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Demographics pattern of migraine in Kashmir, India

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Abstract
Introduction: Migraine is one of the commonest condition that is seen by Neurologist world over. The demographic pattern of this condition can vary over different geographical regions. Among the various types of migraine, it is migraine without aura which is more commonly seen.
Females are more likely to have migraine. There is a strong genetic predisposition for this Condition as has been determined by studies showing positive family history of such type of primary headache. Some studies have shown an association between socioeconomic status and education level with migraine. The precipitating and relieving factors of migraine attack are quite variable. We did this study to determine these factors in our population.
Material and Methods: A total of hundred patients who came to our out-patient department and were diagnosed with migraine, were included in this study. Only those patients were included who gave a written informed consent for the study.
Results: Out of hundred, sixty nine were females. Majority of the cases had onset between eighteen and fifty years of age. Out of 100, 57 were having migraine without aura and 43 had migraine with aura. In 99 cases, a precipitating factor was present and 44 had a positive family history of migraine. In 74 cases, headache was unilateral. Nausea was the most common associated symptom followed by photophobia. The most common precipitating factor for migraine headache in the studied cases was exposure to sunshine followed by stress.
Conclusion: The demographic pattern of migraine in Kashmir is almost similar to the pattern found in other regions of India and world over. Females are more likely to have migraine. Migraine without aura is more common than migraine with aura. People belonging to lower socioeconomic group and with low education are more prone to migraine. Almost all migraine patients have a precipitating factor, which if determined and avoided, will definitely decrease the frequency of migraine attacks. Food has a strong relation with migraine. Avoiding food that precipitate an attack, will prove beneficial for the patient.

Keywords: migraine, Kashmir

Introduction

Headache is one of the most common painful condition which almost everyone will have during his or her lifetime [1] Headache is classified into two major groups. One is the primary headache which is sub classified into various subtypes as per international classification of headache disorders [2] and the other one is the secondary headache which happens due to a underlying cause. Among the primary headaches the most common headache is Tension type headache in population based studies whereas in clinic based studies, Migraine is the most common one. The term migraine is derived from the Greek word *hemikrania.* This term was corrupted into low Latin as *hemigranea*, the French translation of which was migraine. In the current International Headache Society categorization, the headache previously described as classic migraine is now known as migraine with aura, and the headache that was described as common migraine is now termed migraine without aura. Migraines without aura are the most common, accounting for more than 80% of all migraines.
According to the International Headache Society, the diagnosis of migraine requires that the patient has experienced at least 5 attacks that fulfill the following 3 criteria and that are not attributable to another disorder [2]. First, the headache attacks must have lasted 4-72 hours (untreated or unsuccessfully treated). Second, the headache must have had at least 2 of the following characteristics:

- Unilateral location
- Pulsating quality
- Moderate or severe pain intensity
- Aggravation by or causing avoidance of routine physical activity (eg, walking or climbing stairs)

Third, during the headache the patient experiences at least 1 of the following:

- Nausea and/or vomiting
- Photophobia and phonophobia

The demographic pattern of migraine is quite variable and depends on a lot of factors. We did this study to determine the pattern in Kashmir, a northern region of India.

Material and Methods

A total of hundred patients who came to our out-patient department and were diagnosed with migraine, were included in this study. Only those patients were included who gave a written informed consent for the study.

Results

A total of 100 migraine patients were enrolled in the present study. Age, sex distribution, residence and other socio-demographic parameters are given in table no 1. Features of headache are given in table no 2.

Table 1: Social and demographic parameters of studied patients

Sex distribution	
Males	31
Females	69
Age distribution	
18-30	45
31-40	37
41-50	14
> 51	04
Residence	
Rural	38
Urban	62
Educational status	
Illiterate	33
10th	13
12th	20
graduate	20
post graduate	14
Socioenocomic status	
Low	52
middle	48
High	0
Marital status	
Married	68
Not married	32

As shown in table no 1, out of 100 cases, 69 were females and 31 were males. Most of the patients were in there 2nd and 3rd decade.

Table 2: showing features of headache. Out of 100, 57 were having migraine without aura and 43 had migraine with aura. In 99 cases, a precipitating factor was present, 44 had a positive family history of migraine.

Type of migraine	
Migraine without aura (M)	57
Migraine with aura (MwA)	43
Time of onset of headache	
Morning	08
Afternoon	08
Evening	29
Night	03
Anytime	52
Relation of diet to headache	
Yes	48
No	52
Precipitating factor present	
Yes	99
No	01
Family history of migraine	
yes	44
No	56
Total duration of headache	
1 – 6 months	06
6- 12 months	09
1-2 years	08
2-4 years	17
▪ 4 years	60
Average Duration of one episode of headache	
4- 8 hrs	32
8-12 hrs	41
12-24 hrs	12
▪ 24 hrs	15
Frequency of headache	
1/week	18
2/week	34
3/week	20
4/week	06
5/week	06
1/month	05
2/month	04
3/month	07

In 74 cases, headache was unilateral. Nausea was the most common associated symptom followed by photophobia.
Among those cases who had a positive family history, it was the mother who had migraine in the family (21%) followed by father (15%). As shown in table no 3 below, the most common precipitating factor for migraine headache in the studied cases was exposure to sunshine followed by stress. The various precipitating and relieving factor of migraine are shown in table no 3 and 4 respectively.

Table 3

Precipitating Factor	
Sunshine	62
Stress	47
Loud Noise	32
Perfume & Other Irritant Odours	25
Tomato	17
Fasting	17
Cheese	16
Fatigue	13
Chicken	09
Pulses	07
Potato	06
Egg	05
Menstrual Period	05
Choclate	02

Table 4: Showing relieving factors of headache in studied patients.

Relieving Factors	
Sleep	48
Massage	47
Rest (without sleep)	42
Avoiding Bright Light	28

The most common relieving factor OF MIGRAINE in our studied cases was sleep followed by massage as shown in table no 4 above.

Discussion

Migraine is a chronic condition, but prolonged remissions are common. One study showed that among persons who had migraine during childhood, 62% were migraine free for more than 2 years during puberty and as young adults but that only 40% were still migraine free at age 30 years [3].
A World Health Organization (WHO) review of global data found migraine to be one of the most prevalent health disorders worldwide, and the most frequent cause of headache consultation in the Americas, Europe, South-East Asia, and the Western Pacific [1]. Among the 135 health conditions listed in the World Health Report, migraine was cited as 19th leading cause of years lived with disability for both males and females worldwide [4].
A population-based study in 2007 showed that worldwide about 46% of adult population had active headache with 11% being migraine [5]. Based on current US census data, there are over 37 million individuals in the US who suffer from migraine [6]. While migraine episodes may occur at any age, the incidence of migraine peaks during adolescence. One population-based study conducted in the US found that incidence of migraine with aura peaked between 12 and 13 years of age and migraine without aura between 14 and 17 years of age [7]. Similar results have been seen in European studies. The difference in peak age between estimates of incidence (adolescence) and prevalence (middle age)

highlights the fact that while episodes may first occur early in life, migraine is a disorder of long duration [8].

Before puberty, the prevalence and incidence of migraine are higher in boys than in girls. After age 12 years, the prevalence increases in males and females, reaching a peak at age 30-40 years. The female-to-male ratio increases from 2.5:1 at puberty to 3.5:1 at age 40 years. Attacks usually decrease in severity and frequency after age 40 years, except for women in perimenopause. A study by Hsu *et al* suggests that women aged 40-50 years are also more susceptible to migrainous vertigo [9]. Onset of migraine after age 50 years is rare.

The prevalence of migraine has been examined in numerous population-based studies. The 1989 American Migraine Study (AMS) was the first to estimate the prevalence of migraine in the US using International Headache Society (IHS) criteria. Based on a sample of over 20,000 individuals, the study estimated the one-year prevalence of migraine for women and men at 18% and 6%, respectively [10]. These results were confirmed a decade later by results from the AMS-II and more recently by findings from the American Migraine Prevalence and Prevention (AMPP) study [11, 12]. Based on these studies, the overall prevalence of migraine among men and women in the US is estimated at 12%. In Asia the sex-specific migraine prevalence has been reported as 11.3% to 14.4% in women and 3.6% to 6.7% in men [13]. One epidemiological study in Kashmir has reported the prevalence rate of migraine as 2575/1,00,000 population [14].

In the United States, migraine prevalence is inversely correlated with household income and level of education. Internationally, however, a relationship between migraine and socioeconomic status is not present.

Migraine has a strong genetic component. Approximately 70% of migraine patients have a first-degree relative with a history of migraine. The risk of migraine is increased 4-fold in relatives of people who have migraine with aura [15]. As with most common diseases, the genetic basis of migraine is likely to be complex and in some individuals may be based on the additive effect of more than one genetic source. Individuals prone to migraine have a genetic threshold that renders them susceptible to an acute migraine attack depending upon the balance between excitation and inhibition at various levels of the nervous system.

As has been described in previous studies, migraine was more common in females and most of the patients had onset before fifty years of age. This is the reason why headache onset after this age should most of the times be evaluated further especially with imaging of the brain to rule out any secondary cause. We also found that forty four percent of our cases had a family history of headache. This signifies the role of genetic factors in migraine as has been explained previously. In our study we found majority of the patients belonged to urban population. The reason for this could be that thses people have an easy access to superspeciality hospitals. Other reason that could explain this would be higher stress levels due to high cost of living in urban areas. We also found that illiterate people were more likely to have migraine as compared to highly educated people. Further studies will be needed with higher number of cases to ascertain this relation and the factors that could contribute to this association. People in lower socioeconomic group were more common than higher socioeconomic population to suffer from migraine. This association has been reported in previous studies also. As illiteracy is more commonly seen in lower socioeconomic population, so determine the confounding factor among these two will need studies with a much higher number of cases or population based studies. We also found that migraine was more common in married people as compared to unmarried people. As stress levels due to responsibility of family is usually higher in married people that would explain the higher occurrence of migraine this population. In our study migraine attacks were more likely to start in evening. This may happen because of fatigue due to work during day. Ninety nine percent cases in our study had a precipitating factor for migraine attack. The most common among them was exposure to excessive sunlight and stress. Forty eight cases in our study had a relation of migraine with food. The type of food that precipitated an attack of migraine is quite variable. So it is always better to explain this to the patient so that they are able to ascertain the type of food that affects them. The most common relieving factor of migraine in our study group was sleep followed by head massage.

Conclusion

The demographic pattern of migraine in Kashmir is almost similar to the pattern found in other regions of India and world over. Females are more likely to have migraine. Migraine without aura is more common than migraine with aura. People belonging to lower socioeconomic group and with low education are more prone to migraine. Almost all migraine patients have a precipitating factor, which if determined and avoided, will definitely decrease the frequency of migraine attacks. Food has a strong relation with migraine. Avoiding food that precipitate an attack, will prove beneficial for the patient.

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