

“To Study Etiological & Demographic Profile of Headache in Tertiary Neurocare Centre Of Mp”

Rajput S¹, Tiwari D¹, Udainiya D², Jatav O.P¹, Shah N¹, Arya D¹,

¹Dept. Of Medicine, G.R.Medical College, Mpmsu, India

²Dept. Of Neurology, G.R.Medical College, Mpmsu, India

*Corresponding Author: Rajput S

Abstract :- Background: Headache is one of the most common maladies which affect humans. However, headache has not been sufficiently studied as a cause of morbidity in the developing world. The present study was conducted to study the demographical, etiological and clinical profile of headache patients using guidelines of International Classification of Headache Disorders, in a tertiary neurocare centre. **Methods:** The study included 500 patients with complaints of headache attending the outpatient of, Dept. of Neurology, G.R.Medical College & J.A.Group of hospitals, Gwalior, M.P, India. Patients underwent thorough clinical examination and psychiatric evaluation and clinical investigations were done as and when required. **Results:** Among the 500 patients with headache, primary headache (87.8%) was the most common type, with migraine found in 45.6 % of cases, and tension-type headache (TTH) in 36.4%. Among the secondary types, the most common was headache caused post sinusitis (48%) followed by ICSOL (36 %). Both types of headaches were significantly more common in women and younger age groups. **Conclusions:** Since more than 85% 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. 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

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I. Introduction

The World Health Organization (WHO) rates headache as a common disorder of the nervous system that is underestimated, under-recognized and under-treated. Headache is listed as one of the ten most disabling conditions world-wide. Four percent (4%) of medical practitioner consultations and 20% - 30% of referrals to neurological departments in the United Kingdom are for headaches and in America, headache is the fourth most common presentation at emergency departments with between 1.4 - 3.3 million visits per year.¹

Despite this, it has been identified that up to 50% of headache sufferers do not seek medical advice for headache and when they do many are wrongly diagnosed and wrongly treated. The WHO identified that worldwide an average of four hours of undergraduate medical training is dedicated to education on headache disorders. Martelletti et al. (2013) advocate for better headache health-care services and improved training of physicians within these services to deliver more comprehensive and accessible services to headache sufferers.²

Headaches are classified in the ICHD into primary and secondary headache. Primary headaches are those with a vascular or muscular origin occurring in the absence of any organic disorders while secondary headaches are attributed to other disorders such as inflammation, injury or space occupying lesions. Secondary headache either resolve or reduce following treatment of the underlying disorder.

The most prevalent primary headaches found in the adult population are TTH and MH. The most common secondary headaches include those triggered by alcohol, fever and medication overuse. Cervicogenic headache is considered a secondary headache type with a quality of life burden similar to that of people experiencing MH and TTH. While less prevalent than TTH and MH the mechanisms behind CGH are some of the best understood.³

Each type of headache has a different pathogenesis and logically each respond to treatment specifically targeted to that headache type. Incorrect diagnosis and therefore inappropriate treatment can mean poor outcomes for the headache sufferer. To complicate diagnosis and treatment even further some people will experience more than one headache type.⁴

The purpose of this research is to determine the prevalence and characteristics of headache. It is also to determine how people manage their headache and whether they receive assessment and/or treatment from a

health professional. This information will help identify whether changes could be implemented to better address this manageable physical illness and possibly favorably affect general wellbeing.

II. Materials & Method

This was a cross sectional study involving 500 patients of either gender attending Neurology Department of G.R Medical College, Gwalior.

AIMS & OBJECTIVE

- To study the demographic profile of Headache patient attending Neurology OPD.
- To study the etiological profile of Headache patient.

INCLUSION CRITERIA

- All patients of headache having age more than 15 years attending neurology OPD.

EXCLUSION CRITERIA

- Acute trauma and RTA
- Age <15 years
- Headache patients presenting in emergency department

STUDY CENTRE: Dept. of Neurology, Gajra Raja Medical College and JA group of Hospitals, Gwalior

STUDY DURATION: 1stFebruary 2016 to 30thSeptember 2017

STUDY DESIGN: Prospective

SAMPLE SIZE: 500

Details clinical history and clinical examination of patients was done. They are classified according to ICHD . Patients were evaluated on the basis of detailed clinical history, examination and further confirmed with neuro-imaging (CT/MRI), ophthalmological examination including fundus, CSF examination and all other relevant investigations as required.

STATISTICAL ANALYSIS: All the data were analysed using IBM SPSS ver. 20 software. Descriptive statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean \pm SD (Min-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5 % level of significance. Chi-square/ Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups.

III. Observations & Results

This was a cross sectional study involving 500 patients of either gender attending Neurology Department of G.R Medical College, Gwalior. Females outnumbered males accounting for 59% of the target population. There was a female predominance (64.46%) among the patients with primary headache but male predominance (55.55%) was found in secondary headache. There was also male predominance in Neuralgia & Unclassified headache. (52.94%). Majority of the headache patients were in the age group of 20-40 years.(59.8%). The distribution of different types of headache among the target population along with gender & Age distribution. Among the 9 patients with neuralgia in which male outnumbered female with (55.56 %). Among the 25 patients with unclassified in which male outnumbered female with (52 %) mostly in 20 – 40 years of age group (52 %). (Table 1)

Table:-1

	Age group(Yr)				Total	Female	Male
	<20	20-40	40-60	>60			
TYPES OF HEADACHE							
PRIMARY	61	275	90	13	439	283	156
SECONDARY	5	11	8	3	27	12	15
NEURALGIA	1	2	5	1	9	4	5
UNCLASSIFIED	2	9	13	1	25	12	13

Primary headache was the most common type accounting for 87.8%. The most common type of primary headache disorder diagnosed in our study population was Migraine headache with a total prevalence of 45.6%. Tension Type headache (TTH) was the second most common type with a prevalence of 36.4%. Among the 228 patients with migrainous headache, 154 (67.54%) patients had migraine without Aura, 40 (17.54%) patients had migraine with Aura and rest 34 (14.91%) had chronic migraine. (Table 2).

Table 2

	Age group(Yr)				Total	Female	Male
	<20	20-40	40-60	>60			
PRIMARY HEADACHE							
MWA	21	102	29	2	154	97	57
MA	5	20	14	1	40	30	10
CM	4	30	0	0	34	29	5
TTH	28	101	43	10	182	103	79
CLUSTER	0	3	0	0	3	0	3
NDPH	3	18	4	0	25	23	2
PSH	0	1	0	0	1	1	0

Among secondary headaches, the most common type was the headache was post sinusitis headache (48%) followed by ICSOL (36 %). Among the 27 patients with secondary headache, 12 (44.44%) patients had sinusitis followed by, 9 (33.33%) patients had ICSOL. (Table 3).

Table 3

	Age group(Yr)				Total	Female	Male
	<20	20-40	40-60	>60			
SECONDARY HEADACHE							
CVD	0	1	0	2	3	0	3
ICSOL	1	3	4	1	9	6	3
SINUSITIS	3	5	4	0	12	5	7
MENINGITIS	1	1	0	0	2	1	1
MOH	0	1	0	0	1	0	1

Among patients with migraine, 17 (62.96%), 62 (48.82%), 106 (54.08%) and 10 (21.27%) had business, student, housewife, labor as a occupation respectively. Among patients with tension, 8 (29.62%), 46 (36.22%), 59 (30.1%) and 27 (57.44%) had business, student, housewife, labor as a occupation respectively. (Table 4)

Table 4

		Business	Student	Housewife	Labor
Migraine	n	17	62	106	10
	%	62.96	48.82	54.08	21.27
Tension	n	8	46	59	27
	%	29.62	36.22	30.1	57.44
Total		27	127	196	47

Out of 328 subjects who belong to urban (n=328), semi urban (n=119) and rural area (n=53) migraine headache was recorded in 149 (45.42%), 47 (39.5%) and 32 (60.37%) respectively whereas tension headache was reported in 121 (36.9%), 49 (41.2%) and 12 (22.6%) respectively. (Table 5)

Table 5

Locality		Migraine	Tension
Urban, N=328	n	149	121
	%	45.42	36.9
Semi-Urban, N=119	N	47	49
	%	39.5	41.2
Rural, N=53	n	32	12
	%	60.37	22.6

Site of headache was studied among population and 64.91% of unilateral headache was found to be Migraine while it was only 35.09% in bilateral headache. In contrast 85.16% of bilateral headache was found to be Tension Type and 35.09% was found to be Migraine. Similar predominance of unilateral headache among Migraine patient was found in study by Anantha Guruswamy et al in 2015. (Table 6)

Table 6

Laterality	Migraine	Tension
Unilateral	64.91 %	14.84%
Bilateral	35.09 %	85.16 %

In nuclear family most common headache was migraine [154 (47.38%)] compared to tension [115 (35.4%)]. In joint family also most common was migraine [74 (42.28%) compared to tension [67 (38.3%)] (Table 7).

Table 7

Family Type		Migraine	Tension
Nuclear Family, N=325	n	154	115
	%	47.38	35.4
Joint Family, N=175	n	74	67
	%	42.28	38.3

IV. Discussion

My study recruited 500 people. Majority of this population was in age group 20-40 (n=310) followed by group 41-60 (n=116). In gender distribution there was female predominance with 283 females and 156 males. This age and sex distribution is similar to that in many previous studies like that of Senthil C et al and Samhita Panda et al.⁵

Primary headache was predominant in overall population, 439 (87.8%) had primary headache and 27 (5.4%) had secondary headache. Both primary headache and secondary headache predominated in age group 20-40yr. Similar results were obtained in studies of Senthil C et al as well as Guruprasad et al.^{5,6} Also both in females and males, predominant were primary headache with 283 among females and 156 among males.

Among primary headache types, Migraine was most common in both nuclear (n=154) and joint (n=74) families. There was also statistically significant difference in distribution of types of primary headache among nuclear and joint families with both Migraine and Tension Type Headache more common among nuclear families (n=154 & n=115 respectively). Clearly it denotes influence of environmental factors in occurrence of primary headaches.

Again to access the influence of environment, population was divided on basis of locality and occupation. Based on locality 290 people belonged to urban area, 103 to semi urban and 46 to rural areas. Migraine and Tension Type Headache was more common among urban population (n=149 and 121 respectively) followed by semi urban areas (n=47 and 49 respectively). Population classification on the basis of occupation divide into four main groups-business (n=25), student (n=108), housewife (n=165) and labor (n=37). A statistically significant difference in distribution of Migraine and Tension Type Headache was found. Migraine was most common in all groups followed by Tension Type Headache. 62.96% of Business, 48.82% of Student, 54.08 % of Housewife and 21.27% of Labor had Migraine. This result was in consistent with study by

Vikas Agarwal et al in 2013.⁷ All these clearly indicate influence of Migraine in occurrence of primary headache and have therapeutic implications.

Site of headache was studied among population and 64.91% of unilateral headache was found to be Migraine while it was only 35.09% in bilateral headache. In contrast 85.16% of bilateral headache was found to be Tension Type and 35.09% was found to be Migraine. Similar predominance of unilateral headache among Migraine patient was found in study by Anantha Guruswamy et al in 2015.⁸

Among types of primary headache six main groups were found- Cluster headache, Chronic- Migraine, and Migraine with Aura, Migraine without Aura, New Daily Persistent Headache, Primary Stabbing headache and Tension Type Headache. Only 3 cases of Cluster headache were found. They were exclusively males and were in age group 20-40. This male predominance is also reported in various studies like the one by Michail Vilkis et al in 2016 conducted in Greece. Overall females show predominance of rest all categories. 85.3%(n=29) of Chronic Migraine, 75%(n=30) of Migraine with Aura, 62.99% of Migraine with Aura (n=97), 92% of NDPH(n=23), 100% (n=1) of PSH and 56.59%(n=103) were females. This female predisposition of migraine and Tension Type Headache was also found in numerous studies like A P Jain et al in 2007 and Samhita Panda et al in 2005 exact reason of this preponderance need to be elucidated but most theories point towards a hormonal etiology.⁹ All the subtypes of primary headache were found to be more common among age group 20-40. Same distribution was found in above mentioned studies also. Median age of presentation among subtypes of primary headache also agreed with previous studies. It was found to be 32 for Migraine without Aura, 38 for Migraine with Aura, 40.5 for Chronic Migraine, 30 for TTH, 52 for Cluster headache and 58 for Neuralgia.

The subtypes of secondary headache in the study fell into five subtypes:- Cerebrovascular disease (CVD), ICSOL, Meningitis, MOH and Sinusitis. Most common was Sinusitis (n=12) followed by ICSOL (N=9). Males were common in Sinusitis (n=7), MOH (n=1), CVD (n=3) whereas females were common in ICSOL (n=6). Meningitis was distributed equal (n=1 each). CVD was common in >60 age group (n=2), ICSOL in 40-60 (n=4), Sinusitis and MOH in 20-40 age group (n=5 & 1 respectively). But statistical significance of this observation cannot be established owing to the small size of population in our study.

Neuralgia was found among 9 people of whom 5 were males. Neuralgia was most common among age group 40-60 in my study. Similarly Unclassified headache constituted 25 cases. They were 52%(n=13) males and 48%(n=12) females. They mainly belonged to age group 40-60(n=13) followed by group 20-40 (n=9).

Migraine, being most common subtype in the study, was analyzed in detail. There were 228 cases of Migraine mostly belonging to 0-40 age group. Sex distribution showed clear female preponderance with 50.16%(n=311) among females. These findings were in terms with previous studies like Senthil C et al and Samhita Panda et al.⁵ Aura is a premonitory event in Migraine headache. Migraine with Aura was found in 82.45 % (n=47) females and 17.54 % (n=10) males. But total cases of Migraine with Aura was only 25 % (n=57). This less incidence of Migraine with Aura compared to Migraine without Aura is also shown in studies by Anantha Guruswami et al in 2015 and Samhita Panda et al.⁸ Migraine with Aura was more common in age group 20-40 (n=36) followed by group 40-60 (n=14).

Similarly TTH was separately analyzed. It was most common among age group 20-40 (n=109) followed by group 41-60 (n=116). This also showed a female predominance with 103 female cases. Similar observations were also made by AP Jain et al in 2007 and Vikas Agarwal et al in 2013.^{8,10}

V. Conclusion

The present study thus documents the demographical and etiological profile of headache according to ICHD classification and highlights the characteristics of headache and factors that predict headache associated morbidity. Primary headache was most common headache in general population such as migraine and TTH affecting young age group subjects (20-40 years) with female predominance. Migraine is mainly unilateral; Migraine without Aura is most common subtype and affects urban population. Migraine showed headache related disability like absenteeism and decreased productivity of work. Tension type is bilateral, and mostly associated with nausea and scalp tenderness.

Further large clinical as well as epidemiological studies must be conducted to confirm and further evaluate the better clinical and epidemiological characteristics of headache.

References

- [1]. Kelley, N. E., & Tepper, D. E. (2012a). Rescue therapy for acute migraine, part 1: triptans, dihydroergotamine, and magnesium. *Headache*, 52(1), 114-128.
- [2]. Martelletti, P., Mitsikostas, D.-D., Lampl, C., Katsarava, Z., Osipova, V., Paemeleire, K., Edvinsson, L., Siva, A., Valade, D., Steiner, Y., & Jensen, R. H. (2013). Framing education on headache disorders into the Global Burden of Disease Study 2010. The European Headache Federation stands ready. *The Journal Of Headache And Pain*, 14, 41-41.
- [3]. Bogduk, N., & Govind, J. (2009). Cervicogenic headache: an assessment of the evidence on clinical diagnosis, invasive tests, and treatment. *Lancet Neurology*, 8(10), 959-968.

- [4]. Stovner L, Hagen K, Jensen R, Katsavara Z, LiptonR, Scher A, et al. The global burden of headache: documentation of headache prevalence and disability worldwide. *Cephalgia*. 2007;27:193-210.
- [5]. Senthil C, Gunasekaran N. Clinical profile of patients with chronic headache in a tertiary care hospital *Int J Adv Med*. 2016 Aug;3(3):721-726.
- [6]. GuruprasadKundapuraGidibidi, DadapeerKareemsab, NirranjanMamballyRachaiah. The Socio-demographic Profile, Classification and the Clinical Profile of Headache: A Semi-urban Hospital Based Study. *Journal of Clinical and Diagnostic Research*. 2012 April, Vol-6(2): 278-281.
- [7]. VikasAgarwal, R N Chaurasia, Vijay Nath Mishra. Deepika Joshi & SurendraMisra. Clinical profile of headache from a tertiary care centre in eastern India. *International journal of general medicine and pharmacy (IJGMP)* Vol. 2, Issue 3, July 2013, 9-14.
- [8]. AnanthaGuruswamy, DrSreekantaswamy, DrKavitha BB. Clinical profile of migraine headache with special reference to trigger factors in medical college set Up. *International Journal of Science and Research*, Volume 6 Issue 7, July 2017.
- [9]. AP Jain, B Chauhan, AD Bhat. Sociodemographic and clinical profile of headache – A rural hospital-based study. *JACM* 2007; 8(1): 26-28.

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