

Original Research Article

Clinical profile and triggers of migraine: an Indian perspective

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ABSTRACT

Background: Primary headache disorders are among the most ubiquitous disorders affecting people worldwide. Migraine headache is one of the commonest syndromes of primary headache. There are few studies regarding clinical profile of migraine and migraine triggers in India. The objective this study was to study the gender, age distribution, frequency, severity of migraine attacks and other associated symptoms in patients presenting with migraine. To study in detail about triggers of migraine in present study population.

Methods: About 222 patients who presented with history suggestive of migraine with or without aura defined according to International classification of headache disorders 2, fulfilling the study criteria were included. The study duration was fifteen months from March 2017 to May 2018. Details were collected using a proforma.

Results: In this study, incidence of Migraine is higher in females (169,76%) than males (53, 24%). Majority of migraine patients were between age group of 18-29 years constituting about 77 patients (34.65%). Frequency of migraine more commonly observed was 3-4 per month was observed in 64 patients (29%) and chronic migraine was seen in 19 patients (8.4%). Migraine without aura is most common type observed in this study. Many patients had more than one trigger. More common triggers identified were sun exposure (85, 38.3%), sleep deprivation (83, 37.4%), stress (84, 37.8%) and travel (80, 36%).

Conclusions: Migraine is more common in females than males with majority being in between age group of 18-29 years. Many had frequency of 3-4 episodes per month. Most had more than one trigger.

Keywords: Frequency, Gender, Headache, Migraine, Phonophobia, Triggers

INTRODUCTION

Migraine is the third most prevalent and seventh leading cause of disability worldwide.¹ Migraine is one of the common causes of the headache and is attributed to activation of meningeal perivascular pain fibers, increased sensitivity of cerebral pain neurons that passes information from intracranial structures and extracranial skin and muscle.

Number of extrinsic and intrinsic factors can trigger migraine attacks.²⁻⁴ Despite high occurrence, disease severity and relevance of health-related problems

associated with migraine there are only few clinical studies from India. the knowledge about migraine trigger is important in proper management of the patients. The important triggers are stress, weather changes, fatigue, food and beverages, sleeplessness and menstruation. This study looked into the prevalence, symptom profile and associated triggers in migraineurs.

METHODS

This was a prospective observational study of migraine patients attended to Neurology outpatient clinic, done during the study period of March 2017 to May 2018, in a

tertiary medical care hospital in Tamil Nadu. Diagnosis of migraine is based in International classification of headache (ICHD 2). Institutional ethical committee approval was obtained. About 222 patients were recruited for the study. Migraine with or without aura was defined according to International classification of headache disorders.²

Inclusion criteria

- Patient of both sexes of more than 18 years of age fulfilling the ICHD 2 criteria were included in the study.

Exclusion criteria

- Patients with psychiatric comorbidities, pregnant and lactating women were excluded from the study.

Secondary causes of headache were excluded using brain imaging in most of the patients. Informed consent was obtained from the patients to take part in the study.

Details were collected using a proforma which included details like age, sex, type of migraine, presence or absence of family history, frequency of migraine, migraine severity and duration of migraine episodes and migraine triggers were documented. Detailed fundus examination was done in all patients. Severity of migraine was assessed using universal pain assessment tool. Patients were asked to maintain headache diary and were followed up for three months.

Statistical analysis

Variables of the collected data were uploaded in Microsoft excel sheet. The data was analysed by using simple descriptive statistics like mean, median and prevalence rates.

RESULTS

In the one-year study period, a total of 222 adult patients were included and analysed accordingly. Among the 222 patients recruited for the study, 52 (23.8%) were males and 169(76.1%) were females.

The subjects were grouped into various categories based on their age for the ease of analysis. Majority of the patients in this study, fell in the age group between 18-29 years accounting about 77patients (34.7%). About 61 and 62 patients were between age group of 30-39years and 40-49years respectively. 18 patients (8.1%) were between 50-59years. Migraine was least prevalent among age above 60 years constituting about 4 patients (1.8%) (Figure 1).

Majority of migraineurs did not have any comorbid conditions (169 patients, 76.12%). Among the rest with comorbid illness, major comorbidities observed were

hypothyroidism (12, 5.3) followed by diabetes mellitus (11, 4.9%) and systemic hypertension (9, 4%). About 22 patients (14.8%) had positive family history of migraine. Data regarding family history was unknown in 69 (22.8%) individuals. (Table 1).

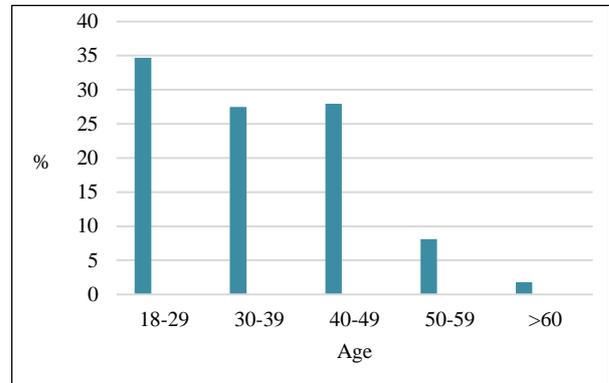


Figure 1: Prevalence of age group among the study population.

Table 1: Descriptive data of family history of migraine among the migraineurs in the study.

Family history	Total no. of patients	%
Present	22	14.7651
Absent	131	87.91946
Unclear	69	22.81879

Frequency of migraine episodes per month were studied. More prevalent episodes observed were four (34, 15.3%), three (30, 13.5%) and ten (19, 8.5%). Least being thirteen (3, 1.3%) and about 5 patients (2.2%) had twenty-five episodes per month. (Figure 2).

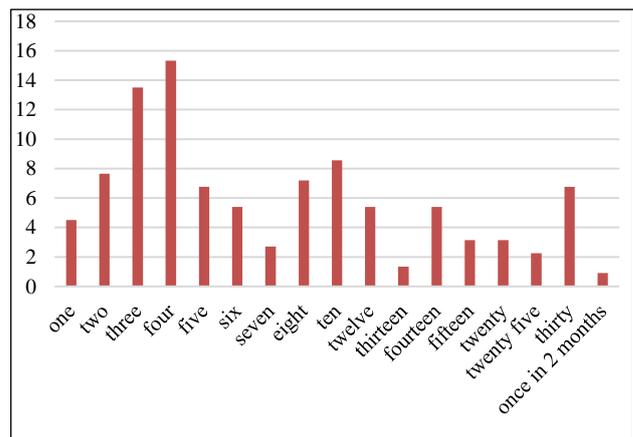


Figure 2: Frequency of migraine episodes per month in study population.

Severity of pain was assessed. In this study, intensity of pain was more disabling in majority of the patients. Pain scores revealed that significant number of patients had a higher score of 6 (96, 43.2%) and 8 (96, 43.2%). About

seven patients (3.1%) had most severe pain with a score of ten. None of the patients had very low grade of pain with score of 1 (Figure 3).

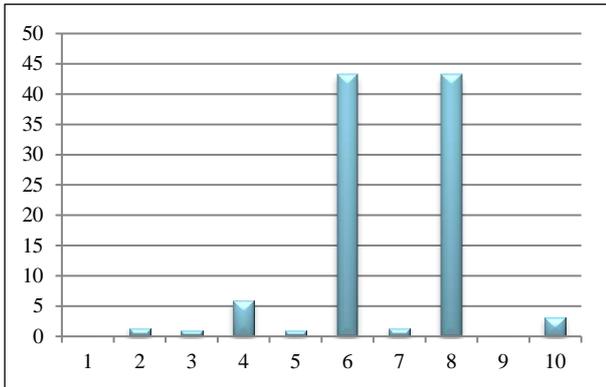


Figure 3: Percentage of severity of pain among the study population with vertical axis depicting the percentage and horizontal axis showing the pain score of 1 to 10.

Patients were asked if they had experienced any kind of disturbance before the migraine attack i.e aura symptoms. Majority had no aura preceding headache accounting 196 patients (88.3%). Only few about 26 patients (11.7%) had an aura. Among the aura, majority had visual aura (20, 0.8%) and few had auditory aura (3, 0.1%). About three patients (0.1%) had both visual and auditory aura. Among the associated symptoms, majority had phonophobia (150, 30.1%). Other prevalent symptoms observed are photophobia (103, 20.6%), nausea (107, 21.4%) and vomiting (88, 17.6%).

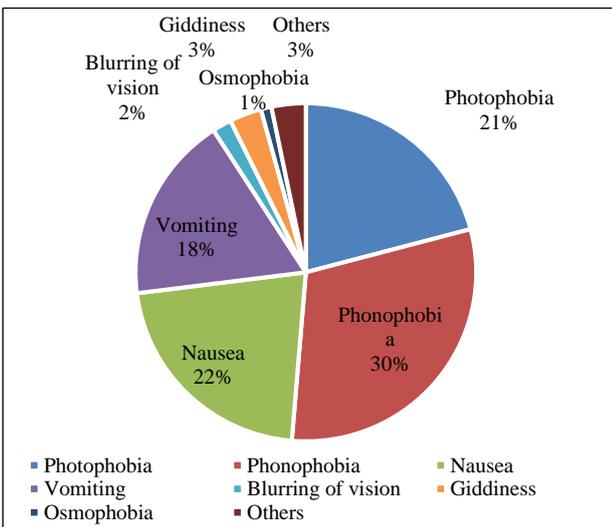


Figure 4: Pie diagram showing percentage of associated symptoms in migraineurs in the study.

Giddiness and blurring of vision were observed in 15 patients (3%) and 9 patients (1.8%) patients respectively. Other observed symptoms are eye pain, watering of eye, twitching of eye, irritation of eye, flashes, osmophobia

and sweating noted were very low in frequency (Figure 4). All individuals had more than one trigger. Most common observed identified were sun exposure (85, 38.3%), sleep deprivation (83, 37.4%), stress (84, 37.8%) and travel (80, 36%). Least identified triggers were alcohol, bright light, chocolate, dust, excessive sleep, excess intake of tea, ice-cream, stitching and swimming observed in one patient with 0.4%. (Figure 5).

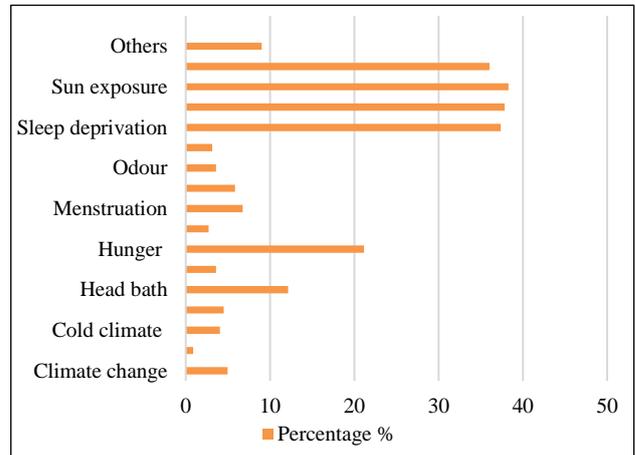


Figure 5: Prevalence of triggers of migraine in the study population.

DISCUSSION

Migraine is a primary headache disorder with varying clinical presentations and associative symptoms. Trigger factors vary among the individuals. Present study shows that the occurrence of migraine in females is higher than in males which is consistent with findings of Panda S et al.⁵ Other studies in India 6and Japan 7 also showed female predominance in migraine respectively. Worldwide, the prevalence of migraine is three times more in women comparing to men along with an increased risk of recurrence, greater disability and, longer durations of attack. Female sex hormones are considered as a major risk factor.⁸ In present study, prevalent age group was found to be high in second decade age groups (18-29 years), in discordance with the study done by Kulkarni G et al, where the prevalence peaked around 35-45 years.⁹ Similar patterns of lower prevalence of migraine among the elderly were observed in other community studies (0.27-0.76 % and 0.3 % in China and Hong Kong, respectively).¹⁰⁻¹² Indian population has a higher ratio of youngsters (with 86.77% of the population below the age of 50 years, and 44.62% between 20 and 50 years) which might have contributed to these results.¹³ Comorbid illness were are rare and among them hypothyroidism, diabetes and systemic hypertension were observed.^{14,15} Migraineurs who had a positive family history of migraine was found to be 14.4%, which was lesser compared with to the study done by Agarwal V et al, India where 26% of patients had family history of migraine.¹⁶ In present study, 15.3% of patients had four episodes of migraine per month followed by 13.5% who

had three episodes per month. This finding was consistent to an Indian study done by Bhatia MS et al, where the frequency of migraine was more with four episodes per month (26%) and seven episodes per month (12%).¹⁷ Depending on the pain score, authors categorised pain severity as mild, moderate, severe and very severe. In present study, 43.7% of patients had pain score of 6 indicating severe pain followed by 42.8%, 5.9 % who had pain score of 8 and 4 respectively indicative of very severe and moderate pain respectively. This was similar to the study by Kulkarni G et al, results of a population-based study in Karnataka in which the pain intensity was severe in 40% of the population.⁹

Migraine without aura was more prevalent than migraine without aura. A description by Ravishankar K et al, in his review about management of migraine revealed that patient having migraine with aura in India was less when compared to other parts of the world.¹⁸

Among the aura, photophobia was most prevalent (46.4%) with rest being phonophobia, nausea and vomiting in descending order. It is in discordance with the study done by Panda S et al, where nausea was found to be (50%), vomiting (13.6%), photophobia (84%) and phonophobia (81.8%).⁵ Triggers are factors that, alone or in combination, induce headache in susceptible individuals. In this study, all had more than one trigger. Prevalent triggering factors noticed were stress, sun exposure, sleep deprivation and travel. Other Indian studies are in hand with other parts of the world regarding the triggering factors where they found stress and missing meals as the primary factors provoking migraine attacks.¹⁹⁻²¹

CONCLUSION

Migraine headache is the most common primary headache prevalent among females and in younger age group. Phonophobia is the most common associated factor in migraineurs. Triggers are same as other population but stress being most prevalent in this study. This study has highlighted the importance to have an adequate knowledge of triggers and its association with migraine headache.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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