stabbing pain was experienced by 75.0% males and only 11.1% females. Shooting pain was experienced by only 03.0% males and 25.0% females.

Regarding health care providers (type of health care providers they have seen), 11(11.0%) replied MD, 9(9.0%) replied neurologist, 14(14.0%) replied ENT, 8(8.0%) replied physical therapist, 1(1.0%) replied chiropractor, whereas, 57(57.0%) said they have not seen one. Regarding medical tests, 7(7.0%) replied CT Scan, 6(6.0%) replied MRI, 5(5.0%) replied X-Ray, 3(3.0%) replied Blood Analysis whereas 79(79.0%) reported it negative.

Regarding procedures and treatments (including dental) they have had for headaches, 11(11.0%) replied Analgesics, 2(2.0%) replied Nasal Spray, 4(4.0%) replied NSAID's, 2(2.0%) replied Beta Blockers, 1(1.0%) replied tonsillectomy, whereas, 4(4.0%) said they have used other medications.

When asked what medications do they now take to prevent their headache, 18(18.0%) replied NSAID's, 1(1.0%) replied Antidepressants, 34(34.0%) replied Panadol, 13(13.0%) said they have used other medication, whereas, 34(34.0%) reported it negative, as shown in figure 1.

When asked what medications do they now take to prevent their headache, 15(15.0%) replied NSAID's, 36(36.0%) replied Panadol, 16(16.0%) said they take other medications, while 33(33.0%) reported it negative. When asked about the prescriptions/over-the counter medications do they now take to prevent their headache, 2(2.0%) replied Disprin, 39(39.0%) replied Panadol, 6(6.0%) replied Paracetamol, 5(5.0%) replied Ponstan, while 2(2.0%) said they have been using other medications.

When asked to point out the locations of their headache on their head/neck/shoulder, 47(47.0%) pointed out front, 6(6.0%) pointed out back, 3(3.0%) pointed out both front and back, 26(26.0%) pointed out temples, while 18(18.0%) pointed all the areas (front/back/temples).

DISCUSSION

Headache is one of the most common complaints among medical students and it occurs due to numerous psychological and physical stressors, more common in medical students than general population[16].

In this study, headache was found to be common in the students of Rehman Medical College, Peshawar. The frequency of headache was quite high. A number of studies on medical students have similarly shown high frequency of headache. The generally believed higher frequency of headache among females, reflected by several studies, was also observed in our subjected population.[18]

A large number of students reported headache of frontal and temporal origin, which was experienced usually in the afternoon i.e. after college hours; this may be due to the fact that students have to study for nearly 5-6hours straight in a stressful environment, which might result in headache. Whereas, a majority of students also reported headache in the morning time, which may be due to abnormal sleep routine, stress or increased workload. Similar reasons have been reported by a few studies, stating that the prevalence of stress seemed to be high in medical students. Academic burden, workload, sleep deprivation and increased psychological pressure are assumed to be major stress factors for medical students which not only affect their medical performances, but also aspects of health.[19,20]

Despite experiencing headache, 33% students denied the use of any type of medications for the treatment and prevention of headache, however, most of the students used Panadol and Analgesics to self-treat headache episodes. Most of them did not get any consultation, treatment or investigations for their headache. Previous studies have reported that very few students have seen a medical practitioner or have taken prescribed medications for getting their headache relieved.[17-19] The low consultation rate and the rarity of

usage of specific anti-headache drugs probably reflect inadequacies in the management of primary headaches in this population.[18]

CONCLUSION

The frequency of headache in the students of Rehman Medical College, Peshawar is quite high. Most of the students have been experiencing headache in mornings and after college hours but didn't take any medications to prevent it, which might result in worsening of the condition. We need to generate more epidemiological data and follow up studies on the high risk group to learn about the factors causing headache in the students, they should seek medical consultation to find the under lying cause of the persistence of the headaches.

REFERENCES

1. Peter J. Goadsby, Headache,10.1093/med/9780199204854.003.2408_update_002,http://oxfordmedicine.com/view/10.1093/med/9780199204854.001.1/med-9780199204854-chapter-2408
2. Abu-Arafeh I, Razak S, Sivaraman B, Graham C. Prevalence of headache and migraine in children and adolescents: a systematic review of population-based studies. Dev Med Child Neurol 2010;52:1088–97.
3. Berg J, Stovner LJ. Cost of migraine and other headaches in Europe. Eur J Neurol 2005;12(Suppl 1):59–62.
4. International Headache Society. Available at: www.i-h-s.org.
5. Atlas of headache disorders. Available at: http://who.int
6. Turk, DC, Winter, F. The Pain Survival Guide: How to Reclaim Your Life. Washington, DC: American Psychological Association, 2005.
7. Caudill, MA. Managing Pain Before It Manages You, 3rd Edition. New York: Guilford Press, 2009.
8. Dodick DW. Clinical practice. Chronic daily headache. N Engl J Med 2006; 354:158.
9. Lipton RB, Stewart WF, Stone AM, et al. Stratified care vs step care strategies for migraine: the Disability in Strategies of Care (DISC) Study: A randomiz0ed trial. JAMA 2000; 284:2599.
10. Silberstein SD. Practice parameter: evidence-based guidelines for migraine headache (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology 2000; 55:754.
11. Silberstein, SD, Rosenberg, J. Multispecialty consensus on diagnosis and treatment of headache. Neurology 2000; 54:1553. Full text of guidelines available at www.neurology.org/cgi/reprint/54/8/1553?-maxtoshow=&HITS=10&hits=10&RESULTFORMAT=1&title=headache+consensus&andorexacttitle=and&andorexacttitleabs=and&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT.
12. Mathew NT. Transformed migraine, analgesic rebound, and other chronic daily headaches. NeurolClin 1997; 15:167.
13. Silberstein SD, Goadsby PJ. Migraine: preventive treatment. Cephalalgia 2002; 22:491
14. Tomkins GE, Jackson JL, O'Malley PG, et al. Treatment of chronic headache with antidepressants: a meta-analysis. Am J Med 2001; 111:54.
15. Effendi, S. Z. Alvi, M. A. Shahab, U. Javed, A. D. Herekar, RafiqKhanani, and T. J. Steiner,Primary headache disorders in the adult general population of Pakistan – a cross sectional nationwide prevalence survey. 2017 Feb 23. doi: 10.1186/s10194-017-0734-1
16. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med. 2006;81:354–73.
17. A. A. Herekar, A. Ahmad, U. L. Uqaili, B. Ahmed, J. Frequency of headache in the medical students of Santa Catarina's Federal University.da Costa MZ1, Soares CB, Heinisch LM, Heinisch RH.
18. Prevalence and clinical characteristics of headache in medical students of the University of Lagos, Nigeria. Ojini FI1, Okubadejo NU, Danesi MA.
19. The Frequency, Classification and Characteristics of Headache Among Medical Students of Karachi, Pakistan
20. Frequency, character and predisposing factor of headache among students of medical college of KarachiTooba Noor, Ali Sajjad (Civil Hospital Karachi, Dow University of Health Sciences, Karachi.) Anoosha Asma (Medical Student, Sind Medical College, Jinnah Sindh Medical University, Karachi.