Original Article

PREVALENCE OF DIFFERENT TYPES OF HEADACHE IN MEDICAL STUDENTS OF RAWALPINDI & ISLAMABAD
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Abstract
Objectives: The objective of the study was to determine the prevalence of different types of headache in medical students of Rawalpindi / Islamabad.
Methodology: A questionnaire based epidemiological survey was done among 521 (male 238, female 283) undergraduate medical students of Rawalpindi and Islamabad. The mean age was 24.01 ± 2.6 years. Two questionnaires were designed for the study: one general, consisting of 10 questions and the other one particular for headache sufferers, containing specific items of International Classification of Headache Disorders diagnostic criteria for different types of headache. The data was recorded according to the responses provided by the students. The collected data was analyzed to assess the prevalence, pattern & the triggering factors of headache.
Results: The study population comprised of 54 % (f=283) females and 46 % (f=238) males. The mean age of the participants was 24.01 ± 2.6 years. The study demonstrated that 63.9% (f=333) of students suffered from some form of headache. A higher percentage of females 66.3% (f=221) experienced it as compared to males 33.7% (f=112). Among the affected population, 8.1 % (f=27) were suffering from migraine, 38.7 % (f=129) were having tension type headache, 4.5 % (f=15) cluster headache and 41.4 % (f=138) cervicogenic headache and the remaining subtypes were prevalent in the rest 7.2 % (f=24) of population.
Conclusion: In medical students, its effects are seen causing problems and creating stress for them by restricting their participation in studies and social activities. Cervicogenic headache was found to be the major contributor in most of the individuals among all the recurring headaches, mostly found among the individuals using laptops for prolonged time periods. The students also reported an increase in the symptoms since after their admission to the college.
Keywords: Prevalence, headache, medical students

Introduction
Headache is one of the most common presentations to our doctors and general practitioners. Because of the easy availability of analgesics; self-management of headache is very common. This has led not only to the underreporting of the headache prevalence and its severity, but also to the inappropriate management of headache. It is classified as primary or secondary; primary headache is from vascular or muscular origin and it also includes the tension type headaches. Secondary is a referred headache by some other structure, as described by definitions and classifications of the International Headache Society (IHS).1,2

Chronic pain is notorious in terms of cost and time lost from work for sufferer. Headache is considered to be one of the major problems among Pakistanis as in other countries around the globe.3 This dilemma is also on rise among the young adults and medical students.5 It depressingly affects their performance, quality of life and exam results at college.

In Pakistan, unfortunately relatively little is known about the epidemiology of headache though internationally, numerous studies have shown great variations according to specific populations and regions involved. Globally, it has been estimated that prevalence among adults with headache disorder, symptomatic at least once within the last year, is 47%.3,4,6 Half to three quarters of the adults aged 18–65 years in the world have had headache and among those individuals, more than 10% have reported

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migraine. Headache for 15 or more days every month affects 1.7–4% of the world’s adult population. Despite regional variations, headache disorders are a worldwide problem, affecting people of all ages, races, income levels and geographical areas. The objective of study was to determine the prevalence of headache in medical students of Rawalpindi / Islamabad along with its different types for both genders.

Methodology

A questionnaire based epidemiological survey was done from August to September 2014, among 521 (male 238, female 283) undergraduate medical students of Rawalpindi and Islamabad. Two questionnaires were designed for the study: one was general, consisting of 10 questions and the other one specific for headache sufferers, consisting of specific items of the International Classification of Headache Disorders diagnostic criteria for different types of headache. The second questionnaire was used for the differential diagnosis among different types of the headache. The subjects gave written responses to the questions. The data was recorded according to the responses provided by the students. The severity of headache was assessed by Numeric Rating Scale. The collected data was analyzed to assess the prevalence, pattern & triggering factors of headache by using SPSS 21 (Statistical Package for the Social Sciences, v21.0), using c2 test and relative risk (with 95% confidence interval). P-values < 0.05 were regarded as statistically significant.

Results

A total of 550 questionnaires were distributed out of which 521 were included in the study. The rest of the questionnaires were either incomplete or were not returned by the study participants, giving a participation rate of 94.7%. The study population comprised of 283(54%) females and 238(46%) males. The mean age of the participants was 24.01 ± 2.6 years. The study demonstrated that 333(63.9%) of students suffered from some form of headache. A higher percentage of females 221(66.3%) experienced it as compared to males 112(33.7%).

Among the affected population, 27(8.1%) were suffering from migraine, 129(38.7%) were having tension type headache, 15(4.5%) cluster headache and 138(41.4%) cervicogenic headache and the remaining subtypes were prevalent in the rest 24(7.2%) of population. A significantly higher proportion of students with cervicogenic headache were found than those with other type’s headache. (Figure 1)

It was reported by 122(36.13%) students that headache experienced was bilateral and for 130(39%) it was unilateral, whereas 18(24.3%) reported to have a generalized pain. 129(38.65%) sufferers had sharp stabbing pain, 55(16.5%) had severe pain, and 193(57.98%) having pain of moderate intensity and 85(25.5%) had mild pain.

![Figure 1: Different types of headache among studied population.](image-url)
Discussion:

According to an estimate, headaches affects 47% of the population world widely. Many studies have been done in the past, in order to find out the prevalence of the headache in different populations, medical students are also one of them. According to the results of these studies, headaches are more common in women when compared to men. Our study shows similar results with females having high prevalence of headaches than males.

Researches on students showed that students try to ignore their symptoms by considering them usual or part of fatigue and avoid visiting a doctor. It has also been found that students try to treat their symptoms on their own by using different medicines that are known to them instead of seeking medical help from a specialized doctor. As students in universities are more prone to develop headaches than the general population due to the factors related to their academic life; for this reason it is important to study the prevalence of headaches among this vulnerable population. Factors responsible for causing headaches include: emotional stress along with incomplete sleep and taking food supplements that are harmful for health like caffeine or some other substances that increase alertness/awakening and have energizing effects on the body. Among medical students, the reasons for provoking headaches are manifold. Most of the studies done on medical students have taken their sample from either all of the medical students in a college of any year or from students studying in a specific year of the medical college. We have designed our study not just to collect the data about the prevalence of headache in the students of the medical college but also to explore other aspects of headaches in them. In this research, headache was found to be common in medical students of Rawalpindi / Islamabad with the overall prevalence of 63.9%. Most of the other studies that have been performed on the students of the medical colleges have shown similar results having high prevalence of headaches among the students.

Western countries have done extensive researches on the migraine and their studies show that migraine is about 10 to 14% prevalent which ranges from about 11–18% in females and 3–8% in case of males. Most of these studies are population based and for this reason, we cannot compare their results with the results of our study. According to the results of the studies, the genetic causes that are responsible for migraine, are affected by races in some or other way; for example, In the Far East and Saudi Arabia, when studies have been conducted to find out the prevalence of migraine, it was found to be 4.7% and 2.6%, respectively that is much lower as compare to Western countries. High prevalence of migraine in female students have been found in other studies, is also found to be high in our study which was 8.1 % and females were affected more with it.

Among different types of headaches, tension-type headache was found to be more frequent than migraine in this study. Different studies show variations in the frequency of tension-type headache among young population. This variation goes from 5.9–34.5% in males and about 11.1–40.8% in case of females. The results of our study show that tension type headache is 38.7% prevalent and this result is very close to the results of a study done by Kaynak et al., in the students of Istanbul University in Turkey and the prevalence they found was 20.4 %. However, the prevalence found in our study is greater than the prevalence found among the medical students of Oman by Deleu et al., which was about 12.2%. It was also found to be greater than that of the students of medical college in Athens. This study was done by Mitsikostas et al. and their found prevalence was 9.5% that is much lower than that found in the current study.

Although culture, region and genetic makeup have major effect on the prevalence of tension-type headache, many other factors like study design and methodology used for study can also affect the exact prevalence of this type of headache. The questionnaire used in this study was self reported and it included items of International headache society (IHS) diagnostic criteria. This diagnostic criteria was shown to be more specific rather than being sensitive when used for the diagnosis, as highlighted by some of the authors in their studies. This would then ultimately lead to the results with high false negatives and not giving exact prevalence of the problem. The differences among the results of different studies on migraine and TTH can be due to different ethnicity, genetic makeup and they can also be due to the variations in the study designs used to carry out different studies.
Studies show that out of the total 47% of the patients suffering from headache world widely, 15-20 % are those who have cervicogenic type of the headache. According to recent research, it has been shown that about 2.2% of the population suffers from CGHs. It has been found to be more among those patients who have been suffering from the cervical pain. The prevalence of CGHs in females is about 4 times more than in males. As CGHs are much more common in females than males, other factors specific to females like menstruation and levels of different hormones should also be considered for finding their effect upon CGH. Poor posture is also an important cause of CGHs as it was found that CGHs have more prevalence in those patients who present with forward head posture. Forward head posture alters the biomechanics of the neck and loads the neck with greater stress. Other patients who have weak neck flexors with decrease endurance also have CGHs but less as compare to those with forward head posture. Various studies have also explored the relationship between socio-economic status and headache. Results of our study have shown that association exists between socio economic status and the prevalence of the headache and the same results have been shown by the study done by Hagen et al. However; further studies are required to explore this relationship. As there are different cultures in different societies, the use of this item is very much culture sensitive and should be used carefully in studies done on different societies. In contrary to other researches done our study showed a higher prevalence of cervicogenic headache which was almost 41 % of the affected population, the reason could be many including the bad working ergonomics, study and examination stress or the method of survey as it was a questionnaire based and no diagnosis were done by a neurologist of physical therapist.

Conclusions & Recommendations:

In conclusion, the results of this study suggest that prevalence of headache is high among medical students in Rawalpindi / Islamabad and cervicogenic headache (CGH) is its most common type. Migraine was found more among females and CGH more among males. Socio-economic status and the year of study might be significant factors for the prevalence of headache. Our study population was not the complete representative of all the medical students of Pakistan. Hence, further multicenter studies are necessary to evaluate the epidemiology of headaches among the medical students of the country which should also incorporate proper diagnosis by an expert.

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