Pattern of Provoking Factors and Psychiatric Co- morbidity in Migraine Headache: A Study from Tertiary Care Hospital

Khan T A

ABSTRACT

Introduction : Headaches are the most prevalent neurological disorders and among the most frequent symptoms seen in general practice among which migraine only accounts up to 30%. Certain factors are found to play role in the triggering of migraine headache. Avoidance of such factors is part of migraine management. Psychiatric co morbidities are common in migraine. Recognizing these co morbidities could therefore result in improved patient management.

Methods : This study was done at Nepalgunj medical college hospital, Nepalgunj. Duration of study was six months i.e. from 1st July 2017 to 31st December 2017. All the new cases fulfilling diagnostic criteria of migraine headache visiting to psychiatric outpatient department were included in this study. The diagnosis of migraine was made based on criteria mentioned by the international classification of headache disorders (ICHD-II).

Result : A total of 50 patients were enrolled in this study. The mean age of participants was 28.60 ± 10.388 years. There was significant predominance of female participants. Family history of migraine was found in 20 (40%) of participants. The mean age of onset was 22.76± 7.899 years. The commonest type of migraine was migraine without aura in 2/3rd number of cases. Psychiatric co-morbidity was found in 26 (52%) subjects among which the most common co-morbidity was anxiety disorder in 16 (32%) followed by depression in 8 (16%). Presence of provoking factors was found in 38 (76%) subjects. Light, smoke, smell, noise and lack of adequate sleep were the common provoking factors.

Conclusion : Migraine predominantly affects females with common age of onset in second and third decade. Psychiatric co-morbidities are common in migraine patients. Anxiety disorder and depression are the commonest co-morbidities. The common provoking factors are light, smoke, smell, noise and lack of adequate sleep found in migraine. Avoidance of provoking factors and early detection and management of psychiatric co morbidities can result in better outcome.

INTRODUCTION

Headaches are the most prevalent neurological disorders and among the most frequent symptoms seen in general practice among which migraine only accounts up to 30%[1]. It is estimated that global migraine prevalence is 11.6% and females are two times more likely to suffer than males[2]. In the Global Burden of Disease Study, updated in 2013, migraine on its own was found to be the sixth highest cause worldwide of years lost due to disability (YLD) [1].

Migraine is a primary headache disorder characterized by recurrent headaches that are moderate to severe.[1] Typically, the headaches affect one half of the head, are pulsating in nature, and last from two to 72 hours[1]. Associated symptoms may include nausea, vomiting, and sensitivity to light, sound, or smell[3].

Certain factors are found to play role in the triggering of migraine headache. Stress or psychological upset, specific food or drinks, fatigue, change in whether, not eating on time, smell, smoke, menses in women, lights and sounds are common provoking factors found in migraine headache[4, 5]. Avoidance of such factors is part of migraine management.

Migraine is found to be usually associated with other psychiatric conditions. The association appears to be strongest for depression and anxiety disorders[6]. The presence of psychiatric conditions is a risk factor for transformation of migraine into a chronic form[7] .Recognizing this co morbidity could therefore result in improved patient management.

This study is done with the aim to know the clinico-demographic profile and pattern of provoking factors and to see the presence of other psychiatric comorbidity in migraine patients.

METHODS AND METHODOLOGY

This study was done at Nepalgunj medical college hospital, Nepalgunj. Duration of study was six months i.e. from 1st July 2017 to 31st December 2017. All the new cases fulfilling diagnostic criteria of migraine headache visiting to psychiatric

Address for correspondence:

Dr. Tanveer Ahmed Khan

Assistant Professor, Department of Psychiatry,

 Nepalgunj Medical College & Teaching Hospital

Nepalgunj, Banke

Email corresponding author: tanveernep8834@gmail.com

outpatient department were included in this study. The diagnosis of migraine was made based on criteria mentioned by the international classification of headache disorders (ICHD-II) [8]. Patients were included in this study only once free verbal informed consent was given. Patients were excluded from the study if they had: (a) headaches thought to be related to trauma or injuries; (b) complicated neurological problems, i.e. underlying brain or systemic illness related to their headaches; (c) recent onset of headaches, i.e. less than one month prior to the study. A semi structured proforma was used to record important demographic and clinical characteristics. Diagnosis of psychiatric co morbidity was made based on International classification of diseases (ICD-10) criteria.

RESULT

A total of 50 patients were enrolled in this study. The maximum number of subjects belonged to age group 30- 39 years in 19 (38%) and 20- 29 years in 16 (32%). The mean age of participants was 28.60 ± 10.388 years. There was significant predominance i.e. 44 (88%) of female participants. More than 2/3rd subjects were married. Highest number i.e. 17 (34%) of subjects were illiterate and only 12 (24%) had their education up to secondary level. More than half patients were housewives followed by student in 10 (20%). Family history of migraine was found in 20 (40%) of participants.

Tab 1: **Distribution of subjects based on socio-demographic profile**

Variables	Category	Frequency N (%)
Age group	<10 years	1 (2%)
	10- 19 years	7 (14%)
	20- 29 years	16 (32%)
	30 -39 years	19 (38%)
	40- 49 years	5 (10%)
	≥50 years	2 (4%)
Mean age with SD	in years	28.60 ± 10.388
Gender	Male	6 (12%)
	Female	44 (88%)
Marital status	Married	36 (72%)
	Unmarried	14 (28%)
Literacy	Illiterate	17 (34%)
	Literate	6 (12%)
	Primary	7 (14%)
	Secondary	12 (24%)
	Inter and above	8 (16%)
Occupation	Housewife	27 (54%)
	Service	3 (6%)
	Student	10 (20%)
	Skilled worker	8 (16%)
	Unemployed	2 (4%)
Family history	Present	20 (40%)
	Absent	30 (60%)

Tab 2: Distribution of subjects based on clinical profile of migraine

Variables	Category	Frequency N (%)
Age of onset	<10 years	1 (2%)
	10- 19 years	20 (40%)
	20- 29 years	20 (40%)
	≥30 years	9 (18%)
Mean age of	onset with SD in years	22.76± 7.899
Types	Migraine with aura	17 (34%)
	Migraine without aura	33 (66%)
Character	Throbbing headache (unilateral)	12 (24%)
	Throbbing Headache (bilateral)	28 (56%)
	Non throbbing headache (unilateral)	2 (4%)
	Non throbbing headache (bilateral)	8 (16%)
Frequency of headache	2- 3 per week	25 (50%)
	1 per week	4 (8%)
	2- 3 per month	14 (28%)
	1 per month	1 (2%)
	1 per 2 months	6 (12%)
Psychiatric co-morbidity	Anxiety disorder	16 (32%)
	Depression	8 (16%)
	Seizure disorder	2 (4%)
	No co-morbidity	24 48%)

Age of onset was same in 10-19 years and 20- 29 years group i.e. 20 (40%) in each. The mean age of onset was 22.76± 7.899 years. The commonest type of migraine was migraine without aura in 2/3rd number of cases. Throbbing bilateral headache was the commonest presentation in 28 (56%) followed by throbbing unilateral headache in 12 (24%). Half number of participants reported frequency of headache 2-3 per week.

Psychiatric co-morbidity was found in 26 (52%) subjects among which the most common co-morbidity was anxiety disorder in 16 (32%) followed by depression in 8 (16%).

Presence of provoking factors was found in 38 (76%) subjects. Light, smoke, smell, noise and lack of adequate sleep were the common provoking factors found in 50%, 42%, 36%, 32% and 18% respectively. Most participants reported presence of more than one provoking factors.

Tab 3: Frequency of provoking factors in migraine patients

Variables	Frequencies N (%)
Fatigue	5 (10%(
Lack of adequate sleep	9 (18%)
Menstruation	1 (2%)
Specific food/drinks	4 (8%)
Not eating on time	4 (8%)
Smoke	21 (42%)
Smell	18 (36%)
Light	25 (50%)
Noise	16 (32%)
Provoking factor not reported	12 (24%)

DISCUSSION

In our study the mean age of subjects was 28.60 years and more than 2/3rd numbers of subjects were from 20 to 39 years age group. Similar observation was made by Gupta U et al. in their study in chronic migraine patients who found mean age of patient population was 30.27 years with 89% (38) of them belonged to age group of 15- 35 years[9].

Out of a total of 50, 44 (88%) participants were female. Similar finding was noticed in an earlier study by Gupta et al[9]. Mitsikostas and Thomas also reported that 70% of their migraine sufferers were female and rest 30% patients were male[10]. Highest number i.e. 17 (34%) of subjects were illiterate and more than half patients were housewives followed by student in 10 (20%). The findings could be due to the reason that this study comprises higher number of female patients. Literacy rate of female in Nepal is only 34.9%[11].

In this study family history of migraine was found in 20 (40%) which indicates that migraine has a heritable tendency. Studies of twins indicate a 34% to 51% genetic influence of likelihood to develop migraine headaches[12].

Mean age of onset in this study is 22.76 years and in most of subjects onset was in second and third decade. Migraines most commonly start between 15 and 24 years of age and occur most frequently in those 35 to 45 years of age[12.] The commonest type was found to be migraine without aura in 33 (66%) participants. This finding is similar to the study done by Seilberstein et al., who reported migraine with aura in 21.5% their headache cases and migraine without aura in 78.5% of their migraine cases[13].

More than half of our study subjects had psychiatric co morbidity. Out of which anxiety disorder was most common in 16 (32%) followed by depression in 8 (16%). Studies in both clinical and community-based settings have demonstrated an association between migraine and a number of specific psychiatric disorders[13].Higher psychiatric co morbidity was also reported by Gupta U et al[9]. The burden of migraine and the challenge in managing it are increased by the comorbid psychiatric conditions that occur in association with it[14]. Beatriz Shand et at in their study in primary headache patients reported depression in 26.3 % and anxiety in 20.8 %[15].

Presence of provoking factors was found in 38 (76%) subjects. Light, smoke, smell, noise and lack of adequate sleep were the common provoking factors found in 50%, 42%, 36%, 32% and 18% of cases respectively. Similar findings were reported by Ehsan K et al. who found that stress or psychological upset were

the commonest triggering factors (80%), followed by physical activity (68%), change in whether (65.5%), relation to fasting (65%), smells such as smoke or odors (56.5%), menses in women (50%) in addition women using contraceptive pills also had more migraine attacks (10%), other factors such as lights (40%) which can also be an exaggerating factor for already present headaches[4]. All are important factors that can establish the diagnosis of migraine, and avoidance of such factors is part of migraine management.

CONCLUSION

Migraine predominantly affects females with common age of onset in second and third decade. In significant number of patients, family history of migraine headache is present. Migraine without aura is commonest type. Psychiatric co-morbidities are common in migraine patients. Anxiety disorder and depression are the commonest co-morbidities. Around 3/4th of migraine patients found to have some provoking factors. The common provoking factors are light, smoke, smell, noise and lack of adequate sleep. Avoidance of provoking factors and early detection and management of psychiatric co morbidities can result in better outcome.

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