



## DESCRIPTIVE ANALYSIS OF PATIENTS WITH CHRONIC HEADACHE IN A TERTIARY CARE HOSPITAL

### General Medicine

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### ABSTRACT

**Background:** Headache is among most common reason to seek medical attention on global basis being responsible for more disability than any other neurological problem. In developing world headache was not sufficiently studied previously as a cause of morbidity. In this study clinical and etiological analysis of patients with chronic headache using the third edition of International Classification of Headache Disorder (I.C.D.H-3) in Tertiary care referral centre (A.N.M.M.C, Gaya)

**Methods:** In this study 100 patients included who came with complaints of headache more than 3 months in the outpatient department of Medicine Anugrah Narayan Magadh Medical College Gaya Bihar. Clinical and psychiatric evaluation of patients have done and if needed clinical investigations also done.

**Results:** Out of 100 patients of chronic headache, chronic primary headache (82%) was the most common type, with migraine found in 49% of cases, and tension type headache (23%) were more common primary headache. Other common primary headaches are New persistent headache, Chronic cluster headache and mixed type (tension+migrain). Chronic headache is more common in females and adolescents.

**Conclusions:** Since chronic primary headache is most common type headache in which Migraine and Tension type headache are common type. Therefore, headache needs proper clinical evaluation and specific treatment for proper management of headache. This study helps in identifying the significant gap in headache care and provide better information for management of headache.

### KEYWORDS

Chronic headache, Primary headache, Migraine, Tension type headache

### INTRODUCTION

Headache disorders are ranked amongst the ten most disabling conditions in the world by World Health Organisation (WHO).<sup>1</sup> Headache is among the most common reason patients seek medical attention on global basis being responsible for more disability than any other neurological problem, accounting for 4% of outpatient physician visits. It has the dubious distinction of being the earliest recognized symptom of a wide spectrum of diseases.<sup>2</sup>

Primary headaches are those in which headache and its associated are the disorder in itself. Whereas secondary headaches are those caused by exogenous disorder. According to different population-based studies, more than 70% of the general population experience at least one headache per year and about 15% consult a physician.<sup>3</sup> The global prevalence of active headache diseases in the adult population is 46%. About 3% of the world's population is affected by chronic headache that lasts for more than 15 days per month.<sup>1,4</sup>

While headache has been an unaddressed cause of morbidity around the world, it has remained largely unrecognised in the developing world.<sup>1,5</sup> Most clinical and epidemiological studies have originated in developed countries and there is scarce literature to support treatment guidelines or public health interventions to deal with headache in developing countries where large proportion world's population lives.<sup>1</sup>

In spite of the fact that headache is one of the most common of medical complaints, most headaches in practice continue to be under diagnosed and under treated. Even today many treating physicians feel that nothing much can be done for headache patients. And since more than 90% of headaches seen in practice are primary headaches, it is to be realised that matters have come a long way in the last decade and there is now enough evidence to prove that primary headaches are a genuine potentially treatable biological problem.

It is therefore important that clinicians do not make error in making the right diagnosis and choosing the correct drug options.<sup>6</sup> Knowing the headache profile of patients attended to in tertiary care centres may help the preparation of diagnostic and therapeutic processes at the primary and secondary care levels, enabling a more suitable treatment of the cases.<sup>7</sup>

Therefore, this study has been done with an aim at documenting the patients presenting with different types of chronic primary headache, their clinical profile, and diagnostic modalities, at the Medicine

department, at Anugrah Narayan Magadh Medical College Gaya Bihar, India for a period of three month.

### METHODS

This study was carried out at the outpatient department, Anugrah Narayan Magadh Medical college Gaya. This is an observational study which included patients attending medicine outpatient department with complaints of headache for more than three months. Pregnant mothers were excluded from the study. 100 patients were included in the study after getting written informed consent. Detailed history was obtained from all patients.

The questionnaire recorded the occupation, frequency, intensity, duration, laterality, character of pain, associated symptoms, aggravating factors and family history. Detailed examination with reference to general condition, refractory error, fundus examination, neck movements and CNS examination. Specialist opinion in ENT, Ophthalmology and Psychiatry was obtained for patients. All patients with chronic headache were followed up with CT scan brain after detailed questionnaire to rule out the secondary headache. International Classification of Headache Disorder 3 criteria applied to classify headache.

### RESULTS

This study was carried out in the Department of Medicine, A.N.M.M.C. Gaya, Bihar. A total of 100 patients with headache more than three month were registered in the medicine O.P.D. Females outnumbered males accounting for 66% of the target population. There was a female predominance among the patients with primary as well as secondary headache. Majority of the chronic headache patients were in the age group of 21-40 years. The distribution of different types of chronic headache among the target population is shown in Table 1. Chronic Primary headache was the most common type accounting for 82%. The most common type of primary headache disorder diagnosed in our study population was Chronic Migraine headache with a total prevalence of 42%. Chronic tension type headache (CTTH) was the second most common type with a prevalence of 23%. Among secondary headaches, the most Clinical characteristics of patients with chronic primary headache are shown in Table 5. Majority of the Migraine headache retains its pulsatile / throbbing quality whereas majority of patients with tension and NDPH had headache of pressing quality. Intensity of headache was more severe in patients with migraine (98%) and mixed type of headache (75%). Among the migraine patients, 51% presented with bilateral headache and the

remaining 49% with unilateral headache whereas most of the patients with tension headache, NDPH and mixed headache presented with bilateral headache accounting for 91%, 100% and 100% respectively.

Frontotemporal area was the most common site. Other common locations were frontal and occipital. Least common is temporal side. Majority of chronic headache patients suffers from headache around 15-25 days / month. However, in NDPH patients had headache throughout the month. Most of the migraine and tension headache patients presented with headache for a duration of 4-8 hours. However, majority of NDPH and mixed headache persisted for 18-24 hours.

Stress was the most common aggravating factors in patients with chronic migraine (71%) as well as chronic tension headache (78%). Other aggravating factors such as noise, smell and lighting are commonly associated with migraine headache. Cough and cold are the major aggravating factors in patients with post sinusitis headache (100%) whereas washing face, chewing acted as trigger factors for patients with Trigeminal neuralgia (100%) (Table 6).

The radiological findings of patient with chronic primary headache are shown in Table 7 and chronic secondary headache in Table 8. CT Brain of majority of primary headache patients showed normal study. In few patients CT is associated with calcified granuloma which is insignificant. MRI Brain of the patient with benign intracranial hypertension revealed prominent optic nerve. CT Brain of the patients with chronic post traumatic headache was normal.

**DISCUSSION**

More than 80% of the patients who sought treatment were between 21 and 40 years of age, the most productive age group. Majority of these patients were women. Similar gender distributions have been reported previously. Consistent with other studies, this study reflects the fact that headaches are more common in women. 11-13 In the present study, out of 100 patients with Chronic headache, primary headache was the predominant type accounting for 82% as compared to Secondary headache seen only in 18%. Consistent with our finding, AP Jain et al showed primary headache as the predominant type with a prevalence of 92.5% and remaining 7.5% with secondary headache.<sup>12</sup>

According to our results, Chronic Migraine (and its variants) headache was the most common type of headache with a prevalence of 49% followed by Chronic tension headache diagnosed in 23%. This was comparable to the earlier study done by Chakravarthy et al, who reported that 82% of the patients suffered from Migraine followed by 16% from CTTH whereas in contrast Ravi et al has reported CTTH as the most prevalent type.<sup>13,14</sup>

Several studies have reported a different prevalence of headache types, which might be due to different methodologies used, as well as cultural and population characteristics of the studied patients. The frequency of the types of headache diagnosed in the overall population differs from that verified in tertiary care centres, possibly due to the higher or lower level of morbidity caused to individuals, which influences the demand for medical assistance.<sup>11</sup>

Epidemiological evidence from around the world suggests TTH is the most common cause of primary headache.<sup>14</sup> This variance is attributed to self-treatment of tension type headaches by the general population. Nonetheless, the higher prevalence of migraine is evident and reflects its clinical importance to seek medical assistance. Stress is the most commonly reported trigger of migraine headache. Population based and subspecialty clinic-based studies have reported that a stressful event or situation was trigger of migraine headache in 36% to 42% and 62% to 72%.<sup>15,16</sup>

In the current study, CT Brain reveals normal study in almost majority of patients with chronic primary Headache. CT Brain of few patients revealed calcification and age-related atrophy which are insignificant.

As per ICHD-3 criteria primary headache is usually not associated with any structural abnormalities in the brain. In this study, among the patients with secondary headache, CT Brain was normal in patients with medication overuse headache and post traumatic headache whereas CT PNS revealed sinusitis in almost all patients with post sinusitis headache.

CT Brain in the patient with benign intracranial hypertension showed dilated ventricles and CT of a 55year old male revealed a space

occupying lesion on the right parietooccipital region.

**Table 1: Distribution of different types of chronic headache among the target population (n = 100).**

Types of chronic headache	No. of patients	Percentage
Primary headache		
Chronic Migraine headache	42	42
Chronic Tension headache	23	23
Probable Chronic Migraine	04	04
Episodic Migraine With aura transition to chronic migraine	03	03
New daily persistent headache	05	05
Chronic cluster headache	01	01
Mixed Headache (Tension + Migraine)	04	04
Secondary headache		
Drug overuse headache	05	05
Post sinusitis headache	05	05
Trigeminal neuralgia	03	03
Post traumatic headache	02	02
Psychogenic headache	01	01
SOL Right Cerebral Hemisphere	01	01
Benign intracranial hypertension	01	01
Total	100	100

**Table 2: Distribution of patients with different types of chronic primary headaches (n = 82).**

Types of primary headache	ICHD type	No of patients	Percentage
Migraine and its variants	1	49	60
Chronic tension headache	2.3	23	28
New daily persistent headache	4.8	5	06
Chronic cluster headache	3.1.1	1	01
Mixed (Tension+migraine)	-	4	5
Total	-	82	100

**Table 3: Types of migraine headache.**

Types of Migraine headache	No. of Patients	Percentage
Chronic migraine	42	85
Episodic migraine with aura transition to chronic migraine	03	07
Probable chronic migraine	04	08
Total	49	100

**Table 4: Distribution of chronic tension type headaches.**

Type of CTTH	ICHD-2 type	No of patients	Percentage
CTTH with Peri-cranial tenderness	2.3.1	02	09
CTTH without Peri-cranial tenderness	2.3.2	21	91
Total	-	23	100

**Table 5: Clinical characteristics of patients with chronic primary headache.**

	Migraine N=49	Tension N=23	NDPH N=5	Mixed N=4
<b>Character</b>				
Pulsating/throbbing	49 (100%)	0	0	2 (50%)
Pressing	-	22 (96%)	5 (100%)	1 (25%)
Others	0	01 (04%)	0	1 (25%)
<b>Headache intensity</b>				
Moderate	01 (02%)	16 (69%)	05(100%)	01 (25%)
Severe	48 (98%)	07 (31%)	0	03 (75%)
<b>Site of pain</b>				
Unilateral	24 (49%)	02 (09%)	0	0
Bilateral	25 (51%)	21 (91%)	05(100%)	04(100%)
<b>Headache location</b>				
Frontal	09 (18%)	02 (08%)	0	01 (25%)
Frontotemporal	27 (55%)	16 (70%)	03 (60%)	01 (25%)
Frontooccipital	06 (12%)	02 (09%)	01 (20%)	0

Occipital	07 (14%)	01 (04%)	01 (20%)	01 (25%)
Temporal	0	0	0	0
Temporoparietal	0	02 (09%)	0	01 (25%)
<b>No of days of Headache/month</b>				
15-20	43 (88%)	21 (91%)	01 (20%)	03 (75%)
20-25	05 (10%)	2 (09%)	0	01 (25%)
25-30	01 (02%)	0	04 (80%)	0
<b>Duration of headache in hours</b>				
4-8	31 (63%)	19 (83%)	01 (20%)	01 (25%)
9-16	02 (04%)	1 (04%)	0	0
17-24	11 (22%)	3 (13%)	03 (60%)	03 (75%)
>24	5 (11%)	0	01 (20%)	0

## CONCLUSION

Headache in India is as important as any other neurological problem, and yet it is neglected. The study of headache is mainly clinical based and less expensive compared to other neurological disorders. This study documents the descriptive analysis of chronic primary headache patients and highlights the characteristics of headache and factors that predict headache associated morbidity.

Although most patients suffered from primary chronic headache requiring only clinical evaluation, CT scan is also necessary to rule out structural intracranial lesions and increased intracranial hypertension. To prevent misconceptions among doctors and to promote research, headache must be given greater importance in the medical curriculum

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