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The Burden of Headache in Patients Attending Medicine OPD at a Tertiary Medical Centre (AIIMS Patna)

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Background

Headache is a very common complaint in communities. Primary headache disorders are not only among the commonest disorders in the world but also among the most burdensome, causing considerable morbidity and loss of productivity.[1] The Global burden of disease study 2010 (GBD2010) reported tension type headache (TTH) and migraine to be the 2nd and 3rd most prevalent disorders worldwide, but migraine far outweighs TTH as a cause of disability.[2] The Global burden disease study 2013 (GBD2013) found migraine to be the 6th highest cause worldwide in terms of years lost due to disability (YLD). Community based studies in India report an observed 1 year prevalence of any headache to be 63.9% which is significantly high compared to global prevalence of any headache. The mean global prevalence is estimated as 14.7%.[3] Even in developed countries like USA,UK only half of those identified with migraine had seen a doctor for headache related reasons in the previous 12 months and only two-thirds had been correctly diagnosed.[4] In India, there is dearth of focused epidemiological studies on primary headache and its subtypes especially Bihar.

Aim & Objectives

1) To determine the number and type of headache patients presenting to a tertiary care centre (AIIMS Patna).
2) To classify the patients into major diagnostic categories using ICHD III criteria.
3) To determine the common triggers and exacerbating factors in migraine and tension type headache.
4) To determine the pattern of medication use in such patients.

Material & Methods

It was a hospital based prospective observational study carried out at outpatient services, Department of Medicine, AIIMS Patna. The study was conducted during the year 2016 May onwards. Patients >18 yrs presenting to Medicine OPD with chief complain of headache were included. Those with facial pain alone or neuralgias were not included. Patients with other chief complaint such as fever, loss of consciousness were not included.

We prepared our protocol based on the International Classification of Headache disorders

3rd edition (ICHD III). Detailed history and necessary clinical examination were performed in all patients. A standardized questionnaire was used for guiding the patient interaction. All data were collected by the Investigators/Doctors of the department who were familiar with the questionnaire. Relevant investigations were done wherever indicated. After thorough history, clinical examination and appropriate investigations, final diagnosis was made following ICHD III criteria. Patients were classified as Primary or Secondary headache followed by specific diagnosis. Any participant reporting more than one headache type was asked to focus only on the one that was subjectively the most bothersome for purpose of diagnosis and burden attribution. Any headache occurring for more than 15 days per month was considered as chronic daily headache

Review of Literature

Headache is a disabling disorder leading to significant loss of disability adjusted life years in all sections of the community[2]. The findings of the global burden study 2013 indicate the magnitude of the problem worldwide.[2] The need to address the data gap for headache sufferers and the need to address them specifically was reflected in the "lifting the burden campaign".[5] This WHO supported project has revealed surprising results for participant countries including India. Headache prevalence in India is enormous compared to global prevalence.[5] Headache disorders are not perceived by the public as serious since they are mostly episodic, do not cause death, and are not contagious. The low consultation rates in developed countries may indicate that many affected people are unaware that effective treatments exist. Half of people with headache disorders are estimated to be self-treating.[4] The appropriate care and treatment of headache patients require correct estimation of number of patients with headache and classification to address their specific diagnosis. Lack of knowledge among health-care providers and patients is one of the principal clinical barriers to headache care. A large number of people with headache disorders are not diagnosed and treated: worldwide only 40% of those with migraine or tension type headache are professionally diagnosed, and only 10% of those with medication overuse headache.[4] Huge indirect-cost savings might be made (eg, by reducing lost working days) if resources are allocated to treat headache disorders appropriately.

Results

There were a total of 144 participants included for this study. Patients included mainly, were from different regions of Bihar. Out of 144 participants, 48 were male and 96 were female which accounted for 33.3% and 66.7% respectively. Among these 130(90.3%) of them reported with gradual onset while 14(9.7%) people reported to have suuden onset of headache.

Headache was found to be more common in young and adolescents accounting for 43.1% (n=62) in 16-30 yrs age groups. The number of males and females in this group were 20 and 42 respectively. In 30-45 yrs group we had 34% (n=49).The number of males and females in this group were 16 and 33 respectively. In 45-60 yrs it was 21.5% (n=31).The number of males and females in this group were 11 and 20 respectively. Above 60 yrs we had only 2 cases (1.4%).The number of males and females in this group were equal, one each.

Headache was found to be quite common among housewives, accounting for 44.5% alone (n=64). Among students, it was 9.7% (n=14) and other professionals accounted for 45.8% (n=66).In the professional group no significant gender wise difference was seen.

In respect to time duration, most patients (47.2%; n=68) said to have it lasted for less than 30 minutes. In 30min-4hrs group we had 23 cases (16%) and in more than 4hrs group the number was 53(36.8%). In terms of frequency/ week, almost 62.5% (n=90) had 0-1/wk followed by 32.6% (n=47) in 2-4/wk and 4.9% (n=7) in >4/wk.

Among all headache, TTH was the most common followed by migraine. Out of all, 81 patients were diagnosed as TTH (56.3%) and 49 patients were diagnosed as migraine (34.1%). A significant number was also noted with Probable medication overuse headache (PMOH)-6.1% (n=9) and 05(3.5%) patients were diagnosed with Chronic daily headache(CDH) which goes quite well with global prevalence.

In TTH group, the number of males and females were 26 and 55 respectively. In migraine group the number of males and females were 17 and 32 respectively. In PMOH group, the number of males and females were 3 and 6 respectively. In CDH group the number of males and females were 2 and 3 respectively.

Most of the headaches were episodic in nature. Headache was found to be unilateral in 65.3% and bilateral in 34.7%. The most common type of pain or complain was heaviness in head (n=76), followed by throbbing (n=32).Few other reported it as constricting (n=16) and band like (n=20). Most common site was found to be frontal (n=97). This was followed by temoral (n=27), orbital (n=09), others (n=11).

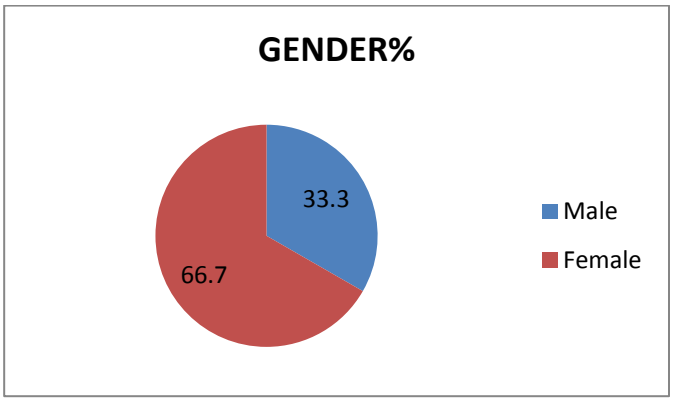
As far as classical migraine was concerned, 32.7% (n=16) cases were diagnosed as migraine with aura and 67.3% (n=33) as migraine without aura. Visual aura was quite common (75%), followed by sensory (56.3%), and aphasic aura(25%). Most of them had mixed type accounting for almost 87.5%. Most common symptoms associated with migraine attacks was Nausea(84%), Vomiting (65%), Photophobia/ Phonophobia (62%), Light headedness(60%), Visual disturbances(28%), Vertigo(18%), Paraesthesia (13%), Alteration of consciousness (2 Cases were also grouped in terms of severity based on grading scale0-10(0=No pain at all,10=Pain as severe as it can be). Almost 76 cases (52.8%) were grouped as mild,49 (34%)as moderate and 19(13.2%) as severe. Among migraineurs most of them reported it as moderate to severe. Fronto-temporal with ocular involvement was the most common observed pattern among these individuals. Most common aggravating factor was found to be sleep deprivation(79%), followed by exposure to sound & light(64%). 27% reported it to occur on missing meals and 18% accounted for menstruation.

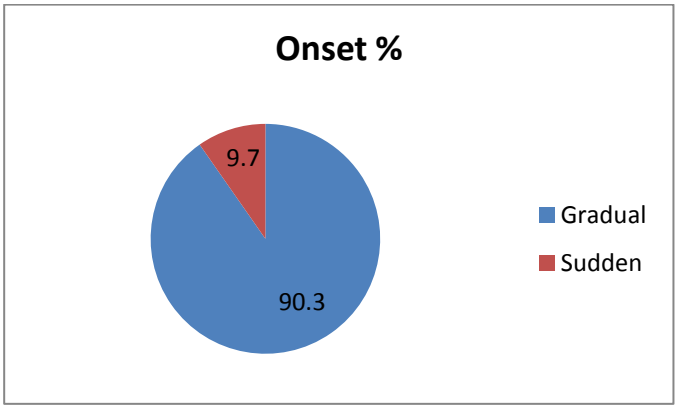
TTH group most commonly was featureless. Patients mainly complained of heaviness in head. Most of the headache were of mild to moderate intensity in pain.

Overall, Only two cases gave positive family history (1.4%) and 22.2% (n=32) had a history of screen exposure.27.1% cases reported to have taken medicines previously for their headache.

In TTH group, Most of the cases responded to NSAIDs alone (63.2%) while 23% got relief from stress relieving methods. NSAIDs +Antidepressants was used in 3.8%.

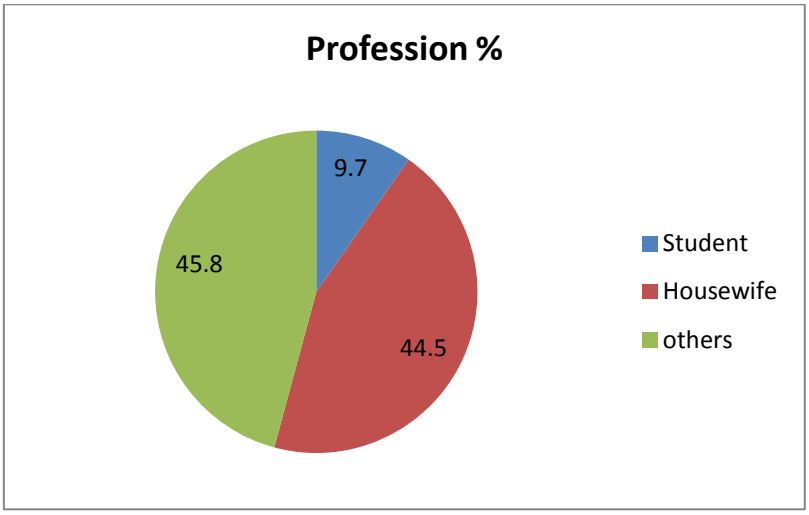
Among migraineurs, only 24.2% responded to pure NSAIDs. Others were treated with NSAIDs+Amitryptilline(38.8%), NSAIDs+Flunarizine(34.6%). 4.8%cases were treated prophylactically with propranolol and 4.2% were given other medications like Sumatriptans.

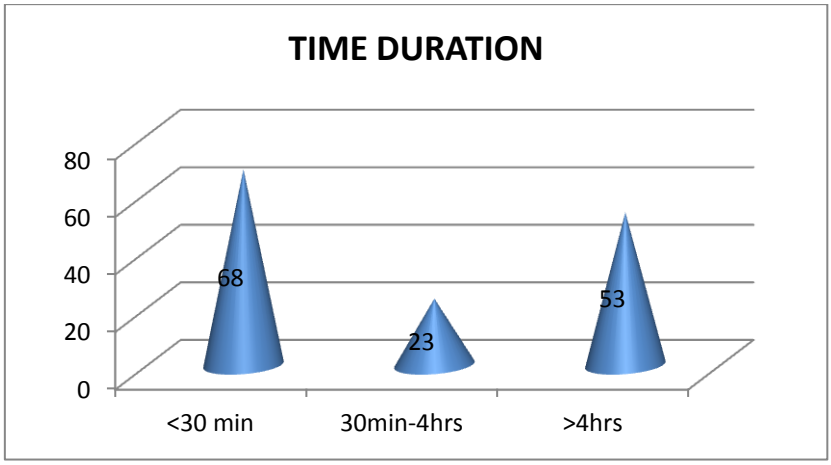


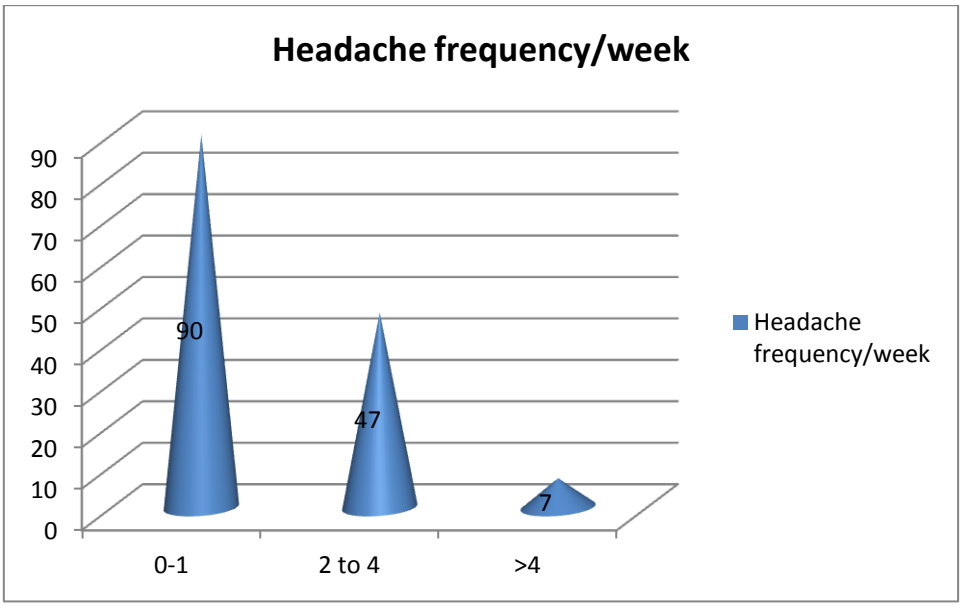


Age Group Distribution

Age Group	Number	%	Male	Female
16-30 YRS	62	43.1	20	42
31-45 YRS	49	34	16	33
46-60 YRS	31	21.5	11	20
>60 YRS	02	1.4	1	1





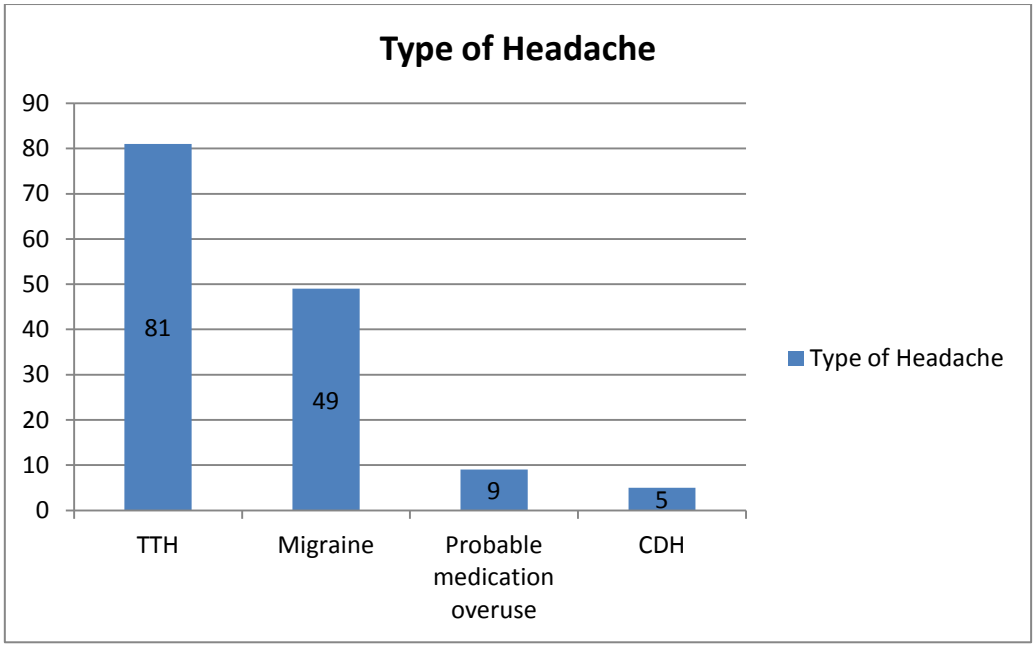


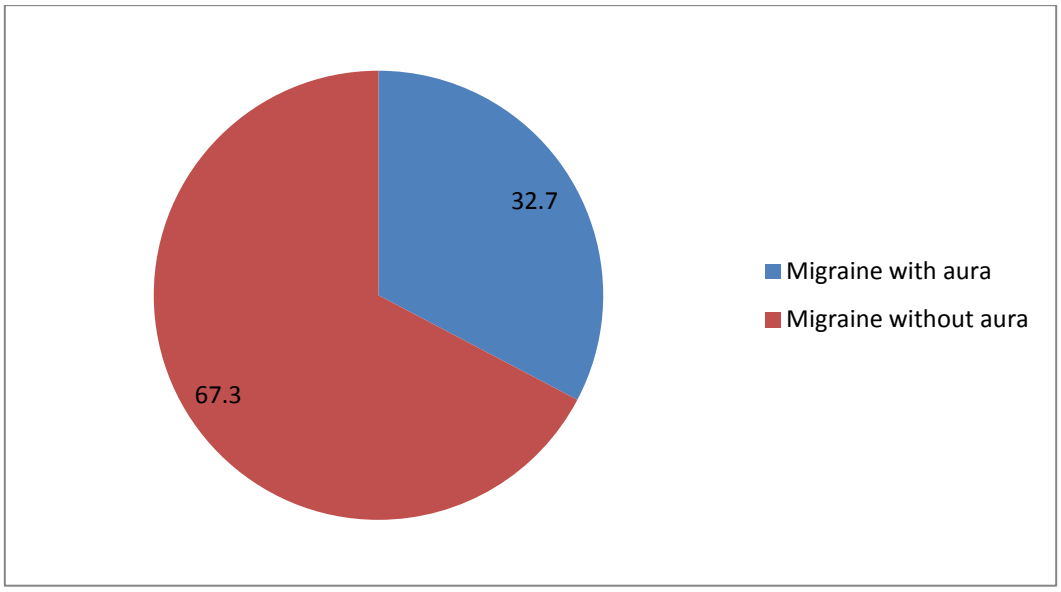
Intensity of headache

Severity	Number	%
Minimal	-	-
Mild	76	52.8
Moderate	49	34
Severe	19	13.2

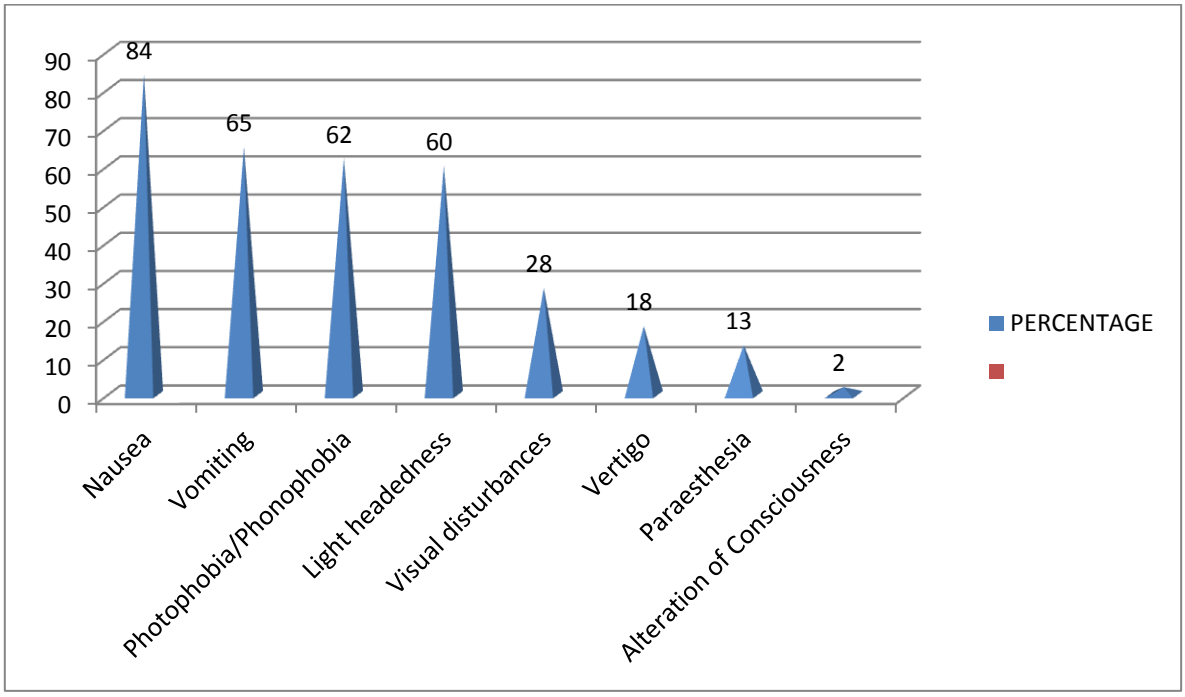
Headache classification

Type of headache	Number	%	Male	Female
TTH	81	56.3	26	55
Migraine	49	34.10	17	32
Probable medication overuse headache	09	6.1	3	6
Chronic daily headache	05	3.5	2	3



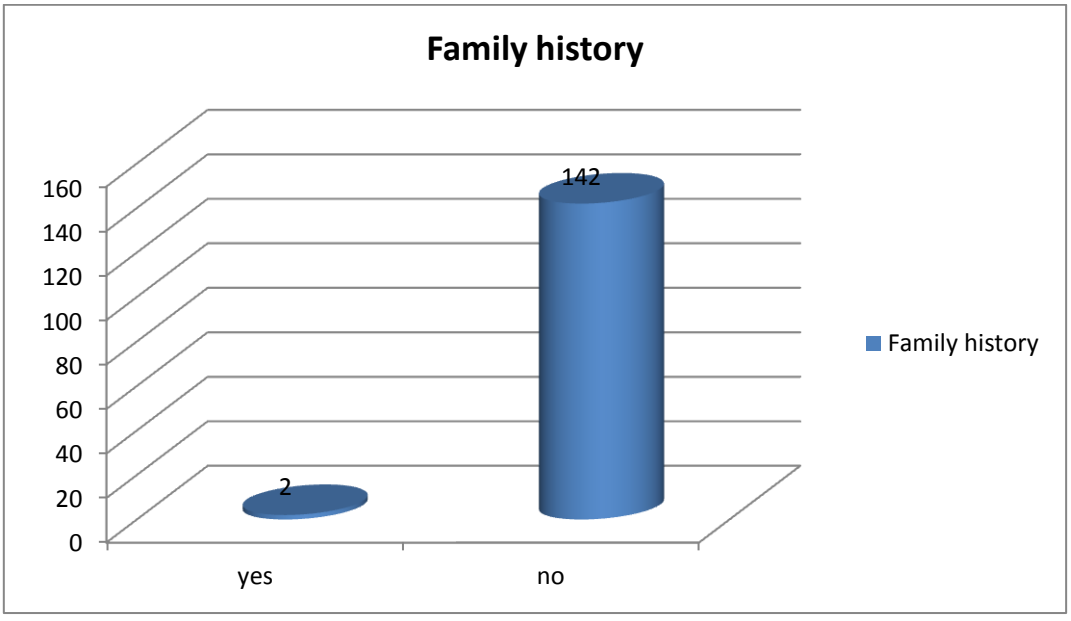


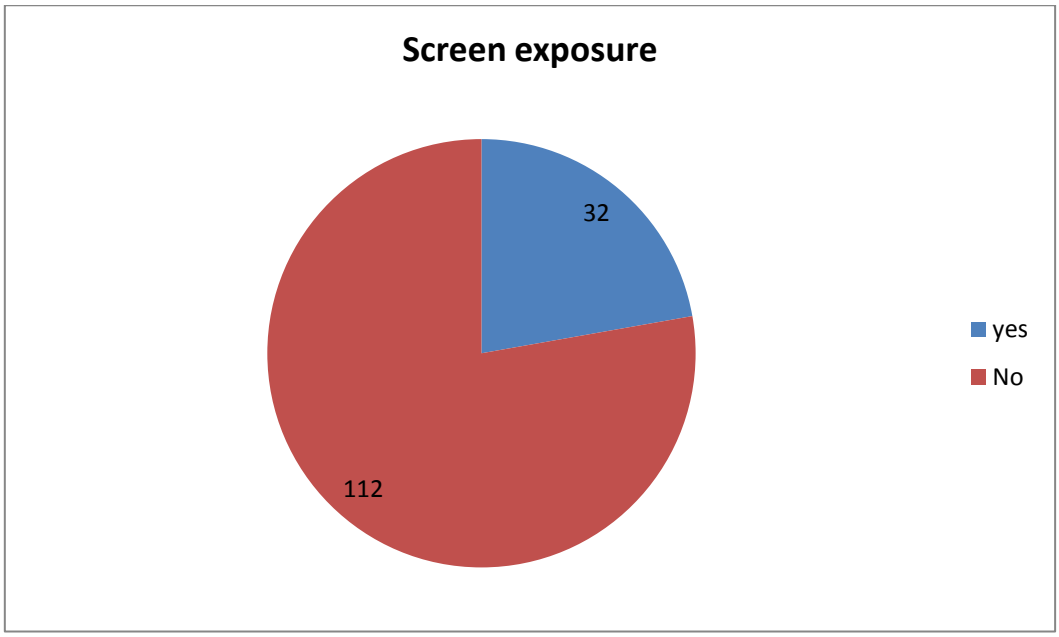
ASSOCIATED symptoms with Migraine:



Aggravating factors

CAUSE	PERCENTAGE
Sleep deprivation	79%
Sound	64%
LIGHT	61%
Missing meals	27%
Menstruation	18%
Others	24%





RESPONSE to treatment in TTH group

DRUGS	PERCENTAGE
NSAIDs	63.2
Stress relieving factors	23
NSAIDS+Antidepressants	3.8

RESPONSE to treatment in MIGRAINE group

DRUGS	Percentage
NSAIDs	24.2
NSAIDs+Amitryptilline	38.8
NSAIDs+Flunarizine	34.6
Propranolol (Prophylactically)	4.8
Others	4.2

Discussion

The above study was a hospital based study carried over a period of 3-6 months duration. The outcome of this study clearly shows that headache continues to be a major global burden. It may present as a primary headache syndrome, such as tension-type headache, migraine, cluster headache or the headache may be secondary to various illnesses.[6]

According to Global year against headache, Oct 2011-Oct 2012 epidemiology, headache is the most prevalent neurological disorders and among the most frequent symptoms seen in general practice. 50% of the general population has headache during any given year which is quite similar to what we found.[(2)] In our study, we found females were more affected than males across all age group. Surprisingly, it was very common among housewives (44.5%), though a small percentage was also reported by students (9.7%). TTH was found to be the commonest one (56.3%) followed by migraine (34.1%). But in terms of severity and burden migraine was more pronounced. During the last years, more attention has been drawn to the importance of TTH on the public health, and it seems that 60% suffer from this headache type. This was also reported by Stovner LJ etal in their study 'The global burden of headache'.[1] Most of the headaches were episodic and mild to moderate intensity in origin.

In a study conducted in USA, the 3 month overall prevalence of migraine was 14.2%, with maximum incidence occurring in subjects aged between 18-44 yrs.[19] Similarly, we too found that maximum case reports in our study was in the age group 16-45 yrs, while there were only two cases above 60 yrs. In all the above group females dominated over males except for old age group(>60 years) where male and female were equal. Among migraineurs almost 2/3rd (67.3%) were diagnosed as migraine without aura and 1/3rd with aura (32.7%). Throbbing, unilateral pain was more common (65.3%). Pain was of moderate – severe intensity, more commonly occurring in fronto-temporal region with ocular involvement. The pain was found to be aggravated by sleep deprivation, physical activity or movement, on

exposure to light & sound, on missing meals etc. Migraine headache was associated with nausea (81.4%), vomiting (65%), photophobia/ phonophobia (62%), light headedness (60%), Visual disturbances (28%), Vertigo (18%), Paraesthesia (13%) and alteration of consciousness (2%). A similar finding has been reported by Lipton RB etal in their study on migraine in US.[14]

The estimated prevalence of all headache occurring on >15days/month was 3.5%,equal to the global mean, while that of pMOH was 6.1% comparatively higher than most national estimates of 1-1.5%.[16] Most of them had used NSAIDs on one or other occasion. In TTH group most effective method adopted for getting relief from headache was NSAIDs and stress relief methods. But in migraine group drugs like NSAIDs, Amitryptilline, Flunarizine, Propranolol, Sumatriptan was found to be more effective. The estimates of all productive time lost due to headache accounted for 4.9%, females losing more than males.CDH and migraine accounted for most of it. No losses were found to occur due to TTH. The mildly varying rates may be related to the differing methodology adopted, differences in defining the criteria of headache prevalence (1year Vs 3months), coexisting environmental factors, rural/urban differences, lifestyle. other disease spectrum, etc.[15]

Limitations

The prevalence of headache burden varies in different parts of the world, owing to differences in genetic background, climatic and socioeconomic conditions, life style, other disease spectrum and general health. In India, headache being common is often not reported if it is trivial. Mild headache is mostly due to tension headache and is often ignored. It may be due to cultural and social influence of concealing health problems. A recall bias may also influence the outcome. Slum dwelling, poor income, lack of education, absence of family support also needs to be addressed. Hence, actual prevalence could not be revealed. Similarly, no case of trigeminocephalic headache was diagnosed, indicating the need for a larger sample size.

Conclusion

The study shows that headache continues to be a major problem in our country. Yet, it continues to be underestimated in scope and scale and headache disorders remain under-recognized and under-treated everywhere. The significant burden of headache, especially in the most productive age groups of the population, emphasizes the urgent need for institution of public health measures to mitigate the effects of the disease.

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