CLINICAL PRESENTATION OF MIGRAINE PATIENTS IN A HEADACHE CLINIC OF A TERTIARY CARE HOSPITAL IN CHATTOGRAM

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Abstract

Background: Migraine is a common cause of medical consultation, both in primary care and in specialist neurology outpatient clinics. This study analyzed the characteristics of migraine patients during a 6-month period in a tertiary care headache outpatient clinic.

Materials and methods: This cross-sectional study was conducted in the Department of Neurology, Chittagong Medical College Hospital, Chattogram. Clinically diagnosed cases of migraine in accordance with the International Headache Classification, ranging from 15 years onwards, irrespective of sexes were the study population. A total of 50 migraine patients who met the eligibility criteria were include in the study as sample. Sociodemographic and data on clinical profile were collected as per a predesigned case record form.

Results: Majority of the patients was in 20-30 years of age group and female preponderance was noticed with a female to male ratio of 3:1. The patients were predominantly lower class (58%) married (82%) and urban resident (90%). Among the comorbidities, psychiatric problems like depression and anxiety was present in 16% and 14% participants respectively. Other comorbidities were obesity (18%) hypertension (4%) and diabetes (6%). Migraine without aura (78%) was more common than migraine with aura (22%). Pain mostly was of moderate severity and each episode lasted for an average of 25 hours. Majority complained nausea (90%) photophobia (84%) and vertigo (76%). The attack was primarily precipitated journey (50%) loud noise (36%) and physical exertion (30%). Pain was invariably relieved by taking analgesics, rest and adequate sleep. Only 4% patients reported hospitalization for their previous attack.

Conclusions: Migraine is a chronic disabilitating disorder. In this study we focused on symptoms of migraneous population, clinical presentation among respondents of this study showed most of female were more affected, mostly were married and lived in urban area. Future community based study is recommended in order to generalize the findings.

Key words : Migraine; Clinical profile; Demography; Headache clinic.

Introduction

The Global Burden of Diseases, Injuries and Risk Factors studies rank migraine as one of the most prevalent disease in the world. In terms of years of life lived with disability, migraine ranked second globally, and was among the ten most disabling disorders.[1] There is a dearth in population-based studies with regard to the burden of migraine in Bangladesh. Small scale studies indicate that, migraine is responsible for 26% of all headaches in Bangladesh, about 16% patients attending in Headache clinic had a diagnosis of migraine.[2,3] Given the current barriers, improving diagnosis and optimizing treatment paradigms could substantially reduce this global burden.

Although migraine diagnosis and treatment has made substantial gains in the last decade, the disease continues to be underdiagnosed and undertreated.[4] Surprisingly, even in wealthy European countries, too few people with migraine consult physicians, with proportionately too many of these seeing specialists and migraine-specific medications are used inadequately even among those who do.[5] Because there are no biological markers for migraine, diagnosis is based on clinical history and the exclusion of other headache disorders. Health care professionals apply clinical criteria to guide diagnoses and subsequent treatment.[6,7] Migraine can present with a wide variety of symptoms. Most of the symptoms are well known but some

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rare presentations also reported.[8] However, epidemiology and clinical profile of migraine are only sparsely documented in our setting. This study was performed with an aim of documenting the epidemiology, clinical profile and classification of migraine among patients presented to the Headache clinic, Neurology Outpatient Department, Chittagong Medical College Hospital, Chattogram.

Materials and methods

This descriptive cross sectional study was conducted in the patients registered at Headache clinic, Neurology Outpatient Department, Chittagong Medical College Hospital (CMCH) Chattogram during six month period between the July 2011 and December 2011. CMCH is a government tertiary care teaching hospital attached to Chittagong Medical College serving the public of Chattogram district and nearby districts. Patients are referred to headache clinic of the Neurology Department from other outpatient departments of the hospital and also from private clinics and primary health centers. Migraine was diagnosed by the consultant neurologist on the basis of International Headache Society (IHS) migraine headache criteria.[8] Patients with systemic, metabolic, traumatic disorders and or radiological findings that were documented to be directly or indirectly related to the causation of headache were excluded.

A structured self-designed questionnaire was used to interview the patients clinically diagnosed as migraines for evaluation of sociodemographic variables including age, gender, marital status, residence, occupation and socioeconomic status. The social stratification was determined using Modified Kappuswamy's scale.[9] Other data included precipitating factors, relieving factors, other possible risk factors (Insufficient sleep, smoking and mental stress), associated symptoms, comorbidity and disability grade of the patients. Disability was assessed by Migraine Disability Assessment Score.[10] The short-form version of the Depression Anxiety Stress Scales (DASS) which is a valid set of three self-report scales having 21(Twenty one) items designed to measure the negative emotional states of depression, anxiety and stress, were used in this study.[11] After assessing, depression and anxiety were categorized to major depressive episode and generalized anxiety disorder on the basis of diagnostic criteria of Diagnostic and Statistical Manual of mental disorders.[12] Persons were diagnosed as diabetes mellitus and hypertensive if they were on treatment by any registered physician. Study subjects were labeled as a case of obese if body mass index was >27.5kg/m^2. [13] According to the standard diagnostic criteria, insufficient sleep was considered as sleeping less than eight hours per day.[14]

Statistical analyses were performed with Statistical Package for the Social Sciences version 16.0 for Windows. Categorical variables were summarized as frequencies and percentages. Continuous data were expressed as mean (± Standard deviation) or median (Interquartile range).

The study protocol was reviewed and approved by the Research and Training Monitoring Department of Bangladesh College of Physicians and Surgeons (Memo NO.: CPS-712/2011/ 7/23/2011 (MM/DD/YY) PSN-1397) Before data collection, informed written consent was taken from the respondents. Objectives, procedure, risks, and benefits of participation in the study were included in the informed consent sheet. The participants were ensured that participation was voluntary and refusal might not influence their ongoing treatment in the hospital. Moreover, confidentiality of collected data was maintained using a code for each respondent. Privacy of the participants was also maintained during data collection by interviewing into a separate room. A female health care provider was present during the interview of female respondents.

Results

In the study out of 50 patients of migraine majority (40%) was observed in the age group of 20-30 years followed by 36% in the age group of 30-40 years. A female preponderance was observed in the series. More than half of the patients were from lower class, 90% live in urban area and 82% were married. Housewife and student together comprised more than three fourth of the patients. Only 14% patients reported to smoke tobacco, 60% reported to sleep less than recommended duration and 75% stated that they had unusual mental stress (Table I).

Table I : Distribution of the patients by socio-demographic and behavioural characteristics (n=50).

Characteristics		Frequency (Percentage)
Age (Years)	<20	6 (12.0)
	20-30	20 (40.0)
	30-40	18 (36.0)
	>40	6 (12.0)
Sex	Male	13 (26.0)
	Female	37 (74.0)
Marital status	Unmarried	9 (18.0)
	Married	41 (82.0)
Residence	Urban	45 (90.0)
	Rural	5 (10.0)
Occupation	Business	5 (10.0)
	Service	7(14.0)
	Housewife	28 (56.0)
	Student	10(20.0)
Social class	Upper	3 (6.0)
	Middle	18 (36.0)
	Lower	29 (58.0)
Behavioural characteristic	Smoking tobacco	7 (14.0)
	Insufficient sleep	30 (60.0)
	Take tea >5 times/day	6 (12.0)
	Oral contraceptive pill[a]	13 (35.1%)

[a]Only in female patients.

Out of 50 patietns with migraine different comorbidities were observed like major depressive disorder, generalized anxiety disorder, obesity, diabetes mellitus and hypertension (Table II).

Table II: Distribution of various comorbidities in study participants (n=50).

Comorbidity	Frequency (Percentage)
Obesity	9 (18.0)
Hypertension	2 (4.0)
Diabetes mellitus	3 (6.0)
Generalized anxiety disorder	7 (14.0)
Major depressive disorder	8 (16.0)

Majority of the patients (78%) had migraine without aura and 22% patients had migraine with aura. Only visual aura was reported by the patients who had experienced headache with aura. Migraine attack was predominantly precipitated by journey (50%) followed by loud noise (36%) and physical exertion (30%). Other less frequent precipitating factors were impending menstruation in female, mental exertion, prolonged studying and weather change like extreme cold or hot and change in humidity. Analgesic (Paracetamol or non steroidal anti-inflammatory drugs) relieved pain in 76% of the patients, rest in 28% and adequate sleep in 20% cases. Of the associated symptoms 90% complained nausea, 84% photophobia, 76% vertigo, 58% vomiting and 46% scalp tenderness. Parasthesia, lightheadness, visual disturbance and diarrhea were less frequent symptoms reported by the patients. The symptoms of migraine was severe according to MIDAS in 4 (8%) moderate in 45 (90%) and mild in 1 (2%) participants. Median duration of migraine disease was 5 years in this group. Headache characteristics were evaluated based on the experience in previous month and it was found that, frequency of attack was 9.29 ± 3.79 episodes and number of headache days was 11.55 ± 4.41 days (Table III).

Table III : Distribution of the patients by detailed history of patients (n=50).

Characteristics		Frequency (Percentage)
Type of migraine	Migraine without aura	39 (78.0)
	Migraine with aura	11 (22.0)
Precipitating factors [a]	Journey	25 (50.0)
	Loud noise	18 (36.0)
	Physical exertion	15 (30.0)
	Impending menstruation	5 (10.0)
	Mental exertion	5 (10.0)
	Prolonged studying	6 (12.0)
	Weather change	7 (14.0)
Relieving factors [a]	Analgesic	38 (76.0)
	Rest	14 (28.0)
	Adequate sleep	10 (20.0)
	Massage/Pressure[b]	6 (12.0)
Associated symptoms [a]	**Nausea**	**45 (90.0)**
	Photophobia	42 (84.0)
	Vertigo	38 (76.0)
	Vomiting	29 (58.0)
	Scalp tenderness	23 (46.0)
	Parasthesia	14 (28.0)
	Lightheadness	11 (22.0)
	Visual disturbance	11 (22.0)
	Diarrhoea	5 (10.0)
Migraine severity	Mild	1 (2.0)
	Moderate	45 (90.0)
	Severe	4 (8.0)
Duration of disease (Years) [Median (IQR)]		5 (2-10)
Frequency of attack[c](Mean ±SD)		9.29±3.79
Intensity of headache[c](Mean ±SD)		8.01±1.23
Number of headache days[c](Mean ±SD)		11.55±4.41
Duration of headache episode[c] (Hours)(Mean ±SD)		25.56±21.12
Required hospitalization		2 (4%)

[a]Including multiple response, [b]Over migraine headache area, Previous month, [c]In last one month.

Discussion

The present study observed that in our hospital migraine patients, females outnumber males with a ratio of around 3:1. The maximum number of patients belonged to the age interval of 21–30 years followed by 31–40 years. Another similar study reported a mean age of 24.6 years with a female predominance (78%) bearing consistency with findings of the present study.[15] Liptonet al reported migraine was highest in those aged 30–39 years for both men and women.[16] Habib et al from Bangladesh observed that, 40.27% of migraine patients were within the age range of 18 to 29 years.[17] However, present study included patients >15 years of age in a small sample which limits its ability to reflect the overall demographic picture of migraine in our setting.

The patients of the present study were predominantly married (82%) resides in urban area (90%), housewife (56%) and from lower socioeconomic class (58%). It is to be noted that, the entire group in the current study was selected from a government run tertiary care hospital located in a metropolitan city of Bangladesh. So, these results might not be applicable to the general migraine patients in our country. However, previous hospital based study conducted in our country supports our findings.[18,19] Previous population based study reported that, the prevalence of migraine was more common in those of lower income group.[20]

Regarding behavioral characteristics smoking was reported by 14% of the patients and this low rate was probably due to few numbers of male patients in the study. Insufficient sleep was reported by 60% of the patients and about 12% of the patients usually took tea more than 5 times a day. Out of 37 female patients 35.1% reported to use oral contraceptive pill.Large studies reported that, the prevalence of migraine was higher who sleep 8 h/day.[20] Though Sarkeret al from Bangladesh reported that smoking tobacco and smokeless tobacco users both had comparable odds of developing migraine like that of smokers other studies did not find any association between them.[19-21]

Present study demonstrated that, patients with migraine had comorbidities like major depressive disorder, generalized anxiety disorder, obesity, diabetes mellitus and hypertension. Previous studies reported psychiatric comorbidities including anxiety, depression and physical comorbidities like hypertension, hypothyroidism and comorbid pains were common associations with migrane.[23,24] The association between anxiety and migraine was noted in both clinic and community-based studies.[25] In the epidemiology cohort study in Zurich, the prevalence of GAD was high.[26] The authors suggested that migraine with anxiety and depression may constitute a distinct syndrome comprising anxiety, often manifested in early childhood, followed by the occurrence of migraine headaches and then by discrete episodes of depressive disorders in adulthood.

In the present study 22% of migrant patient have been suffering from classical migraine and 78% have suffered from migraine without aura. Lipton et al showed patient with aura is 12% and without aura was 88%.[16] All of the classical migraneous patients in our study have only visual aura. Visual aura the most common aura present in 99% cases of the study of Lipton et al.[16] Available literatures, in general claim that there are certain foods, medications, stress factors that, precipitate migraines. The commonly reported precipitating factors are dairy products, red wine, stress, nuts, shellfish, caffeine, withdrawal of vasodilators, head trauma or surgery, perfumes/strong odors, irregular diet or sleep, head and neck infection, intense light and sound.[18,20,21] In the present study, majority of the migrants told that, attack was predominantly precipitated by journey followed by loud noise and physical exertion. Other less frequent precipitating factors were impending menstruation in female, mental exertion, prolonged studying and weather change like extreme cold or hot and change in humidity. Al-Shimmery in an attempt to study the precipitating and relieving factors of migraine headache including 200 Iraqi Kurdish patients, where stress or psychological upset was found to be the commonest triggering factor (80%) followed by increasing physical activity (68%) change in weather (65.5%) and in relation to fasting (65%). Fasting in Ramadan was a triggering factor for headaches in 65% of patients. Relief of migraine in the studied sample of the present study was achieved using analgesic and rest with sleep in majority of cases which are similar found in other cohort.[20,21,27]

The present series demonstrated that, the median disease duration was about 5 years and majority of

the patients had moderate degree of migraine severity on an average 9 episode in the last month with an average duration of per episode about 26 hours. However, only 2 (4%) reported hospital admission for their migraneous headache.

Limitations

The study has some limitations including small sample size collected conveniently from a single government level tertiary care hospital. Self reported symptom analysis is always associated with some bias.

Conclusions

Migraine is a chronic, progressive and debilitating disorder that has an impact on the lives of millions of individuals. The origins of the disability can be traced into childhood for most adult migraine sufferers. The clinical manifestations of migraine vary widely, may be expressed differently or incompletely. We focused on symptoms among the migraneous population. Clinical presentation among the respondents of our study almost similar with the results of published studies.In this study most of the respondents were female, majority of them were house wife and in reproductive age. Nausea, vomiting, photophobia were the common symptoms among the respondents. Only a few of the respondents had classical migraine and all of them had visual aura. A few of the respondents had suffered from severe headache who required hospitalization. Some of the population of the study were smoker and some of the female respondents had taken OCP.

Recommendations

This small scale local evidence might help to address proper migraine headache management appropriately in our setting. In the light of the limitations of the present study, a community based study with representative sample is recommended in order to generalize the findings to reference population as well as to formulate plan for reducing the frequency of migraine attack.

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Contribution of authors

MMK: Conception, designing, data analysis, drafting and final approval.
MH: Design, critical revision and final approval.
AA - Data analysis, drafting & final approval.
MMRC-Data collection, drafting final approval.
HD-Interpretation of data, critical revision final approval.
MHK-Data collection, drafting final approval.
RAMEU-Data analysis, critical revision final approval.
TS-Data collection, drafting final approval.
JFSS-Interpretation of data, critical revision final approval.

Disclosure

All the authors declared no competing interest.

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