



Clinico-Demographic Profile of Patients with Migraine Presenting to a Tertiary Care Hospital in North-East Rajasthan

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Abstract

Introduction: The global prevalence of active headache disorders is around 52% with a slight female preponderance (44.4% in males VS 57.8% in females). Migraine is one of the primary headache disorders with an overall prevalence is 30% out of total headache disorders as reported in GBD study.

Methods: Cross-sectional hospital-based study conducted in the Department of Neurology of tertiary care teaching hospital of Rajasthan. 132 patients were enrolled in the study by simple random sampling. Study was conducted over a period of April 2022- April 2023. ICHD criteria was used to identify and classify migraine and Perceived Stress Scale was used to assess impact of migraine.

Results: 107 (81.1%) were males, whereas 25 (18.9%) were females. The mean age of patients was 30.28 ± 9.9 years. Maximum patients were housewives constituting 47.7% followed by students 25% which formed maximum proportion of patients whereas rest of patients were skilled, semiskilled or unskilled working personnel. 118 patients (89.4%) had no prior comorbidities. Amongst all, mean working hours per day were 6.7 ± 2.47 hrs. 44 (33.3%) patients reported low, 38 (28.8%) moderate and 12 (9.1%) high perceived stress on Perceived Stress Scale. Out of total studied patients 94 patients who reported stress, 77 were able to manage their stress well using various methods. Average sleeping hours were 6.7 ± 2.0 hrs per day. Migraine without aura or classical migraine constituted maximum number of the patients (52.27%) followed by chronic migraine (19.69%). No cases of retinal migraine, hemiplegic migraine were found.

Conclusion: Migraine is common neurological disorder with a wide spectrum of manifestation extending from mental, social and physical. While evaluating the patients with migraine optimum and significant focus should be kept on type of migraine, factors contributing to triggers and chronicity.

Keywords: Headache Disorders; Intracranial Neoplasms; Migraine; Hemiplegic Migraine

Abbreviations

GBD: Global Burden of Disease; ICHD: International Classification of Headache Disorders; PSS: Perceived Stress Scale.

Introduction

The global prevalence of active headache disorders is around 52% with a slight female preponderance (44.4% in males VS 57.8% in females). Migraine is one of the primary headache disorders with an overall prevalence is 30% out of total headache disorders as reported in GBD study [1,2]. Migraine is characterized by recurrent attacks lasting 4–72 hours, of a pulsating quality, moderate or severe intensity aggravated by routine physical activity and associated with nausea, vomiting, photophobia or phonophobia [3]. Migraine is triggered by various factors which vary from individual to individual. It is one of the important reasons people loss working hours, remain absent from work leading to significant loss of working hours. It also contributes significantly to disability-adjusted life years owing to its chronic nature. This study was planned to ascertain the clinico- demographic profile of patients with migraine presenting to a tertiary care hospital in North- east Rajasthan.

Materials and Methods

The present study was a cross-sectional hospital-based study conducted in the Department of Neurology of tertiary care teaching hospital of Rajasthan after obtaining approval from Institutional Ethics Committee. A total of 132 patients were enrolled in the study by simple random sampling. Study was conducted over a period of April 2022- April 2023.

Inclusion Criteria

1. Patients presenting to Neurology OPD with diagnosis of migraine as per diagnostic criteria ICHD3 beta and were classified into various subtypes of migraine such as Migraine without aura, migraine with aura, hemiplegic migraine, retinal migraine, chronic migraine, complications of migraine, status migrainosus, migrainous infarction, migraine aura-triggered seizure etc.
2. Those who were willing to participate in the study and who had given written informed consent.

Exclusion Criteria

1. Headache not fulfilling diagnostic criteria for migraine
2. Secondary headache
3. Craniofacial pain syndrome
4. Those who were not willing to participate in the study and who had given written informed consent.

Assessment Tools

Perceived Stress Scale (PSS): The Perceived Stress Scale (PSS) was used in the study to assess the perceived stress. Questions related to feelings or thoughts that occurred during the last month. Scores are given between 0-40. Higher the total score, higher the perceived stress. The patients are classified to have low stress (0-13), moderate stress (14-26) and high perceived stress (27-40). The data was entered in SPSS 20 and analyzed.

Results

Amongst 132 patients studied, 107 (81.1%) were males, whereas 25 (18.9%) were females.

The mean age of patients was 30.28 ± 9.9 years. 92 (69.7%) patients were married. 22 patients did not receive any formal education which constituted 16.7% of total sample size whereas (110) 83.3% were literate. Amongst them 10 (7.6%) studied till 5th grade, 45 (34.1%) were college going, 55 (41.7%) received education between 6th-10th grade. Maximum patients were housewives constituting 47.7% followed by students 25% which formed maximum proportion of patients whereas rest of patients were skilled, semiskilled or unskilled working personnel. 118 patients (89.4%) had no prior comorbidities. Amongst all, mean working hours per day were 6.7 ± 2.47 hrs. 44 (33.3%) patients reported low, 38 (28.8%) moderate and 12 (9.1%) high perceived stress on Perceived Stress Scale. Out of total studied patients 94 patients who reported stress, 77 were able to manage their stress well using various methods. Average sleeping hours were 6.7 ± 2.0 hrs per day (Table 1). Shows the distribution of migraine subtypes in the present study. Migraine without aura or classical migraine constituted maximum number of the patients (52.27%) followed by chronic migraine (19.69%). No cases of retinal migraine, hemiplegic migraine were found (Table 2).

S. No.	Migraine	Number (%)
1	Migraine without aura	69 (52.27%)
2	Migraine with aura	21 (15.90%)
2.1	Migraine with typical aura	20 (15.15%)
2.1.1	Typical aura with headache:	10 (7.57%)
2.1.2	Typical aura without headache:	10 (7.57%)
2.2	Migraine with brainstem aura:	1 (0.75%)
2.3	Hemiplegic migraine	0
2.4	Retinal migraine	0
3	Chronic migraine	26 (19.69%)
4	Complications of migraine	3 (2.27%)
4.1.	Status migrainosus	2 (1.51%)
4.2.	Persistent aura without infarction	0
4.3.	Migrainous infarction	1 (0.75%)
4.4.	Migraine aura-triggered seizure	2
5	Probable migraine	13 (9.84%)
5.1.	Probable migraine with aura	3 (2.27%)
5.2.	Probable migraine without aura	8 (6.06%)
6	Episodic syndromes that may be associated with migraine	0

Table 1: Classification of migraine according to ICHD 3 beta classification and distribution.

Pain Type	Number of cases	Percentage
Burning	2	1.52%
Constricting	1	0.76%
Dull Ache	1	0.76%
Pressure	2	1.52%
Regular	1	0.76%
Stabbing	11	8.33%
Throbbing	95	71.96%
Throbbing along with tight band like sensation	2	1.52%
Tight Band	9	6.82%
No specific character	8	6.06%
Grand Total	132	100.00%

Table 2: Showing various characteristic pain perceived by the patients during migraine attack most common being throbbing type in 71.96 % (n=95).

When the patients were questioned regarding the stress management, 29.54% used to do exercise to relieve stress followed by meditation and prayers (22.72%), hobbies (6.06%) and relaxation techniques (3.03%). 44 (33.3%) out of total 132 patients had problem in falling asleep or had disturbed sleep. 64 (48.48%) skipped breakfast almost each morning whereas only 12 (9.1%) missed their lunch. On an average, daily tea consumption was on higher side (81.06%)

as compared to coffee (6.06%). 12.87% didn't consume either of these. 131 (99.2%) patients did not smoke and 130 (98.5%) did not consume alcohol. Out of 132 patients, 76.5% (n=101) had onset of migraine in age group 20-40 years followed by 17.4% with age of onset less than 20 years. Only 6.1% had onset of migraine after age of 40 years. 89.4% patients (n=118) did not have any comorbidity others had nasobronchial allergy, rheumatoid arthritis, lower

respiratory tract infection, hypertension, post hysterectomy status, head injury, seizures etc. Precipitating factors were identified in 78 patients (59.1%) but no specific factor was found in 54 (40.9%). Frequency of events shown a wide distribution including 1-2 episodes per week in 19 (14.39%), ≥ 3 episodes per week in 13 (9.8%), 1-2 episodes per month in 27 (20.45%), ≥ 3 episodes per month in 47 (35.6%) and daily in 26 (19.69%). The episodes were sudden onset in 54

whereas gradual build up was seen in 78 patients. Headache was disabling enough to prevent household chores, work or school in 104 patients (78.78%) however it was not interfering with the routine work in 21.22% patients. The distribution of headache shown that headache was frontal in distribution in 28 (21.21%), temporal in 7 (5.3%), occipital in 14 (10.6%), holocranial in 22 (16.66%) and hemicranial in 68 (51.51%) patients. (Figures 1-3)

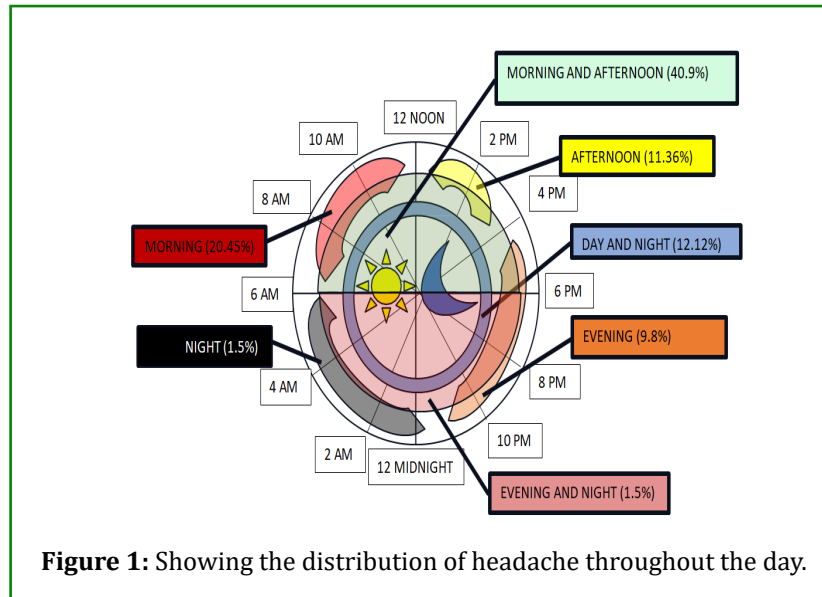


Figure 1: Showing the distribution of headache throughout the day.

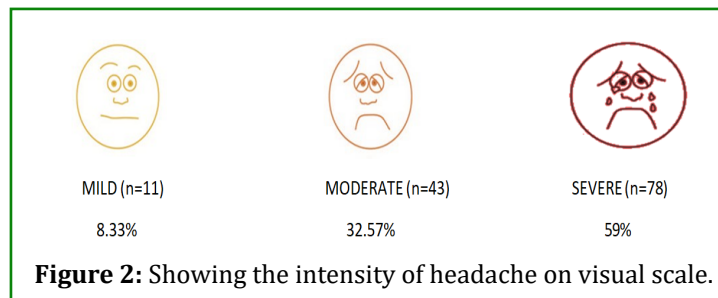


Figure 2: Showing the intensity of headache on visual scale.

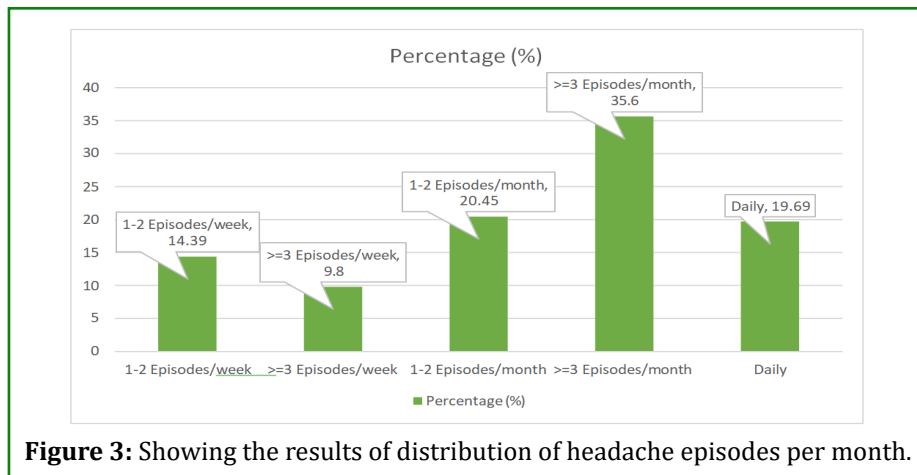


Figure 3: Showing the results of distribution of headache episodes per month.

PSS -Perceived Stress Scale Score was applied to the patients who reported stress (Table 3).

S. No.	Question	Response				
		0	1	2	3	4
		Never	Almost Never	Sometimes	Fairly often	Very often
1	In the last month, how often have you been upset because of something that happened unexpectedly?					
2	In the last month, how often have you felt that you were unable to control the important things in your life?					
3	In the last month, how often have you felt nervous and "stressed"?					
4	In the last month, how often have you felt confident about your ability to handle your personal problems?					
5	In the last month, how often have you felt that things were going your way?					
6	In the last month, how often have you found that you could not cope with all the things that you had to do?					
7	In the last month, how often have you been able to control irritations in your life?					
8	In the last month, how often have you felt that you were on top of things?					
9	In the last month, how often have you been angered because of things that were outside of your control?					
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

Table 3: Showing the scale used in study regarding perceived stress of patients with migraine.

Discussion

The current study showed a male preponderance (81.1%). The findings are in contrast to study done by Sulena, et al. [4] in 2020 in rural India where they found 75% patients with migraine to be females. The mean age of patients in the current study was 30.28 ± 9.9 years and 76.5% (n=101) had onset of migraine in age group 20-40 years and maximum patients were housewives constituting 47.7% followed by students 25% which formed maximum proportion of patients which are again comparable to study done by Sulena et al., Lipton et al. Menon B et al. and Ojini FI, et al. [4-7]. Amongst all, mean working hours per day were 6.7 ± 2.47 hrs. It is seen that the working efficiency decreases in patients with migraine

during acute attack to around 46% [8]. Even non migraine attack days yield less productivity. In the present study 44 (33.3%) patients reported low, 38 (28.8%) moderate and 12 (9.1%) high perceived stress on Perceived Stress Scale. There are various factors for perceived stress. Because of subject nature of the stress scale, attributing stress only to migraine can be false but migraine contributes a significant proportion to perceived stress owing to its acute episode or refractory chronic nature. It is seen that perceived is more common in chronic migraine and on the other way increased perceived stress increased attack frequency and severity of migraine [9,10]. Out of total studied patients 94 patients who reported stress, 77 were able to manage their stress well using various methods. Average sleeping hours were 6.7 ± 2.0 hrs per day.

It was found that management of stress decreases triggering of migraine attack as demonstrated by weekly or monthly headache diary. There are decreased Perceived stress scale scores associated with migraine triggers and vice versa [11]. The findings are also in coherence with study by Sulena, et al. [4]. where they found stress was the most common trigger for migraine found in 44.9 % patients [4]. When the patients were questioned regarding the stress management, 29.54% used to do exercise to relieve stress followed by meditation and prayers (22.72%), hobbies (6.06%) and relaxation techniques (3.03%). These techniques are found to be helpful to decrease overall stress levels. Migraine without aura or classical migraine constituted maximum number of the patients (52.27%) followed by chronic migraine (19.69%). No cases of retinal migraine, hemiplegic migraine were found. In their study, Monterrey P found episodic migraine to be the most common subtype of migraine (83.2%). Frequency of events shown a wide distribution including 1-2 episodes per week in 19 (14.39%), ≥ 3 episodes per week in 13 (9.8%), 1-2 episodes per month in 27 (20.45%), ≥ 3 episodes per month in 47 (35.6%) and daily in 26 (19.69%). The episodes were sudden onset in 54 whereas gradual build up was seen in 78 patients. Headache character, duration and severity are variable as reported in analysis by Monterrey P [12]. In the current study, 44 (33.3%) out of total 132 patients had problem in falling asleep or had disturbed sleep. Again, there poor understanding of association between sleep and migraine. Migraine attacks lead to poor overall quality of sleep whereas poor sleep hygiene and quality of sleep triggers the attack of migraine [13]. Another trigger for migraine are skipping of meals which has also been reported in various studies. The role of caffeine as a trigger or reliever for attack of migraine remains controversial [14]. Dietary triggers are less frequent, and include chocolate, coffee, red wine, nuts, cheeses, citrus fruits, processed meats, monosodium glutamate, and aspartame [15].

The distribution of headache shown that headache was frontal in distribution in 28 (21.21%), temporal in 7 (5.3%), occipital in 14 (10.6%), holocranial in 22 (16.66%) and hemicranial in 68 (51.51%) patients. The most common type was throbbing which was found in present study in a percentage of 71.96 %. This contrasted with study by Sulena, et al. [4]. where they found sharp type to be most common (33.68%). Headache was disabling enough to prevent household chores, work or school in 104 patients (78.78%) however it was not interfering with the routine work in 21.22% patients. The findings are in coherence to study by Sulena, et al. [4]. where majority of patients had severe disability resulting from migraine [4]. Also, these results are supported by findings of Monterrey P, et al. [12]. in their study that migraine results in significant impact on household, workplace activities as well as social life. The study is one of the kind from the region and attempted to

describe the clinical profile of patients with migraine n broader extent. This study adds into the existing literature regarding migraine from India and helps to compare trends the characteristics of migraine from the region with other parts of the country for better understanding of disease. However, this study is also has limitations in the form of shorter study duration and sample size owing to greater magnitude of problem. Follow up after treatment was not done to ascertain response to pharmacotherapy. There is scope of role of genetics and pharmacogenomics in drug refractory cases who otherwise don't fall in category of other type of headache or alternate diagnosis.

Conclusion

Migraine is common neurological disorder with a wide spectrum of manifestation extending from mental, social and physical. While evaluating the patients with migraine optimum and significant focus should be kept on type of migraine, factors contributing to triggers, chronicity and especially one must address the impact of migraine on all domains of health of an individual because migraine is beyond "just a headache".

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