Prevalence of Headache in Female Students in King Faisal University: A Questionnaire Study

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Abstract: _Background_: _Headache is the most common neurological disorder. Almost half of the adults all around the world experience one or more of all types of headache (Tension-type and migraine are the most common types of primary headache)._ _Aim_: _to evaluate the prevalence of headache among female students in King Faisal University._ _Methodology_: _This study was a cross-sectional, questionnaire -based conducted among students of different colleges during the months between Octobers to December, 2013. The data was collected from 100 female students in KFU._ _Results_: _A total of 100 female students were evaluated. The prevalence of headache was 77%, (58.4% migraine type and 41.6% tension type headache,(p < 0.05) A positive family history was found in 71.1% of students. Stress, too little sleep, changing of mode and menstrual cycle were reported as higher prevalence in student with headache.64.9percentage of students was using medication._ _Conclusion_: _The results demonstrated that prevalence of headache is high among female students in KFU. Migraine was the most common type, stress and too little sleep might be significant factors in prevalence of headache. Further multicenter studies would be necessary to evaluate headache epidemiology among_

Keywords: Tension-type, migraine, primary headache.

1. Introduction

Headache is the most common neurological disorder (8). Almost half of the adults all around the world experience one or more of all types of headache (1). Globally, it affects 50-75% of adult's aged18-65 at least once a year. (1, 8).

Most of headache cases are primary which occur incidentally and are not caused by any other medical condition. Primary headache is a cascade of events that affects blood vessels and nerves inside and outside the head which causes pain signals to be sent to the brain. Brain chemicals called neurotransmitters are involved in creating head pain, as they create changes in nerve cell activity (10).

The causes of headache may be related to age, gender, health and lifestyle. Results from a cross-sectional study in Germany, showed that headache was higher in female, physically inactive and smokers than the others (3) and the unpredictable nature of it may affect the lifestyle and decrease the productivity of individuals at work(9).

Tension-type and migraine are the most common types of primary headache. According to statistical study done by WHO, 80% of people complained of tension-type headache and more than 10% were reported as migraine's cases (1, 8).

Migraine is a complex disorder characterized by recurrent episodes of headache. It is usually unilateral pain and may be associated with visual or sensory symptoms (collectively known as an aura) that arise most often before the head pain but that may occur during or afterward(11), while tension headache causes dull pain impact the whole head and it begins in the back of the head or above the eyebrows. This type can be caused by the neuronal and chemical disruption on the brain and it may be related to muscle tightening in the back of the neck or scalp (2).

In fact college students usually at high risk for headache attack. All types of headache may be seen among them in different frequencies (5). According to study conducted in Gaziosmanpasa University in Turkey, 41.02% of students complained of headache with its different types, but tension-type is the most common, and some of them may complain migraine (4).

Students' life style set them at high risk to suffer from stress, fatigue and anxiety which are the most common causes of tension-type headache and migraine because of:
1) Spending a long time on an uncomfortable position either in the classes or in the table when they study or do their assignments.
2) Reading in textbooks with very small-font.
3) Spending many hours staring at computers screens.
4) Inadequate sleeping hours.
So, it won't be surprised to see these types of headache present in them (5).

Regarding to study done in University of São Paulo in Brazil, college students were surveyed for characteristics of migraine or tension-type headache. 25% experienced migraines and 32.9% reported tension headaches (12).

Also, according to study conducted in An-Najah National University in Palestine, 95.2% of Pharmacy students complained of different types of headache, 40% of them had family history. 78.2% of students reported stress as most common triggering factor. 79.1% reported self- therapy while

20.9% didn't use any medication in the headache episodes (13).

Medical students in university of Nigeria were surveyed by using questionnaire to ascertain frequency and pattern of primary headaches. 88.3% of the students complained of one year Frequency headache, 18.1% had migraine, 36.8% tension-type and 17% chronic daily headache(7).

Also, there is another study conducted at medical sciences students Isfahan University to evaluate the prevalence and the associated factors of headache. The results showed, 58.7% of students complained headache, 14.2% were reported as migraine and 44.2% as tension-type (6).

According to the study conducted in a medical college in South India, 68% of students had headache. 42% fulfilled the criteria for migraine and 57% had other forms of headache (14).

Regarding study on University of Caxias do Sul on Brazil,of all undergraduate students interviewed, 74.5% had at least one headache episode in the last three months (15).

Other study was conducted in high school students in Riyadh. They found, the highest prevalence rate of headache (35.8%) occurring among those aged (20-21 years). In 88% of adolescents, 74% had pulsating pain, 58% had unilateral pain and 80% had nausea (16).

From the above studies, we expected that Female students in KFU may have headache in high percentages. The aim of this study was to show the prevalence of headache among Female students of KFU, then make a comparison between the prevalence of tension-type and migraine among colleges' students.

2. Methodology

A. Population Study
This study was a cross-sectional, questionnaire –based which conducted among students of different colleges and carried out during months between October to December, 2013. The study area was KFU in SA and the study sample was 100 female students from10 different colleges.

B. Study Tool: The Questionnaire.
In the research, the data was collected by using a questionnaire which applied in KFU students and was designed with open-end and close-end question and divided into four sections. The first one was the demographic section which contained questions regarding (age, gender and college), family history of headaches, and question about student experience of any type of headache episodes in previous 6 months, duration and frequency of headache. The second was used to assess the quality, severity, and symptoms related to different types of headache with possible answers including: always, often, rare and never. The third was contained yes\no questions about the causes of headache. Finally, medication or other ways used to control headache are in the fourth section.

C. Collection of Data
Data was collected by mean of questionnaire written in papers with traits as described above. The questionnaire was done under the supervision of a Pharmacologist. Questionnaire copies were answered completely and re-collected again to be used in data analysis.

D. Data Analysis
All data were coded and then analyzed by using IBM SPSS statistics 19 . P-values < 0.05 was accepted as statistically Significant. The frequency and contingency tables were used for categorical variable.

E. Ethical Considerations
The consent has been obtained from KFU, college of medicine, department of family and community medicine. The participants were informed about the purpose of the study by providing them short paragraph at the beginning of the questionnaire. They were volunteers and the security of their information was ensured.

3. Results

In the study, 100 female students were surveyed by questionnaire, 10 students from each of these 10 colleges (agriculture, applied studies, arts, business, computer, education, medical science, medicine, pharmacy and science). The average age of the students was (20.7) years (range, 19-24 years). 23 students (23%) of sample were excluded because they didn't complain headache in previous 6 months and 77 students (77%) had headache.
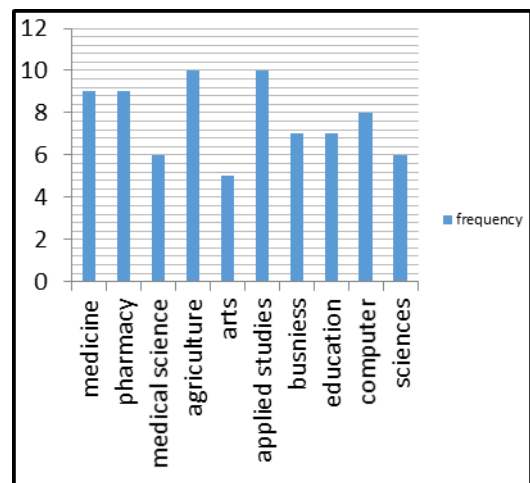

Chart 1: Frequency of headache among college's female students

The above chart show significant difference p-value (<0.05) among different colleges. Following the chart, the majority of cases appear in certain colleges in comparing to the others.

The questionnaire reported 64.93% of headache cases family history, while 35.06% were without.

In comparing duration of different types of headache episodes, there is no significant difference (p-value >0.05) between tension-type and migraine.

Table 1: Frequency and percentage of headache episodes duration

Duration	No. of effected students	Percentage	P value
1-4 hours	24	31.17%	>0.05
4-12 hours	25	32.47%	
12-24 hours	26	33.77%	
24-72 hours	2	2.60%	

In all affected students, 53.25% of them had frequent headache episodes (>2 episodes\month), and the other 46.75% were reported that they their headache episodes occur infrequently (<1 episode\month).
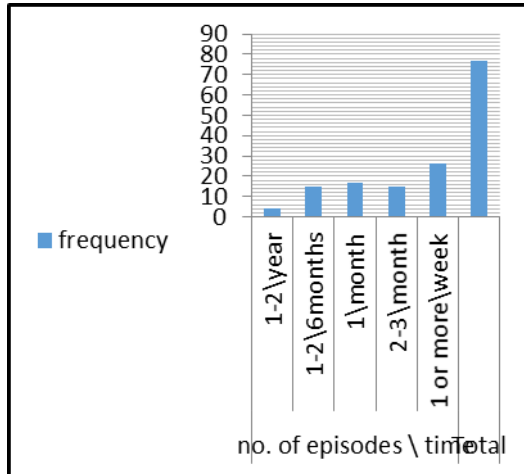

Chart 2: Frequency of students with different number of episodes.

Regarding to the number of headache episodes, there is significant difference (p-value <0.05) between ages of students while type of colleges didn't showed any significant difference (p-value >0.05).

Regarding to the symptoms of headache, pulsing and throbbing, unilateral pain,nausea and sensitivity to noise showed significant difference (p-value <0.05) between tension-type and migraine while the others didn't show significant difference (p-value >0.05).

According to data analysis, there is significant difference (p-value <0.05) in stress, too little sleep, missed meal and menstrual cycle while the others didn't show any difference (p-value >0.05)

Table 2: Percentage of headache symptoms in students with frequents episodes

Symptoms	Percentage	P value
Need to lying in dark room	88.31%	< 0.05
Phonophobia	85.71%	
Pulsing, throbbing pain	67.53%	
Avoiding of daily activity	67.53%	
Unilateral pain	62.34%	
Moderate to severe pain	59.74%	
Photophobia	46.75%	
Pain in moving, bending	45.45%	
Visual disturbance	40.26%	
Nausea	28.57%	

From 77 students who had headache episodes, it was noticed that 32 (41.6%) students were reported with tension-type headache and 45 (58.4%) were with migraine.

Regarding to type of headache attack, there is significant difference (p-value <0.05) among different colleges' students.

Depending on questionnaire, 46.67% of migraine cases were reported with aura, while the other 53.33% were without aura.

Table 3: Frequency of tension-type headache and migraine among college's female students

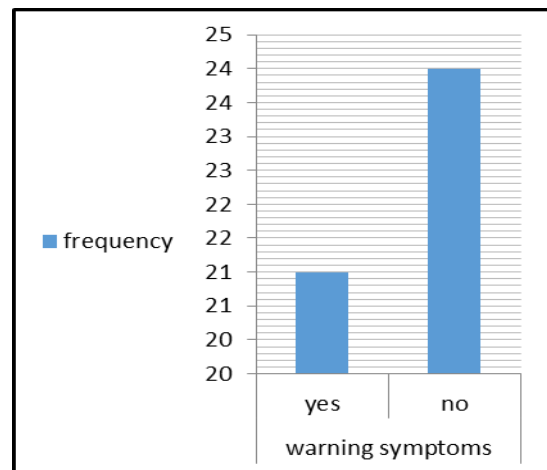| College	Diagnosis		Total
	tension	migraine	
- Medicine	3	6	9
- Pharmacy	6	3	9
Medical Sciences-	4	2	6
- Agriculture	3	7	10
- Arts	4	1	5
- Applied studies	1	9	10
Business-	5	2	7
- Education	0	7	7
- Computer	2	6	8
- Sciences	4	2	6
Total	32	45	77

Chart 3: Frequency of migraine cases with and without aura

There is significant difference (p-value >0.05) between different colleges's students and getting migraine with or without aura.

When the students were asked about what they did when they had headache episode, 64.9%of students were using medications and the most common one was paracetamol, while 31.2% didn't use medications but just take a rest. Little of them about 1.3% going to clinic and the other 2.6% were using herbal medication.
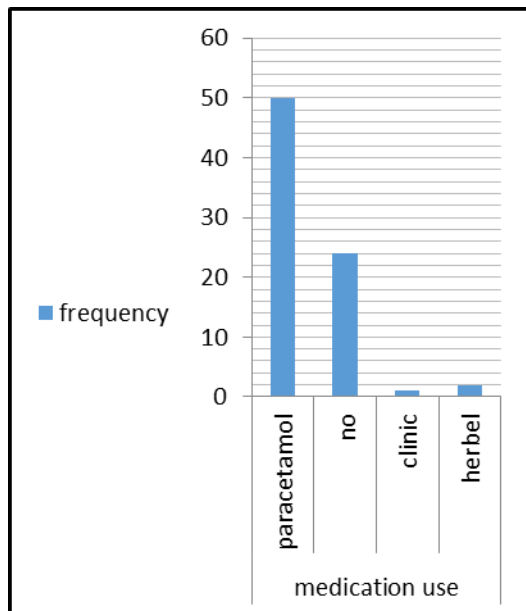
Chart 4: Frequency of medication use among colleges's female students.

In comparing different colleges' students, there is no significant difference (p-value >0.05) in the type of medications they used.

4. Discussion

The population sample was 100 students equally distributed among 10 colleges of KFU and data were collected by questionnaire and were designed with open-end and close-end question and divided into four sections. First section questions decided whether the students complain of headache or not. Out of 100 participants, 23 didn't fill the criteria of headache and were excluded.

The results reported high percentage of headache attack among female students. It was 77% in comparing with study done in Gaziosmanpasa University in Turkey that reported 41.02% of students experienced headache(4).

Nausea was reported as the least common symptom, it was 28.57% while in study done in high school students in Riyadh(16), it was reported about 80%.

Data analysis showed the most common triggering factors which were stress (93.51%), too little sleep (90.91%), using computer for long time (83.12%) , changing of mood (71.43%). The previous factors explained the high percentage of headache attack in colleges' students. Exams days, prolonged study and spending many hours inside classes with uncomfortable chairs or inadequate light in addition to multiple assignments which force students to spend many hours working in computer. All that may initiate the stress which was the most common associated factor related to headache.

The data showed, paracetamol was the most popular analgesic used by students to self-treat headache episodes. Also using of herbs to relive headache pain was about 3%. It was lower than another study done in An-Najah National University In Palestine which recorded 10.2% of using this type of medications primarily for the treatment of headache (13).

5. Conclusion

This research reported the large prevalence of headache among female students in KFU. Regarding the affected students ,large number of them had family history of headache attack. In most cases, the number of headache episodes was 1 or more\week and the duration were reported between12-24 hours. Migraine was the most common type of headache and most cases of it were reported without aura.

Regarding to the symptoms, pulsating, throbbing pain, phonophobia and need to lay in dark room were the most common. Questionnaire also recorded the most common triggering factors which were stress, too little sleep, using computer for long time, changing of mood and intense light or noise. They should be always evaluated for these factors.

Majority of students took paracetamol during headache episodes while other students didn't use any medication and too little went to clinic or used herbal medications.

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