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Original research article

Epidemiology and associated factors of migraine headache among iranian medical students: A descriptive-analytical study

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ABSTRACT

Introduction: High incidence of migraine has caused to categorize it as one of the most debilitating human diseases. This study aims to investigate the incidence of migraine headache and the factors associated with it among medical students.
Methodology: The present research is a descriptive, cross-sectional study. The sample size includes 390 subjects that were selected through proportionate stratified random sampling. To this purpose we used a questionnaire that was designed according to international headache standards criteria. Data was analyzed by SPSS. Accordingly, chi-square, independent *t*-test, and logistic regression were used for evaluation of clinical data.
Results: In the finding it was reviled that 318 subjects out of 390 participants in the study had experienced headache (81.53%). In total, 27 subjects (6.9%) were suffering from migraine including 77.8% women and 22.2% men. The most common complication of migraine headache is dizziness by 17.2%. Factors intensifying migraine headaches include stress (63%), sunlight or fluorescent light (55.6%), loud noise (48.1%), fatigue (77.8%), and overheating (51.9%).
Conclusion: among the factors affecting the intensification of migraine headaches, stress, sunlight, noise, fatigue, heat, menstruation in women, too much work, late sleep at night and some foods such as fish, caffeine, pepper, fat and fried foods were also identified as the food factors intensifying migraine headaches. Since the students of medical sciences are a part of health care system and such headaches will reduce their efficiency in health care delivery. Socio-economic impact of migraine on quality of life of student considerable and must be emphasized in health-treatment programs and plans.
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1. Introduction

Headache is one of the most common symptoms experienced and more than 90% of people experience a headache at least once per year; therefore,successful headache management is considered as a major goal in health interventions.[1] Migraine is a complex neurovascular, genetically transmitted disorder characterized by brain sensory hyperexcitability.[2] It is associated with nausea, vomiting, and loss of appetite. Most people suffering from migraine report that their work and family relations have been negatively affected by migraine attacks.[3]

According to National Health Foundation, each year 28 million Americans suffer from migraine headaches. In addition, the annual cost of treatment and individuals' being absent due to headache is about 50 billion dollars.[4] According to WHO report, the incidence of migraine in America and Europe in adults was estimated about 10–15% per year.[5] The ratio of incidence in women since the age of 10 years and during the childbearing ages is more than that of the men.[6] According to a study in 2007 in Iran, 8.1% of the students were suffering from migraine headache, and it was more common among the single students.[7]

The review of clinical scales shows that migraine sufferers are more vulnerable to the life adversities.[8] Most patients with migraine headache are worried, anxious and obsessive. Such concerns and anxiety lead to hiding the feelings and the onset of headache, and chronic headache and lack of attention to

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personality traits of individuals can be changes into migraine headaches.[9] Migraine headache in adults causes absenteeism in the workplace and imposes high treatment costs. In a study conducted on dental students in India the migraine incidence was reported as 13.4%, and 87.5% of it was associated with women with majority of self-medication.[10] In another study conducted on medical students in Kuwait the incidence of migraine in the last two years of study significantly increased from 21% to 44% in comparison to the first five years and according to the students, the intensifying factors were introduced as stress (24%), irregular sleep (20.8%), and over study (18.5%). The results showed that the incidence, frequency, and severity of headaches would increase in the last two years of study.[11] The incidence of migraine in medical students in Iran (2012) was 14.2% and tension type headache was 44.2%. Positive family history was observed in 9.5% of the students suffering from headaches. The results showed that the incidence of headache was high in medical students and social, economic factors and several years of study could be some important factors in headache incidence. It is necessary to carry out more multi-center studies at medical universities of the country.[12]

In the study carried out by Ghorbani, family positive history was found in 9.5% of students with headache. The lower socio-economic status, year of study (3rd and 5th year students), was seemed to had higher prevalence in students with headache. headache and concomitant disease was not significantly different.[13] The comparison of the figures with other studies in different countries and other groups of society leads to the conclusion that the incidence of migraine among the medical students and doctors in our country is nearly one and a half or twice as much as the total population.[14]

These headaches can have great negative effects on individuals' performance, and high costs are imposed on society due to absenteeism in the workplace as well as education and treatment of such people.[15] A large percentage of migraine patients have psychological problems such as depression and anxiety disorders.[16] Moreover, this disease affects individual, family, social, and economic aspects of the patient's life and on the other hand exerts very high costs on treatment and health sector. Given the above points and since the students are scientific and national pillars of the society, and economic, social health of the community emanates from mental and occupational health of these people (particularly the groups associated with medical science branches), the necessity of conducting this study among medical students is quite justified. This study aimed to investigate the incidence of migraine headaches and its associated factors from the perspective of the Medical students at a University of south of Iran to assess the present conditions for future therapeutic interventions and to reduce damage to both individuals and community through the attempts to prevent or reduce such attacks.

2. Materials and methods

2.1. Study design

This is a descriptive and cross-sectional study which was carried out among the students at Ahvaz Jundishapur University of Medical Sciences, South of Iran in 2016.

2.2. Subjects

The samples were selected trough proportionate stratified random sampling (each faculty one category) and the samples were collected from each faculty in proportion with the size of the students. The researcher collected the data related to all the students studying at different levels separately and in terms of their major and gender and identified the number of required samples from each faculty with regard to the number of male and female students at each faculty. Then, the researcher attended the classed, introduced himself, and expressed the objective, importance and method of the research. According to the formula, the sample size was determined as 342 subjects and considering the probable lost, 390 subjects ultimately participated in the study through stratified random sampling. The data were collected through the distributed questionnaires among the students.

Study inclusion criteria included being the student of Ahvaz University of Medical Sciences, age of 18–40 years, desire to participate in the study, and lack of concomitant underlying diseases and the exclusion criterion was incomplete response to all the questionnaire items. According to the criteria of international headache society (IHS), migraine diagnosis included at least five attacks with the following features: the headache attacks must last 4–72 h (untreated or unsuccessfully treated). The headache must have at least 2 of the following features: a. unilateral, b. pulsating, c. moderate to severe and interfere with doing daily routine activities, d. gets worse or intensified by doing daily routine activities or walking up or down the stairs. During the headache, there should at least be one of the following features: nausea, vomiting and photophobia.

2.3. Measurements

The questionnaire was designed by the researcher according to the international headache standards (IHS) and consultation with a headache specialist neurologist, and contained individual's demographic information, headache characteristics if any and the factors associated with headache. It was completed by the samples. Content validity was used to measure the scientific validity of the questionnaire. The correlation coefficient of the applied tool was calculated through test-retest method which was equal to 0.89.

In this study, only the samples completely fulfilling the criteria of International Headache Society (IHS) and also the secondary causes were denied according to the clinical examination of the samples. The rest of group complaining from headache were non-classified and in a general term were categorized as "the others".

2.4. Ethical consideration

In this study to adhere ethical considerations, researcher obtain permission from Research Ethic Committee with code ajums. REC.1393.200. Also, researcher got informed consent from subjects before data gathering.

2.5. Statistical analysis

After collecting the data, they were analyzed using SPSS software. Descriptive statistics, relative frequency, absolute frequency, mean, and standard deviation were used for evaluation and specification of research sample and chi-square test, independent *t*-test, and logistic regression were used for evaluation of clinical data.

3. Results

In this study, results showed that 59.7% of the samples were between the ages of 18–22.146 men (37.43%) and 244 women (62.56%) participated in the research. 90% of the participants were single and 10% were married.

On the whole, 318 subjects out of 390 participants in the study had experienced the headache (81.53%). The frequency of headache was once a month in 43.8% of the participants, once a week in 21.3%, 2–4 times a week in 9.2%, every day in 2.6% and in

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