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Research Article

Clinical profile of patients with chronic headache in a tertiary care hospital

Senthil C.[1]*, Gunasekaran N.[2]

Department of Medicine, Government Royapettah Hospital, Kilpauk Medical College, Chennai, Tamil Nadu India

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***Correspondence:**
Dr. Senthil. C,
E-mail: drsenthil2k@gmail.com

ABSTRACT

Background: Headache is one of the most common maladies which affect humans. However, headache has no been sufficiently studied as a cause of morbidity in the developing world. The present study was conducted to study the etiological and clinical profile of chronic headache patients using the second edition of International Classification of Headache Disorders (ICHD-2), in a tertiary care referral centre.
Methods: The study included 100 patients with complaints of headache for more than 3 months attending the outpatient department of Government Royapettah hospital, Chennai, Tamil Nadu, India. Patients underwent thorough clinical examination and psychiatric evaluation and clinical investigations were done as and when required.
Results: Among the 100 patients with chronic headache, chronic primary headache (82%) was the most common type, with migraine found in 49% of cases, and tension-type headache (TTH) in 23%. Among the secondary types, the most common was headache caused by overuse of analgesics and post sinusitis. Chronic headaches were significantly more common in women and younger age groups.
Conclusions: 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 these is now enough evidence to prove that primary headaches are a genuine potentially treatable biological problem. This study would help in identifying the significant gaps in headache care and in strengthening existing health systems so that they better recognize headache disorders.

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).[1] Headache is one of the most common complaint encountered in general medical practice, accounting for 4% of outpatient physician visits. It has the dubious distinction of being the earliest recognized symptom of a wide spectrum of diseases.[2]

According to different population based studies, over 70% of the general population experience atleast one headache per year and about 15% consult a physician.[3] 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. [1, 4]

While headache has been an unaddressed cause of morbidity around the world, it has remained largely unrecognised in the developing world.[1,5] 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 low and middle income countries where 85% of the world's population lives. [1]

Inspite 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 err in making the right diagnosis and choosing the correct drug options.[6] Knowing the headache profile of patients attended to in tertiary care centers may help the preparation of diagnostic and therapeutic processes at the primary and secondary care levels, enabling a more suitable treatment of the cases.[7]

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 Neurology department, Govt. Royapettah Hospital, Chennai, Tamil Nadu, India during a one year period.

METHODS

This study was carried out at the Neurology outpatient department, Government Royapettah hospital, Chennai. The study was reviewed and approved by the Institutional Ethical Committee. This is an observational study which included patients attending neurology 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 all the patients. All patients with chronic headache were followed up with either CT/MRI after detailed questionnaire to rule out the secondary headache. International Classification of Headache Disorder II criteria applied to classify headache.

RESULTS

This study was carried out in the Department of Neurology, Government Royapettah hospital, Chennai, Tamil Nadu, India. A total of 100 patients were registered in the neurology clinics. 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.

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

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 common type was the headache caused by drug overuse and post sinusitis headache.

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
Character				
Pulsating/throbbing	49 (100%)	0	0	2 (50%)
Pressing	-	22 (96%)	5 (100%)	1 (25%)
Others	0	01 (04%)	0	1 (25%)
Headache intensity				
Moderate	01 (02%)	16 (69%)	05 (100%)	01 (25%)
Severe	48 (98%)	07 (31%)	0	03 (75%)
Site of pain				
Unilateral	24 (49%)	02 (09%)	0	0
Bilateral	25 (51%)	21 (91%)	05 (100%)	04 (100%)
Headache location				
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%)
No of days of Headache/month				
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
Duration of headache in hours				
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

Table 2 shows the distribution of patients with different types of chronic primary headaches as per International Classification of Headache Disorder (ICHD) II criteria. Among the 49 patients with migrainous headache, 42 patients (85%) presented with chronic migraine followed by 4 patients (8%) with probable chronic migraine and the remaining 3 patients had transition from migraine with aura to chronic migraine (Table 3). Of the 23 patients with CTTH, 2 patients presented with pericranial tenderness accounting for 9% (Table 4).

Table 6: Aggravating factors in patients with chronic headache.

Aggravating factors	Migraine n = 49		Chronic tension n = 23		Post sinusitis headache n= 5		Trigeminal neuralgia n = 3	
	No. of patients	%	No. of patients	%	No. of patients	%	No. of patients	%
Stress	35	71	18	78	0	0	0	0
Noise	8	16	0	0	0	0	0	0
Smell	1	2	0	0	0	0	0	0
Lighting	7	14	0	0	0	0	0	0
Cough& cold	1	2	0	0	5	100	0	0
Washing face	0	0	0	0	0	0	3	100
Chewing	0	0	0	0	0	0	3	100

Table 7: CT findings in patients with chronic primary headache.

CT in Primary headache	Migraine n = 49		Chronic Tension n = 23		NDPH n =5		Mixed headache n = 4	
	No. of patients	%	No. of patients	%	No. of patients	%	No. of patients	%
Normal	45	92	20	87	5	100	3	75
Calcified granuloma	2	4	0	0	0	0	0	0
Calcification	1	2	2	9	0	0	1	25
Infarct	1	2	0	0	0	0	0	0
Age related atrophy	0	0	1	4	0	0	0	0

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.

Table 8: CT and MRI in patients with chronic secondary headache.

CT / MRI	Image results	Post sinusitis n= 5		Post traumatic n= 2		Benign Intracranial hypertension N=1		Space occupying lesion n=1	
		No. of patients	%	No. of patients	%	No. of patients	%	No. of patients	%
CT brain	Normal	0	0	2	100	0	0	0	0
	SOL	0	0	0	0	0	0	1	100
CT PNS	Maxillary sinusitis	5	100	0	0	0	0	0	0
MRI brain	Prominent Optic N	0	0	0	0	1	100	0	0

Fronto temporal 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.[12]

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.[13,14]

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 centers, possibly due to the higher or lower level of morbidity caused to individuals, which influences the demand for medical assistance.[11]

Epidemiological evidence from around the world suggests TTH is the most common cause of primary headache.[1,4] 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% to72%.[15,16]

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-2 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 temporo parieto occipital region.

CONCLUSION

Headache in India is as important as any other neurological problem, and yet it is neglected. The study of headache is relatively simple and cheap compared to other neurological disorders. This study documents the profile 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 reassure patients for the absence of ominous structural intracranial lesions. To prevent misconceptions among doctors and to promote research, headache must be given greater importance in the medical curriculum.

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