Prevalence of Migraine Among Medical Students in Zahedan Faculty of Medicine (Southeast of Iran)

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ABSTRACT

Introduction: Migraine is a refer pain which is common in adults and children. Migraine and its frequently limits the daily life activities. Since medical students are subjected to stresses regarding lots of tests and the implicit responsibility to the courses, the purpose of the present study carried out to evaluate the prevalence of migraine among medical students in Zahedan University.

Methods: This cross-sectional, questionnaire-based study was performed on 210 (male 94 and female 116) medical students in Zahedan faculty of Medicine during an academic year (2005 to 2006). The questionnaire was specified on demographic data and headache questions based on International Headache Society (IHS). Students' Migraine was confirmed by clinical interviews, general physical and neurological examinations then the data obtained were analyzed using v 11 of SPSS, Chi square. Afterward the percentage and the mean (±SD) along with the statistical difference ($P<0.05$) of the T-tests were calculated.

Results and Discussion: The present study showed that the rate of headache during recent academic years was 90.5% in males and 88.8 % in females. The prevalence of migraine was 7.14 % in both sex (migraine without aura 4.29% and migraine with aura 2.86%). The most common of migraine triggers was stress, (73%) sleeplessness (52.5%), too much reading (39.25%) and fasting (39.55%). In this sense the moderate light and severe incidence were 52.27%, 38.18% and 9.09%. The prevalence of migraine did not have any relations with gender but there was a relation between having migraine and number of studying years.

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1. Introduction

Headache is one of the most common health problems in pediatrics and adults in all countries with a Propagate spectrum (Kurt S& Kaplan Y, 2008.). Migraine is a pain in two types (with or without aura) which makes daily activities less functional and decreases the quality of one's life (Kurt S& Kaplan Y., 2008; Ando N, Fujimoto S, Ishikawa T., 2007)Matuja WB, Mteza IB, Rwiza HT, 1995; Michael et al., 1995). Researches show that Stress , Sleeplessness, eating habits, menstrual cycle, changes in weather conditions and temperature, frequent traveling, food items, oral contraceptives and physical activities are the factors that most trigger migraine headaches(Zivadinov R, Willheim K, Sepic-Grahovac D, 2003; East Afr Med J, 2002). Bessisso MS et al (2002) reported the most common migraine triggers to be lack of sleep and fatigue along with smoking that all can be a precipitating factor for migraine attacks. investigations showed that migraine frequency is higher in females rather than males (López-Mesonero L, Márquez S, Parra P, 2009, Al-Tulaihi BA, Al-Jumah MA, 2009; Ayatollahi SM, Khosravi A, 2006). Demirkirkan MK et al 2006 showed that migraine attacks in Turkish University students were associated with daily life activities. On the other hand, Ojini FI et al (2009) investigated that migraine prevalent among medical students in the University of Lagos, Nigeria was 6.4 % and its frequency has been increased during the studying education (Galinović I, et al 2009). In another study Monteiro et al, (1994)investigated that prevalence of migraine in medical students is lower comparing with that of general population but Deleu D, et al (2001) reported that headache is highly prevalent among medical students at Sultan Qaboos University in Oman. Since medical students are subjected to Stress and also the implicit responsibility of courses, this survey was carried out to evaluate the prevalence of migraine and other kinds of headache in medical students in Zahedan University of Medical Sciences (southeast Iran) in academic years (February, 2005 to December 2006).

2. Methods

2-1. Population History

This cross-sectional, questionnaire-based study was conducted on 218 medical students (BS=21.6±1.2, interns ages=25.8±1.8 years) in Zahedan (southeast of Iran) faculty of Medicine. Medical education has two sections, Basic sciences (BS) and hospital education) with two different environments and situations, Based on the above hypothesis, our samples in the present study were medical students (Basic sciences and interns). All the participants received verbal information about the purpose of the study before participating _ which was totally voluntarily. It's worth mentioning that all 210 medical students completed and returned the questionnaires so all of them were included in the survey and the data were analyzed.

2.2. Samples Population & Size

Medical students participated in this survey were voluntarily selected from two groups (Basic science and interns): First group was selected from first, second and third year medical students in basic sciences. The male participants were 94(Basic science =34 and intern= 60, n=94) and the females were 116(basic since=57and intern= 59). Second group participants were in sixth year of medical studying(interns) (males =60 and females=59, n=119). This survey was conducted during an academic year (February, 2005 to December 2006)

2.3. Data Collection

The data of this survey was collected from the students' self-reports by filling the questionnaires. Questionnaire

Table 1. 2004 international Headache classification of Headache disorder

Diagnostic Criteria	
A. At least 5 attacks1 fulfilling criteria B-D	
B. Headache attacks lasting 4-72 hours (untreated or unsuccessfully treated)	
C. Not attributed to another disorder	1. unilateral location 2. pulsating quality 3. moderate or severe pain intensity 4. Aggravation by or causing avoidance of routine physical activity (e.g., walking or climbing stairs)
D. During headache at least one of the following:	1. nausea and/or vomiting 2. photophobia and phonophobia 8
E. Not attributed to another disorder	

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Table 2. 2004 international Headache classification of Headache disorder

Migraine with Aura Diagnostic Criteria
A. At least 2 attacks fulfilling criterion B
B. Migraine aura fulfilling criteria B and C for one of the sub forms 1.2.1-1.2.6
C. Not attributed to another disorder

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included demographic data, such as: age, gender family history of headache, educational status and specific questions on headache based on international Headache Society (Lewis D, et al 2004). A part of the questionnaire referred to the students' latest different kinds of headache, specifically the previous year. Also different characteristics of headaches such as: frequency, duration, location, quality, and intensity of pain, influence of physical activity work intensity nausea, vomiting, photophobia, and photophobia were questioned. Those Medical students who responded positively to all of the Headache questions which were in migraine criteria, were asked to do another step in hospital for more investigations of headache by a general physician and a neurologist (based on inter national Headache Society Lewis D, et al 2004). In the case the migraine in participants was established by the neurological examination, their data were analyzed in migraine cluster.

2.4. Statistical Testes

Obtained data were analyzed using SPSS version 11, via Chi square (χ^2) and student T-Tests. Afterward the percentage and the mean (±SD) along with the statistical difference ($P<0.05$) of the T-tests were calculated.

3. Results

The results obtained from the present study showed that migraine prevalence begins at 19.6 in Zahedan medical students, but other kinds of headache begin at 20.95. In the present study 90.5 % from the participants (88.8% males and 92.6% females) experienced headache but 26.2% from participants did not experience recurrent headaches. The prevalence of periodic headache in the present study was 26.2 % but this value in migraine was 7.14 % in both sexes (Migraine without aura was 4.29% but Migraine with aura was 2.86 %, table 1). Here the frequent prevalence of migraine age was 19.87, 19.75 and 20.95. The most common of migraine triggers were Stress, (73%) Sleep lack (52.5%), Reading (39.25%) and Fasting (39.55%) (table 4). The mean age of the participants was 23.69±1.5yr but we did not segregate this value by sex. The mean age of patients suffered from migraine without aura, migraine with aura and other headaches was 24.66, 26 and 24.6

Table 1. Distribution of headache kind based on section and record of teaching in Zahedan medical students (February, 2005 -to December 2006)

Kinds of headache	n	Interns	n	B S	total	%
Migraine without aura	6	5.04%	3	3.3%	9	4.29%
Migraine with aura	4	3.36%	2	2.2%	6	2.86%
Other kinds of headache	30	25.22%	10	10.99%	40	19.09%
None of headache	79	66.38%	76	83.51%	155	73.8%

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Based on $\chi 2$ analytical test, there was a relationship between total migraine and section and record of teaching. Total migraine in interns (25.22%) was significantly higher than those of basic sciences (10.99%) in Zahedan medical students p=0.017.

Table 2. Distribution of headache based on severity in Zahedan medical students (February, 2005 –to December 2006)

	Intern's		B S			
Headache severity	n	%	n	%	total	%
Light	14	35.5%	7	46.6%	21	38.18%
Moderate	24	60%	5	33.3%	29	52.72%
Severe	2	5%	3	20%	5	9.09%
	40	100	15	100	55	100

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Based on $\chi 2$ analytical test, the prevalence of moderate, sever and light migraine was 80% and 20% respectively. The mean frequency of periodic headache was 68.9%.

Table 3. prevalence of kind headache based on gender in Zahedan medical students. (February, 2005 –to December 2006)

	Gender					
Kinds of headache	**n**	**Female**	**n**	**Male**	**total**	**%**
Migraine without aura	6	5.17%	3	3.19%	9	4.29%
Migraine with aura	4	3.45%	2	2.12%	6	2.86%
Other kinds of headache	16	13.79%	24	25.53%	40	19.05%
None of headache	90	77.58%	65	69.15%	155	73.8

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Based on $\chi 2$ analytical test, and after the mixed migraine with and without aura there was not any significant correlation between migraine and gender in Zahedan medical students p=0.08

Table 4. Distribution of triggers headache factors in Zahedan medical students.(February, 2005 –to December 2006).

Triggers	**Interns**		**B S**	
	n	**%**	**n**	**%**
Stress	29	72.5%	11	73.3%
Sleep lack	26	65%	6	40%
Reading	18	45	5	33.3%
Fasting	17	42.5%	4	26.6%
Physical activity	9	22.5%	4	26.6%
Irritability smells	5	12.5%	1	6.6%
Menstrual cycle	4	10%	-	-
Food stimulator	4	10%	-	-
Drinking cold water	4	10%	-	-
Travels	2	5%	-	-
Long term washing	2	5%	-	-
Weather septic	2	5%	-	-
Neither factor	2	5%	-	-
Unknown	-	-	1	6.6%
Contraceptive	-	-	-	-

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Based on $\chi 2$ analytical test, stress, lack of sleep, reading and fasting were the main trigger factors for migraine attacks in Zahedan medical students.

years correspondingly. The prevalence values migraine without aura, with aura and other headaches in the basic sciences medical students was 2.2%, 3.3% and 10.99%; but this value in the interns was 5.04, 3.36, and 25.22% (table1). Based on frequency moderate, severe and light headache prevalence was 52.72%, 38.18% and 9.09% (table2). And finally the common frequency of periodic headache in a year was 68.9%. The prevalence of migraine did not have any relations with gender but there was a relation between having migraine and number of studying years. (Interns= 25.22% and basic since= 10.99% table 3, P=0.017).

4. Discussion

The results of the present study based on IHS criteria (2004), showed that the migraine prevalence in Zahedan medical students was 7.14% in both sexes and this value did not associated with gender but was correlated to years education. In addition our findings showed that the Stress, Lack of sleep, Reading and fasting were the main trigger factors for migraine attacks in Zahedan medical students.

There weren't any previous studies on prevalence of migraine on Zahedan medical students in this sense to evaluate the migraine prevalence changes in recent years. Migraine prevalence in our study was 7.14% despite that of Yusefy M 1999, saying that migraine in Zanjan (Iran) medical students, was 11.01%. This variance of outcome could be a result of different stressor or different kinds of universities. But our findings is approximately the same as that of Aytollahi et al 1998, that investigated the prevalence of migraine in Shiraz (Iran) medical students (7.4%).

Our results were different from that of Ojini FI et al (2009) who reported that Prevalence of migraine in medical students of Lagos University of Nigeria was 14.1%. This may be due to different socioeconomic, climatic, nutrition's habits or any stressor which could prompt migraine headache factors in these two coun-

tries on medical students. Also the research of Kurt S et al (2008) gave completely different results in comparison to what we did in Zahedan in the way that they investigated the occurence of migraine headache in Gaziosmanpasa University students in Tokat, Turkey (17.89%); which can be because of _again_ different Stressors effecting on the participants. Another difference between the two surveys was that our research was done on interns and residents but Kurt S, et al evaluated the migraine, and any kinds of headache prevalence in all students in all grades in Gaziosmanpasa University.

Sanvito WL et al (1996) reported that occurrence of migraine is higher in women than in men but as was mentioned above in Zahedan university of medical sciences migraine is a gender free pain_ which could be the result of lesser numbers of participants here.

In addition the results of our study was different from Deleu D, et al (2001) study in which they came to a descriptive epidemiological study on headache in medical students at Sultan Qaboos University, in Oman and reported that the frequency of the migraine was 12.2% and it was of course, associated with gender. Basically speaking having headaches as migraine among university students could be a result of the geographical position of the universities and its effects on socio-economic conditions in the two places mentioned.

Other issues make differences between what we came at the end to, in this study and that of other countries' similar researches on migraine are the different levels and educational systems of the countries, cultural and economic situations along with nutritional treatments in Iran and Greece. For instance a study on medical university students in Athens University says that prevalence of migraine is 2.4% among their students. (Mitsikostas D D, Gatzonis S, Thomas A, 1996)

In another study Sanvito WL et al (1996) calculated the frequency of migraine among the students of Santa Casa School of Medicine of Sao Paolo in Brazil as 54.4%, which is much less than what we found in Iranian students (68.9%). But there is a study that goes with the results we've been reached in the research; Zivadinov R et al(Zivadinov R, Willheim K, Sepic-Grahovac D, 2003) who reported that stress was the most common factor triggers migraine headache in medical students.

Conclusion

The present study showed that the prevalence of migraine in Zahedan medical students is more or less the same as that of other medical students in Iran but it is much less than those of other countries' universities and Stress was the most migraine trigger.

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