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Clinical Characteristics of a Severe Headache and Its Impact on Personal Life of Patients

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ABSTRACT

Introduction: Headache and its consequent suffering may bring about limitation in daily activities and patients' job performance leading to an economic burden on society.

Objective: The study aimed to identify characteristics of a severe headache and its impact on the personal life of patients.

Methods: The present study was a cross-sectional hospital-based study conducted at the outpatient department of Medicine at RUHS College of Medical Sciences, Jaipur and associated hospital. It comprised of data collected from 100 patients complaining of headache due to multiple causes and demographic and clinical variables were obtained thereof. A detailed history followed complete physical examination. Patients were asked to fill up and complete a structured questionnaire to obtain the headache characteristics. All analyses were stratified by age and gender. Final diagnoses were made as per criteria laid down by the International Headache Society.

Results: Common migraine (28.99%) and vascular headache (28.99%) constituted the majority of cases of the primary headache; with tension headache comprising only 6%. The mean age of the study population was 32.66 ± 14.63 years with an average age of onset being 26.05 ±32 years. Primary headache was found to be more common among married patients (82%) as compared to singles with females outnumbering males. Males were more likely to be fatigued and miss work. Mood changes and appetite loss were more common in females.

Conclusion: There is a significant number of serious headache sufferers in Rajasthan who experience a profound social as well as personal impairment as a result of their illness. Further research is recommended to evaluate the extent of interpersonal and personal disability due to this disorder.

Key Words: Common Migraine, Vascular headache, Tension headache, Mood changes

INTRODUCTION

Headache or Cephalalgia is a very common disabling neurological disorder and a major causative factor responsible for public ill-health. Headache and its consequent sufferings represent a tangible personal and social burden worldwide. This highly prevalent disorder is shown to have a significant impact on the patients' quality of life and job performance leading to a considerable economic burden on society.[1,2] However, on account of its episodic nature and the lack of associated mortality, it has not figured highly on the radar of public health initiatives. Nonetheless, frequent and severe headaches have a major impact on the quality of life, of which patients are the best source of information.[3] Although most patients receive their treatment in the primary care setting, headache remains a significant component of a neurologist's practise and domain.

Its prevalence is estimated at 11% - 48% in children[6] and 6% -71% in adults.[4,5] A higher prevalence has been found in Europe and North America[4,6,7] than in Asian and South American countries.[8,9] Significant sex differences have been found in multiple epidemiological studies of headache.[10]

Amongst the primary headaches, tension headache is the most common followed by migraine and cluster headache which is the rarest but most severe type. Out of these primary headaches, migraine has received the most attention from medical researchers, and a large number of studies

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have examined its correlates. The importance of primary headaches is also emphasized by their global distribution, duration (the majority being life-long conditions) and debilitation that imposes lifestyle restrictions among the large population. 47% population, in general, is estimated to have suffered from any kind of headache at least once within the last year. The recent publication of the Global Burden of Disease survey in 2010 (GBD, 2010) highlights headache as one of the common causes of disability worldwide.[11] Other studies reveal tension-type headache and migraine as the second and third most prevalent disorders in the world (after dental caries); Migraine being the seventh highest.[12]

Headache is an important ailment and one of the leading reasons for outpatient visits to consultants specialized in Neurology and Internal Medicine. Its impact on the disability it imposes is less well documented, so the present study was designed to identify and analyze characteristics of a severe headache and study its impact on the personal lives of patients.

MATERIALS AND METHODS

The present study was a cross-sectional hospital-based study conducted in close association with departments of Internal Medicine, Physiology and Biochemistry at Rajasthan University of Health Sciences College of Medical Sciences and associated group of hospitals after approval from the institutional ethical committee. After obtaining individual informed consent, data from 100 patients attending the outpatient department of Internal Medicine at the associated hospital and complaining of headache due to multiple causes such as meningitis, anaemia, thrombosis, stress, etc. were used to obtain demographic and clinical variables. A physician evaluated the patients with a detailed history followed by a complete physical examination. Each patient was asked to fill up and complete a structured questionnaire to obtain the demographic data and characteristics of their headache. Demographic information in the questionnaire included variables like age, gender, marital status and occupation. The demographic questionnaire was followed by neutral screening questions for headache e.g. “Is this the first attack of the headache of your life?” and “Is this worst headache ever?” etc.). Questions investigating the characteristics of headache like the duration and site of pain, severity, time frame of onset, type of pain, the interval between episodes, aggravating and relieving factors, associated symptoms and possible related conditions were also included in the questionnaire. All analyses were stratified by age and gender. Final diagnoses were made as per the criteria laid down by the International Headache Society (International Classification of Headache Disorders (ICHD)-3 Beta).[13]

RESULTS

The mean age of the study population (10-75 years) was 32.66 ± 14.63 years. The average age of onset was 26.05 ± 5.32 years. There was no significant difference in mean age between males (32.41 ± 15.86 years) and females (32.92 ± 13.37 years).

Primary headache was found to be more common in married patients (82%) as compared to those who were single; with females outnumbering males **(Table 1)**. The age distribution revealed that the maximum number of cases belonged to the patients between 20 to 30 years followed by a gradual decline, particularly the following menopause in females **(Figure 1).**

Descriptive analysis of various types of primary headache amongst 20-30 years old patients (n=35) is depicted in **Figure 2**. The common migraine (n=10, 28.99%) and vascular headache (n=10, 28.99%) constituted the majority of cases of the primary headache, whereas tension headache was the least accounting for only 6%.

An attempt was made to assess the personal impact of 100 cases with five predesigned questions **(Table 2)**. All cases (100%) had complaint of the worst ever headache and the key finding in the majority of individuals (92%) was persistent pain despite measures being taken. It was even observed that the majority of individuals (67%) had complaint of the past headache of a different character. Because of observing the activity of onset of headache, the predominant finding was its appearance while doing a routine activity rather than watching television or working at the office **(Table 2).**

In the majority of the cases, the headache was gradual in onset (61%), lasting for 1 to 5 days duration (64%) and located diffusely (70%). The typology of pain (squeezing/pressing) was almost the same in the cases which accounted for approximately 45%, but the respondents were only 12% in case of mixed typology. The associated symptoms were widely varied in the respondents except that all (100%) of the individuals had nausea/vomiting or photophobia followed by giddiness and vertigo in 86% of the cases **(Table 3).**

The respondents (answerable in yes or no) were of varied opinions regarding perception of headache except for sleep and work, which signified that sleep and work were significantly affected **(Table 4)**. The majority of the respondents had perceived mood changes (96%) and fatigue (89%) followed by giddiness (74%) and loss of appetite (71%). Males were more likely to be fatigued and miss office/work. Mood changes and appetite loss were more common in females. The visual component of sensitivity to bright light and blurred vision was perceived by almost half of the respondents. Visual hallucinations were found in none of them.

DISCUSSION

Headache has a substantial effect on the patients' state of wellbeing, quality of life and work-oriented performance leading to personal, professional and socio-economical deficits. Not consistent with the epidemiology of headache, the patients consulting physician in our study were almost the same concerning gender though females outnumbered males very slightly. However, according to a Canadian population-based epidemiological study, Migraine is about thrice as common in females as in males.[10] The female to male ratio in our overall referred population was 1.04:1, reflecting the gender-biased prevalence in the general population. A study conducted on dental students in India also reported a higher prevalence in females as compared to males.[11-13] Our population of patients was also similar to other clinic-based studies of headache in terms of age and various demographic features.[14-18] Sufferers in our study fell into the most productive years of their lives i.e. 20 to 40 years. More than three quarters (82%) of our study population was married with headaches leaving bad repercussions on family relations and activities. Lipton et al. established that the prevalence of migraine varies as a function of age. Migraine is most prevalent between the ages of 25 and 55. Part of the reason the condition has such a big impact in the workplace is that it affects people during their peak productive years.[19]

A considerable strength of the study was the use of a common questionnaire on the study population to avoid any bias. The aspects of personal impact identified in **Table 4** are worth dwelling on, because they signal effects that are constant and/or cumulative, not merely present during headache episodes. Such consequences are serious impositions on life, particularly the effects on education, career and earnings.

In a Canadian study, over 70% of referrals accounted for migraineurs and tension-type headaches made up a much smaller proportion (7.9%) of the referrals.[10] In contrast to this, migraine was the second most dominant diagnosis in our referred patient population. It was of course likely that a significant proportion of our migraine population had tension-type headaches as well. In a study conducted in North America, Gerth et al. reported that migraineurs are absent from work for almost 17 days each year. Also, sufferers reported only 46% effectiveness while at work with migraine symptoms.[19,20] Von Korff et al. reported headache induced decreased work effectiveness, and while working with headache, in the order of 41% for migraine and 24% for other headache types.[21] In an American study, Hu et al. estimated huge annual indirect costs incurred by employers because of migraine. Almost 85% indicated a reduced capacity to perform housework or chores.[22] Additionally, Matilde Leonardi and Alberto Raggi in their narrative review described the multifactorial aspect of the burden of migraine in everyday life including work-related activities.[23]

While contemplating the burden of headache, we tried to distinguish between individual and societal burden. The individual burden was determined by symptoms during attacks, by anticipation of symptoms between attacks, and by the reduced quality of life in people suffering from this disorder as compared with the general population. The results showed that family, social, and recreational activities were impacted severely in sufferers of headache. As far as work was concerned, absenteeism and reduced effectiveness was observed in patients especially males. In tune with the above studies, our study also showed a profound debilitating effect of headache on work and family life.

CONCLUSION

It can be concluded that there is a significant number of serious headache sufferers in Rajasthan who experience social as well as personal impairment as a result of their illness. Further research is recommended to evaluate the extent of interpersonal and personal disability due to this disorder**.** Although, the present study posed a limitation that all other headache clinics and tertiary care hospitals in the state did not participate in this study and therefore, our results are not population-based and may be subject to referral bias. In regards to the headache frequency and disability experienced by the patients in our study sample, our study population likely represents the severity of the headache patient pool, comprising of patients who may have posed a treatment challenge to primary care physicians.

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REFERENCES

1. Stovner LJ, Hagen K, Jensen R, Katsarava Z, Lipton RB, Scher AI, et al. The global burden of headache: a documentation of headache prevalence and disability worldwide. Cephalalgia 2007;27:193-210.
2. Falavigna A, Teles AR, Velho MC, Vedana VM, Silva RC, Mazzocchin T, et al. Prevalence and impact of headache in undergraduate students in southern Brazil. Arq Neuro-Psiquiatr 2010;68:873-877.

3. Kurt S, Kaplan Y. Epidemiological and clinical characteristics of headache in university students. Clin Neurol Neurosurg 2008;110:46-50.
4. Wong TW, Wong KS, Yu TS, Kay R. Prevalence of migraine and other headaches in Hong Kong. Neuroepidem 1995;14:82-91.
5. Kryst S, Scherl E. A population-based survey of the social and personal impact of headache. Headache 1994;34:344-50.
6. Merikangas KR, Whitaker AE, Isler H, et al. The Zurich Study: XXIII. Epidemiology of headache syndromes in the Zurich cohort study of young adults. Eur Arch Psychiatry Clin Neurosci 1994;244:145-52.
7. O'Brien B, Goeree R, Streiner D. Prevalence of migraine headache in Canada: a population-based survey. Int J Epidemiol 1994;23:1020-26.
8. Cruz ME, Cruz I, Preux PM, Schantz P, Dumas M. Headache and cysticercosis in Ecuador, South America. Headache 1995;35:93-97.
9. Marcos LM. Treatment of frequent attacks of migraine with sex hormones. Rev Clin Esp 1953;51:155-164.
10. Cassidy EM, Tomkins E, Hardiman O, O'Keane V. Factors associated with burden of primary headache in a specialty clinic. Headache 2003;43:638-44.
11. Vos T, Flaxman AD, Naghavi M. 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. Lancet 2010;380(9859):2163-96.
12. Martelletti P, Birbeck GL, Katsarava Z, Jensen RH, Stovner LJ, Steiner TJ. The Global Burden of Disease survey 2010, Lifting the Burden and thinking outside the box on headache disorders. J Headache Pain 2013;14:13.
13. Headache Classification Committee of the International Headache Society (IHS) The International Classification of Headache Disorders, 3rd edition (beta version). Cephalalgia 2013;33(9):629-808.
14. Nandha R, Chhabra M. Prevalence and clinical characteristics of headache in dental students of a tertiary care teaching dental hospital in Northern India. Int J Basic Clin Pharmacol 2013;2(1):51-55.
15. Abu-Arefeh I, Russell G. Prevalence of headache and migraine in schoolchildren. Br Med J 1994;309:765-69.
16. Ferrari A, Pasciullo G, Savino G, Cicero AF, Ottani A, Bertolini A, et al. Headache treatment before and after the consultation of a specialized centre: a pharmacoepidemiology study. Cephalalgia 2004;24:356-62.
17. Gesztelyi G, Bereczki D. Primary headaches in an outpatient neurology headache clinic in East Hungary. Eur J Neurol 2004;11:389-95.
18. Sheftell FD, Feleppa M, Tepper SJ, Volcy M, Rapoport AM, Bigal ME. Patterns of use of triptans and reasons for switching them in a tertiary care migraine population. Headache 2004;44:661-8.
19. Lipton RB, Bigal ME, Kolodner K, Stewart WF, Liberman JN, Steiner TJ. The family impact of migraine: population-based studies in the USA and UK. Cephalalgia 2003;23:429-40.
20. Gerth WC, Carides GW, Dasbach EJ, Visser WH, Santanello NC. The multinational impact of migraine symptoms on healthcare utilisation and work loss. Pharmacologist 2001;19:197-206.
21. Von Korff M, Stewart WF, Simon DJ, Lipton RB. Migraine and reduced work performance: a population-based diary study. Neurology 1998;50:1741-1745.
22. Hu XH, Markson LE, Lipton RB, Stewart WF, Berger ML. The burden of migraine in the United States: disability and economic costs. Arch Intern Med 1999;159:813-818.
23. Leonardi M, Raggi A. A narrative review on the burden of migraine: when the burden is the impact on people's life. J Headache Pain 2019;20:41.

Table 1: Distribution of type of headache according to Gender and Marital status

Parameters		Primary Headache (n)	Secondary Headache (n)	Total
Gender	Male	15	34	49
	Female	17	34	51
Marital Status	Married	24	58	82
	Unmarried	8	10	18

Table 2: Perception of headache with the help of five questions

Description of the episode by questions	Perceived headache by respondents (100 cases)	
	Yes (%)	No (%)
Is this the first attack of the headache of your life?	52	48
Is this the worst headache ever?	100	00
Is this headache similar/ different from the past headache?	33	67
Is the pain persists despite taking measures?	92	8
Was there any activity at the onset of headache? Such as:		
Routine	60	26
Watching TV	3	3
Working at Office	7	5
No	30	66

Table 3: Clinical characteristics of a severe headache

Characteristics	No of respondents (%)
Time frame of onset:	
Sudden	39
Gradual	61
Duration:	
<24 hour	34
1 day to 5 days	64
5 days to 7 days	2
Location:	
Diffuse	70
Bilateral	25
Unilateral	5
Pain type:	
Squeezing	45
Pressing	43
Pressing and Squeezing	12
Associated Symptoms:	
Nausea/Vomiting/Photophobia	100
Giddiness/Vertigo	86
Eye congestion/Lacrimation/Nasal Congestion	35
Diminution of vision	19
Double vision	17
Difficulty in speaking	6
Difficult in swallowing	00
Loss of consciousness	9
Weakness of one half of body	4
Tingling in limbs/face/both	3
Numbness in limbs/face/both	3
Tonic clonic movement of any limb/all four limbs	11
Fever	15
Ear discharge	3
Altered sensorium	10
Change in behavior	9

Table 4: Personal impact of headache assessed by questions and clinical history of prodrome

S.No	Questions	Distribution of responses (%)		
		Male	Female	Overall
1	Can one sleep?	49	51	100
2	Can one work?	49	51	100
3	Does one miss school/office/work?	13	8	21
4	Fatigue	46	43	89
5	Mood changes	47	49	96
6	Loss of appetite	32	39	71
7	Seeing zigzag lines	8	9	17

Table 4: ***(Continued)***

S.No	Questions	Distribution of responses (%)		
		Male	Female	Overall
8	Seeing flashing lights	2	5	7
9	Tightness of neck	15	18	33
10	Visual hallucinations	00	00	0
11	Temporary blind spots	7	2	9
12	Sensitivity to bright light	19	30	49
13	Blurred vision	24	25	49
14	Eye pain	7	15	22
15	Chills	1	00	1
16	Increased urination	00	5	5
17	Increased sweating	1	5	6
18	Swelling of face	4	6	10
19	Increased sensitivity to sounds	16	31	47
20	Ringing in ears	3	3	6
21	Giddiness	34	40	74

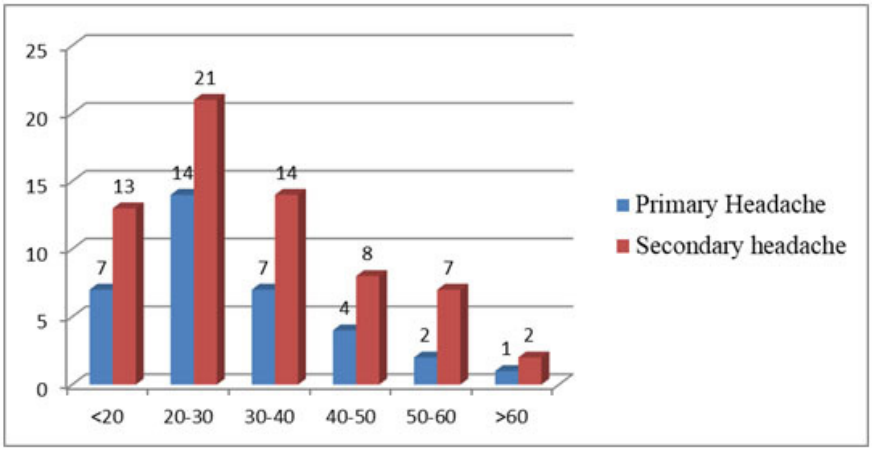

Figure 1: Age wise distribution of different types of Headache.

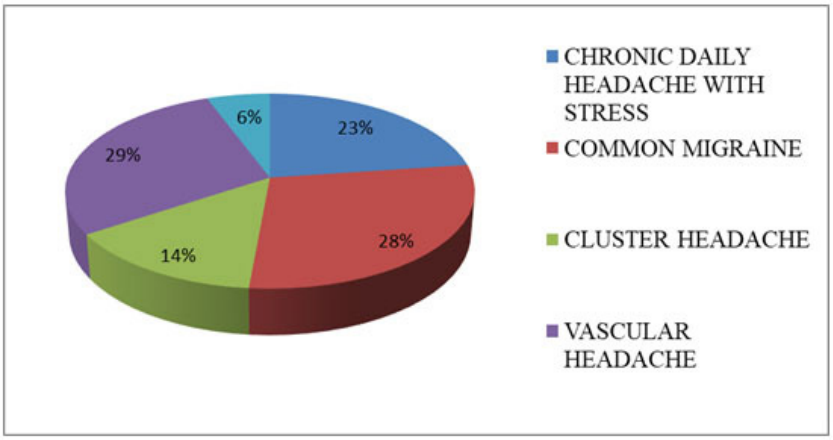

Figure 2: Distribution of different types of primary Headache amongst 20- 30 year old patients.