

Epidemiology of cephalalgia in population of central part of India

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Abstract

Introduction: Headache is a major and common neurological problem in worldwide and is a main reason of morbidity, incapacity, absenteeism at work place, interrupted social interaction mood and behavioral disturbances. Yet they are under-recognized, under-diagnosed and under-treated worldwide, only minorities of people with headache disorders are professionally diagnosed.

Aim: Given the population load, and the fact that most headaches seen in practice are under diagnosed and undertreated, the burden of headache is significant. The present study was aimed to assess the Epidemiology of chronic headache in population of south eastern Rajasthan India.

Materials and Methods: This study was conducted in department of neurosurgery Jhalawar medical college Jhalawar Rajasthan from 15th January 2015 to 15 July 2016. Clinical and radiological details of Two thousand Patients of south east Rajasthan and west part of Madhya Pradesh were noted. The data obtained was statistically analyzed using SPSS version 22 and descriptive statistics was used to compare the results obtained.

Results: Out of two thousand patients 900(45%) patients were male and 1100(55%) were female. 1760(88%) patients were between 16-60 year age group, there were 1320(66%) patients residing in rural areas and 880(44%) patients were residing in urban areas. Socioeconomic status occupation / income were low in 680(34%) patient's medium in 1200(60%) patients. Tension type headache occur in 1200 (60%), migraine in 400 (20%), cluster headache in 60 (3%), medication overuse headache present in 100 (5%) patients. Other cause of headache noted in 240 (12%) as sinusitis, stroke, decrease vision, atypical pain like trigeminal neuralgia brain tumor and abscess.

Conclusion: Headache prevalence in central part of India is more in female, adult between 16-60 years age groups, and rural areas with low socioeconomic status / income. Most common cause of headache is tension type headache.

Keywords: Cephalalgia, headache, Tension type headache, Migraine, Cluster headache, Socioeconomic status, Rural areas, Jhalawar Rajasthan

Introduction

Headache is the most common and crucial trouble affects approximately 64 to 77% population in world at their life time at some point. ⁽¹⁾ Approximately 3 to 5 percent of the population worldwide has daily or near-daily Headache. India appears to be no exception. The Global Burden of Disease Study 2010(GBD2010) found tension-type headache (TTH) and migraine to be the 2nd and 3rd most prevalent disorder Worldwide. ⁽²⁾ Headache is the result of stimulation of nociceptor of meninges and blood vessels by trauma, tumor, infection and inflammation. ⁽³⁾ Headache without structural problem or underlying disease known as primary headache and with structural problem or underlying disease known as secondary headache ⁽⁴⁾. Ninety percentage headache are primary and only 10% are secondary to some pathology. ⁽⁵⁾ Primary headaches usually first start when people are between 20 and 40 years old. ⁽⁶⁾ Most common type of primary headache is tension type in that band like pressure on both side of head and relieved by amitriptylines. ⁽⁷⁾

Migraine is second most common type of primary headache associated with pulsing pain, phonophobia, photophobia and nausea vomiting, in severe headache manages by triptans.

Cluster headache or histamine headache is short episode of severe pain at the same time of day, usually

around eye, managed by sumatriptans, high flow oxygen and verapamil.

Other causes of primary headache are chronic drug uses, depression, anemia, sinusitis, decrease vision, neuralgia, hypertension and Idiopathic. Amongst the secondary headaches, those due to intracranial granulomas, neurocysticercosis, meningeal infections and cerebral venous thrombosis are probably a little more common in the Indian setting. In this modern era, when imaging studies are easily available, most secondary headaches are identified and managed correctly.

Headache is a major and common neurological problem and main reason of morbidity and incapacity, absenteeism at work place, disturbed academic performance, and is major cause of psychological illness. Given the population load, and the fact that most headaches seen in practice are under diagnosed and undertreated, the burden of headache is significant. Myths and misunderstandings about the headache patient are being seen by many different specialists, each one of whom looks the problem through the window of their own specialty. For all these reasons, headache patients in India do not receive adequate sympathy, care and attention. In this present situation of augmenting normality of headaches, the present study was aimed to assess the Epidemiology of chronic headache in

population of south eastern Rajasthan and west part of Madhya Pradesh India.

Materials and Methods

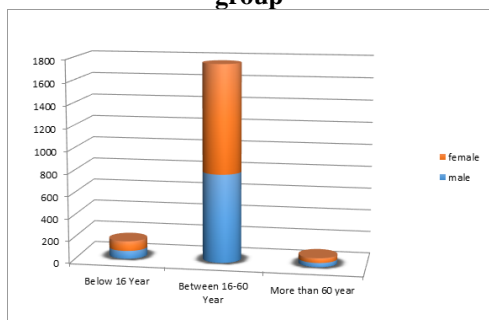
This study was conducted in department of neurosurgery Jhalawar medical college Jhalawar Rajasthan from 15 January 2015 to 15 July 2016. Two thousand Patients of south east Rajasthan and west part of Madhya Pradesh, who attend Our OPD, has headache for 15 or more days in a month and continue for three months were included in study. Patients name age, sex, education, occupation, residence, associated complaints along with headache, precipitating, reliving factor and radiological details were noted.

The data obtained was statistically analyzed using SPSS version 22.0 and descriptive statistics was used to compare the results obtained. We used proportions, 95% confidence intervals (CIs), means and standard deviations (SDs) to summaries ‘the distributions of variables.

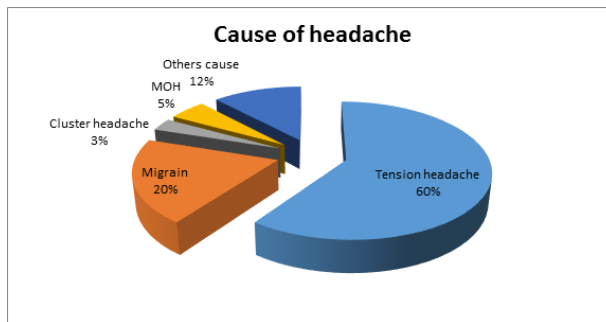
Result

We have evaluated two thousand patients of chronic headache. Out of them 900 (45%) patients were male and 1100 (55%) were female. There were 160 (8%) patients were children below 15 years of age. 1760 (88%) patients were between 16-60 year age group. Only 80 (4%) patients were more than 60 year age group.

Graph 1: Headache distribution of gender and age group

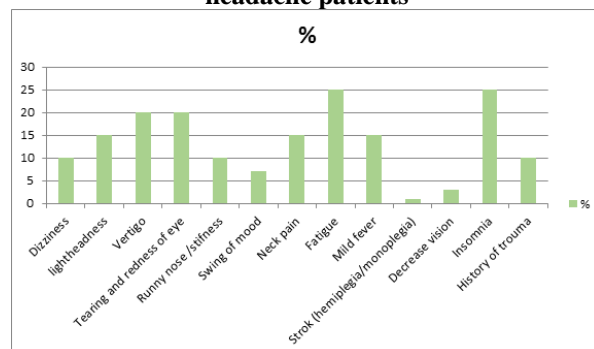


In education status six hundred (30%) patients were illiterate or below fifth standard, 880 (44%) patients were between sixth to twelfth schooling standard, and 520 (26%) patients were graduate or above. There were 1320 (66%) patients residing in rural areas and 880 (44%) patients were residing in urban areas. Socioeconomic status occupation / income were low in 680 (34%) patients, medium in 1200 (60%) patients. High socioeconomic status was seen only in 120 (6%) patients.



In our study, out of these two thousand patients, tension type headache occur in 1200(60%), migraine in400 (20%) (Three times more common in female). Cluster headache noted in 60 (3%) and more common in male. Medication overuse headache present in 100(5%) patients that were more common in female. In two hundred forty patients (12%) patients noted other cause of headache like sinusitis, stroke, and decrease vision, atypical pain like trigeminal neuralgia, brain tumor and abscess.

Graph 2: Distribution of Associated complaints of headache patients



Associated compliant in form of dizziness noted in 200 (10%) patients, light headness in 300 (15%) patients, vertigo in 400 (20%) patients, tearing and redness of eye in 400 (20%) patients, runny nose /stiffness in 200 (10%) patients, swing of mood in 140 (7%) patients, neck pain in 300(15%) patients, fatigue in 500(25%) patients, mild fever in 300 (15%) patients., stroke (hemiplegia / monoplegia) in 20 (1%) patients, decrease vision in 60 (3%) patients, insomnia in 500 (25%) patients, past history of trauma in 200 (10%) patients.

Discussion

Increasing prevalence and high morbidity has made headache an important general health problem worldwide. Sound and reliable epidemiological information is the essential basis of health-care needs assessment, planning and organizing health-care services and resource allocation. In the current scenario of increasing prevalence of headache and its associated side-effects, several studies have been conducted worldwide however, little is known about its prevalence

and etiology in central part of India southeast Rajasthan and western Madhya Pradesh. As in all countries, prevalence of headache was higher among females, which is explained by biological and socio-cultural influences.

In our study of 2000 patient 900 patients (45%) were male and 1100 (55%) were female. Rasmussen et al⁽⁸⁾ observed in their study the lifetime prevalence of headache (including anybody with any form of headache), migraine, and tension-type headache were 93, 8 and 69% in men; and 99, 25 and 88% in women. The point prevalence of headache was 11% in men and 22% in women. The changing endogenous and exogenous hormonal environment in women during the reproductive years affects the frequency, severity, and type of migraine with greater consequent disability and healthcare costs compared to men.

In our study most of the patients (88%) were between 16-60 year age group. there was 160 patients (8%) were children below 15 years of age. 1760 patients (88%) were between 16-60 year age group and 80 patients (4%) were more than 60 year age groups. Most common cause of pediatric headache were common cold (28%), post traumatic (20%) hydrocephalus and shunt related problem in (11%), rest were due to migraine and intracranial pathology. In study of Maqsood Ahmad Dar et al,⁽⁹⁾ they observed that out of 176 patients in age group of 18-80 years, maximum number of patients were in age group of 30-39 yrs- 67 patients (38.1%) and the least common age group was >70yrs where only 1 patient had chronic daily headache(CDH). Gururaj G et al⁽¹⁰⁾ study of primary headache on population based survey; most patients were aged 21-55 years.

In our study there was 500 (25%) patients were illiterate or below fifth standard, 780 (39%) patients were between sixth to twelfth schooling standard 720 (36%) patients were graduate or above. Naglaa A et al⁽¹¹⁾ observed in their study Prevalence of primary headache disorders in Fayoum Governorate, Egypt patients illiterate 525 (22.1%), Primary education 320 (13.5%), Secondary education 862 (36.3%), High education 668 (28.1%). The researchers say it is clear that high-educated patients were seeking medical care earlier. This may be due to their increased awareness about their need for professional help and support.

In our study 660 patients were reside in rural areas and 440 patients were reside in urban areas. Gopalakrishna Gururaj et al⁽¹⁰⁾ study of primary headache on population based survey 83.2%, urban and 78.9% rural. Aamir Mushtaquet al⁽¹²⁾ study of prevalence of headache in rural and urban population they found that Migraine was present in 170 (8.5%) rural 169 (8.5%) urban 339 (8.5%) total Tension headache was present in 1229 (61.5%) rural 1391 (69.6%) urban 2620 (65.5%) total Cluster headache was present in 417(20.9%) rural 264(13.2%) urban 681(17%) total Medication over use headache was present in 18(0.9%) rural 41(2.1% urban) 59(1.5%) total.

In our study socioeconomic status occupation / income were low in 680 (34%) patients' medium in 1200 (60%) patients. High socioeconomic status was seen only in 120(6%) patients. Huseyin Tugrul Atasoy et al⁽¹³⁾ study they observed that medication overuse headache more frequently noted in Low income 34 (73%) patients and less common in high income 12 (26.1%) patients, migraine was present in 30 (49.2%) patients of low income group and 31 (50.8%) patients in high income group. According to World Headache Alliance headache frequency was significantly higher in the low-income group compared to the high-income group. Low income and poor access to health insurance may impact the use of health care.

The association of headache with rural habitation and low income aggravates the problem in a number of ways. Firstly, low-income households have limited access to health care, and more so in rural areas as health care is relatively deficient in these places. Secondly, people with headache disorders may not be fully productive, and hence would have lower earning potentials. Thirdly, as low income is also associated with low education, these families tend to neglect the problem through lack of awareness. Fourthly, lack of access to professional health care, encourages people to resort to home remedies or traditional therapies, which may not be appropriate. Fifthly, even when people with headache do contact a health-care provider, inadequate professional education may lead to inappropriate management, ineffective treatment, improper and wasteful referrals. These problems are not unique to India. Globally, and within every country, headache disorders are among the most prevalent and the most highly neglected health problems.

In our study Out of these two thousand patients tension type headache occur in 60%, migraine in 20%, cluster headache in 3%, medication overuse headache present in 5% patients and 12% other causes like sinusitis, stroke, decrease vision, atypical pain like trigeminal neuralgia brain tumor and abscess.

in study of Quesada et al⁽¹⁴⁾ the most common headache type in our sample was ETTH (24.5%), followed by migraine (17.3%), both types were peaked in mid-life and dropped to its lowest level above 55 years; these findings were similar to what reported in rural population in Cuba (TTH was 25.56%, migraine was 16.94%). Katsarava et al⁽¹⁵⁾ study in Georgia, the prevalence was 37.3% for TTH and 15.6% for migraine.

Conclusion

Considering the limitations and strengths of the study, it can be concluded that headache prevalence in central part of India more in female, adult between 16-60 years age groups, rural areas with low socioeconomic status / income. Most common cause of headache is tension type and second is migraine.

Reference

1. Stovner, LJ; Andree, C (2010). "Prevalence of headache in Europe: a review for the Eurolight project." *Journal of Headache Pain*. 11(4):289–299.
2. Vos T, Flaxman AD, Naghavi M, Lozano R, Michaud C, Ezzati M, Shibuya K, Salomon JA, Abdalla S, Aboyans V, Abraham J, Ackerman I, Aggarwal R, Ahn SY, Ali MK, Alvarado M, Anderson HR, Anderson LM, Andrews KG, Atkinson C, Baddour LM, Bahalim AN, Barker-Collo S, Barrero LH, Bartels DH, Basáñez.
3. MG, Baxter A, Bell ML, Benjamin EJ, Bennett D, et al. (2012) Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 380:2163–2196.
4. Edlow, J.A.; Panagos, P.D.; Godwin, S.A.; Thomas, T.L.; Decker, W.W. (October 2008). "Clinical policy: Critical issues in the evaluation and management of adult patients presenting to the emergency department with acute headache". *Annals of Emergency Medicine*. 52(4):407–36.
5. Cecilia B Young (3 January 2012). "The Johns Hopkins Headache Center - Primary Exertion Headache". hopkinsmedicine.org.
6. "Clinch C. Chapter 28. Evaluation & Management of Headache - CURRENT Diagnosis & Treatment in Family Medicine, Third Edition (Lange Current Series): Jeannette E. South-Paul, Samuel C. Matheny, Evelyn L. Lewis:". McGraw-Hill. 2011. ISBN 9780071624367.
7. Kunkel, Robert S. (2010-08-01). "Headache". *Disease Management Project: Publications*. Cleveland Clinic. Retrieved 2010-08-06.
8. Detsky ME, McDonald DR, Baerlocher MR; McDonald; Baerlocher; Tomlinson; McCrory; Booth (2006). "Does this patient with headache have a migraine or need neuroimaging?" *JAMA*. 296(10):1274-1283.
9. Rasmussen BK1, Jensen R, Schroll M, Olesen J. Epidemiology of headache in a general population--a prevalence study. *J Clin Epidemiol*. 1991;44(11):1147-57.
10. Maqsood Ahmad Dar, Baseerat Ali, Rajashekar Redid, Rommel Roshan Tickoo, Owais Hamid Dar. Prevalence of chronic daily headache (cdh) in people of age group 18-80 years in Max Superspecialty Hospital, Saket, New Delhi" India – a prospective study *IJCRR*. 2016;8(19):25-35.
11. Gururaj G, Kulkarni GB, Rao GN, Subbakrishna D K, Stovner LJ, Steiner TJ. Prevalence and sociodemographic correlates of primary headache disorders: results of a population-based survey from Bangalore, India. *Indian J Public Health* 2014;58:241-8.
12. Naglaa A. El-Sherbiny, Mohamed Masoud, Nevin M. Shalaby, and Hatem S. Shehata Prevalence of primary headache disorders in Fayoum Governorate, Egypt *J Headache Pain*. 2015;16:85.
13. Aamir Mushtaq, Anum Saqib, Zainab Aslam, Firdos Fatima, Qaiser Jabeen, Muhammad Imran Khan, Muhammad Wajid And Alamgeer Prevalence of different types of headache in urban and rural areas Of the Punjab province of Pakistan, *IJPRBS*, 2014; volume 3(1):392-400.
14. Huseyin Tugrul Atasoy, MD; Aysun Eroglu Unal, MD; Nuray Atasoy, MD; Ufuk Emre, MD; Murat Sumer, MD Low Income and Education Levels May Cause Medication Overuse and Chronicity in Migraine Patients *Headache*. 2005 Jan;45(1):25-31.
15. Quesada-Vázquez AJ, Contreras-Maure LJ, Alvarez-Aliaga A, Traba-Tamayo ER. Prevalence of primary headaches in a rural population in Cuba. *Rev Neurol*. 2009;49:131–135.
16. Katsarava Z, Dzagnidze A, Kukava M, Mirvelashvili E, Djibuti M, Janelidze M, et al. Lifting the burden: the global campaign to reduce the burden of headache worldwide and the Russian linguistic subcommittee of the international headache society. Primary headache disorders in the republic of Georgia: prevalence and risk factors. *Neurology*. 2009;73:1796–1803.