



A cross-sectional study is conducted on Bangabandhu Sheikh Mujib Medical University (BSMMU) for identify demographic characteristics and symptoms of epilepsy related headache

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Abstract

Introduction: *Epilepsy and primary headache disorders affect individuals of all ages worldwide. Headache and epilepsy are two relatively common neurological disorders and their association is still a matter of debate.*

Objective: *Our aim is to estimate demographic characteristics and symptoms of epilepsy related headache.*

Methodology: *This study was a cross sectional observation study which is performed in Department of Neurology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Shahbag, Dhaka by two years. 376 epileptic patients were enrolled as sample size in this study and sampling technique was purposive sampling. Data were collected by semi-structured questionnaire. Headache was detected according to the International Headache Society (II-IS) criteria.*

Result: *52.4% were up to 20 years age group and male is 4.8% higher than female. During the study out of all respondents with preictal headache 60.6% had worsening of activity and respondents with postictal headache 61.3% had nausea.*

Conclusion: *developed and faster treatment is needed for epilepsy related headache treatment.*

Keywords: *Epilepsy headache, Preictal headache, Postictal headache.*

Introduction

Epilepsy is a group of neurological disorder by epileptic seizures. In epilepsy, seizures tend to repeat and, generally speaking, have no prompt fundamental cause. Isolated seizures that are incited by a particular reason, for example, harming are not esteemed to speak to epilepsy. People with epilepsy might be dealt with distinctively in different zones of the world and

experience shifting degrees of social disgrace due to their condition. The reason for most instances of epilepsy is unknown.^{[1][2]} Some cases happen as the aftereffect of cerebrum damage, stroke, brain tumors, diseases of the mind, and birth abandons through a procedure known as epileptogenic. Headache and epilepsy share many probable clinical interrelationships. The syndromes may exist independently or may be associated in

certain disorders. Migraine may generate epilepsy, or epilepsy may initiate headache. Headache is generally connected with seizures as a preictal, ictal, or postictal phenomenon, but it is often abandoned because of the dramatic neurologic manifestations of the seizure. Patients with migraine-triggered epilepsy seek therapeutic attention because of seizures, which may overshadow the migraine and be overlooked by both patient and physician. The most common headache associated with epilepsy is called a post-ictal headache, meaning that the headache occurs after seizure activity. These headaches may last for up to 24 hours. Less commonly, a headache may be a sign that a seizure is approaching. These headaches are called pre-ictal, because they occur before the seizure activity starts.^[3]

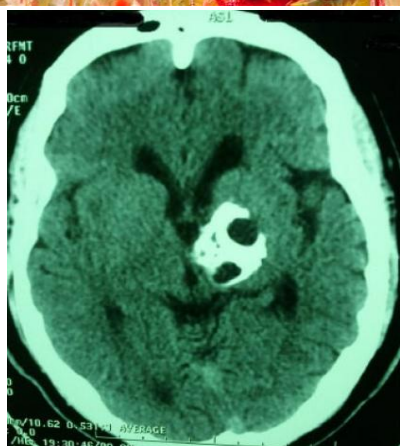


Figure-1a and 1b: Brain surgery on epilepsy and headache seizures^[4]

They are one type of aura, the symptoms that warn of a coming seizure. These headaches are generally brief. Headache can also be the sole or

most predominant clinical manifestation of epileptic seizures, although this is a relatively rare situation. Only few studies categorized headache types and I-IS in large populations of individuals with well-defined forms of epilepsy.^[5] In this study our optimal goal is to examine demographic characteristics and symptoms of epilepsy related headache.

I. Objective

General Objective

- To observe demographic characteristics and symptoms of epilepsy related headache.

Specific Objective

- To identify personal habits of the patients
- To examine symptoms in preictal and postictal headache

II. Methodology

Study Type

- This study was a cross sectional observation study

Study place and period

- The study was conducted in the Department of Neurology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Shahbag, Dhaka from January 2007 to December 2008 where 6 months for Journal collections & protocol preparation and next one year for data collection & rest for data processing and thesis writing.

Sample size

376 epileptic patients were enrolled as sample size. In Bangladesh no previous established data on headache associated with epilepsy. Frequency of seizure-associated headaches was 43% in a study conducted by a scientific study.^[5] So, for determining sample size we will consider prevalence rate =43.0%.

Sampling Technique

- In this study sampling technique was purposive sampling.

Inclusion criteria

- Age of patient above 18 years and up to 36 years.
- Participants who gave consent and willing to comply with the study procedure.
- Ability to cooperate and understand written and oral information.
- Definite diagnosis of epilepsy.

Exclusion criteria

- Patients who refused to be included in the study.
- Any other condition requiring comprehensive care.
- Lacking ability to take part in the study as a whole.
- Age below 18 years and above 36 years.
- Patients who had previous headache other than epilepsy related headache.

Data collection tool and technique

Data were isolated by semi-structured questionnaire and face to face interview. Consecutive new patients, aged 18 to 36 years, with seizure attending in epilepsy clinic of neurology department of BSMMU, Dhaka were assessed over the study period (January to December 2008). Patients who gave written informed consent were involved, and the study was approved by the hospital ethical committee. Patients were assessed by a neurologist to rule out other than seizure. Headache was detected according to the International Headache Society (II-IS) criteria (Headache Classification Committee of the International Headache Society 2004). Headache was well-defined as chronic if present for more than 15 days per month for the previous 3 months and episodic if present less than 1.5 days per Month. Patient, were interviewed by researcher himself, and basic demographic information was collected. Irrelevant and inconsistent data were discarded after data collection.

Statistical analysis

All data were verified systematically in preformed data collection form and quantitative data were

expressed as mean and standard deviation and qualitative data as frequency distribution and percentage. Statistical analyses were performed by using SPSS for windows version 13.0.

Result

In table-1 shows distribution of the patients by age (n=170) where Out of all patients most of 52.4% were up to 20 years age group followed by 17.6% within 21 to 25 years, 20.1% within 26 to 30 years, 4.7% within 31 to 35 years and 5.2% within 36 and above age group. Mean (SD) age of the respondents was 23.44 ± 5.49 years. All patients were within 18 to 36 years age range. The following table is given below in detail:

Table-1: Distribution of the patients by age (n=170)

| Age (in year) | Number | Percent |
|---------------|------------|------------|
| 20 | 89 | 52.4 |
| 21-25 | 30 | 17.6 |
| 26-30 | 34 | 20.1 |
| 31-35 | 8 | 4.7 |
| 36 | 9 | 5.2 |
| Total | 170 | 100 |

Mean \pm SD (range)= 23.44 ± 5.49 (18-36)

In figure-2 shows distribution of the patients by sex where male is 4.8% higher than female. The following figure is given below in detail:

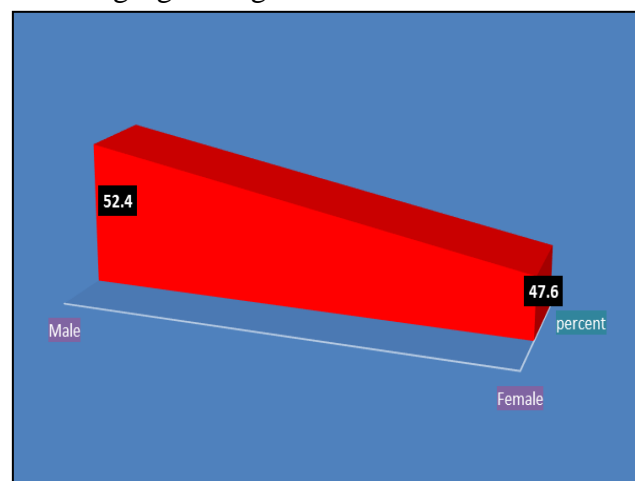


Figure-2: Distribution of the patients by sex

In table-2 shows distributions of the patients by occupation (n=170) where Out of all respondents most of 42.9% were student followed by 14.7% were housewife, 11.8% were service holder, and

7.1% were business man. Total 23.5% respondents were engaged in some others. The following table is given below:

Table-2: Distributions of the patients by occupation (n=170)

| Occupation | n | % |
|--------------|------------|--------------|
| Student | 73 | 42.9 |
| Housewife | 25 | 14.7 |
| Service | 20 | 11.8 |
| Business | 12 | 7.1 |
| Others | 40 | 23.5 |
| Total | 170 | 100.0 |

In Table-3 shows distribution of the patients by education (n=170) where out all of patients 10.0% were illiterate, 18.2% were educated up to graduate and above level, 17.1% were educated up to higher secondary level, 34.1% were educated up to secondary level and 20.6% were educated up to primary level. The following table is given below in detail:

Table 3: Distribution of the patients by education (n=170)

| Education | Number | Percent |
|------------------------|------------|--------------|
| Illiterate | 17 | 10.0 |
| Primary level | 35 | 20.6 |
| Secondary level | 58 | 34.1 |
| Higher secondary level | 29 | 17.1 |
| Graduate and above | 31 | 18.2 |
| Total | 170 | 100.0 |

In figure-3 shows distribution of the patients by socio economic condition where Among the 170 respondents middle class patients were 36.4% higher than lower class patients. The following figure is given below in detail:

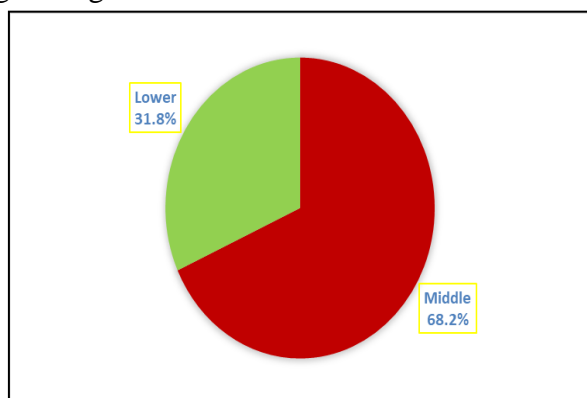


Figure-3: Distribution of the patients by socio economic condition

In figure-4 shows distribution of the patients by marital status where Out of all patients 36.5% were married and 53.5% were unmarried. The following figure is given below:

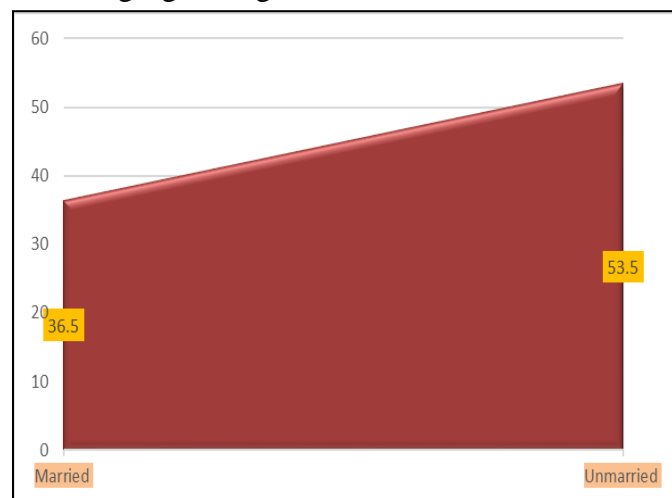


Figure-4: Distribution of the patients by marital status

In table-4 shows distribution of the patients by personal habits (n=170) where out of all respondents 22.4% were smoker (both current and past) and 83.2% were non smoker. Among the smoker 18.4% and 81.6% were past and present smoker respectively. Among the respondents. 4.7% gave the history of betel nut or tobacco chewing and rest of them did not. Only 2.4% had history of alcoholism. Out of all female patients 32.1% had history of taking OCP. The table is given below in detail:

Table-4: Distribution of the patients by personal habits (n=170)

| Personal Habit | Number | Percent |
|--|--------------|---------|
| Smoker | 38 | 22.4 |
| <u>Type of smoker (n=38)</u> | | |
| Past | 31 | 81.6 |
| Present | 7 | 18.4 |
| <u>Duration of smoking (years) (mean ±SD):</u> | | |
| Past smoker | 4.71 ± 0.49 | |
| Present smoker | 12.61 ± 1.86 | |
| History of betel nut, tobacco chewing(n=170) | 8 | 4.7 |
| History of alcoholism (n=170) | 4 | 2.4 |
| History of OCP (n= 81) | 26 | 32.1 |

In figure-5 shows distribution of the patients by accompanying symptoms in post ictal headache (n=137) where Out of all patient with postictal headache 28.5% had worsening of activity, 34.3% had photophobia, 23.4% had phonophobia, 29.9% had vomiting, 61.3% had nausea. The following figure is given below:

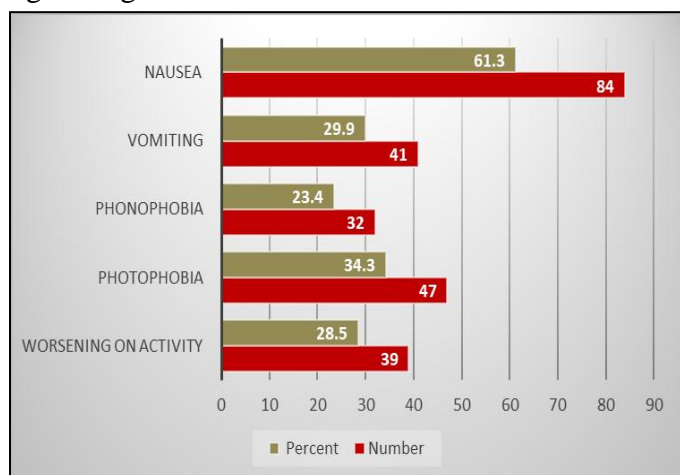


Figure-5: Distribution of the patients by accompanying symptoms in post ictal headache (n=137)

In table-5 shows distribution of the patients by accompanying symptoms in preictal headache (n=33) where Out of all patient with preictal headache 60.6% had worsening of activity, 21.2% had photophobia, 51.5% had phonophobia, 24.2% had vomiting and 45.5% had nausea. The following table is given below in detail:

Table-5: Distribution of the patients by accompanying symptoms in preictal headache (n=33)

| Presenting symptoms | Number | Percent |
|-----------------------|--------|---------|
| Worsening on activity | 20 | 60.6 |
| Photophobia | 7 | 21.2 |
| Phonophobia | 17 | 51.5 |
| Vomiting | 8 | 24.2 |
| Nausea | 15 | 45.5 |

Discussion

In the present study patients were within 18 to 36 years age range. Amongst the patients 5 2.4% were up to 20 years age group, followed by 17.6% within 21 to 25 years, 20.0% within 26 to 30 years, 4.7% within 31 to 35 years and 5.3% 36 and above age group. Mean (SD) age of the

respondents was 23.44 ± 5.49 years. In many report stated that average age was 35.2 years and mean (\pm SD) of the study population was 24 ± 11.9 years, which is consistent with the present study [5][6]

Among the all respondents 52.4% were male and 47.6% were female. Male and female ratio was 1.10:1. Another study reported that out of hundred ten consecutive patients with epilepsy in 69 were men and 41 were women [5]. Other report also said that 80 (59.3%) were male and 55 (40.7%) were female, So these findings are compatible with the present study [6] Out all of respondents, 18.2% were Graduate and above level, 17.1% were educated up to higher secondary level, 34.1% were educated up to secondary level and 20.6% were educated up to primary level. Out of all respondent's maximum 42.9% were student followed by 14.7% were housewife, 11.8% were service holder, and 7.1% were business man. Total 23.5% respondents were engaged in some others type of occupations. Among the 170 respondents 68.2% were from middle class and 31.8% were from lower class. Due to shortage of the relevant literature this finding cannot be correlated with other study findings. Out of all respondents 22.4% were smoker (both current and past) and 83.2% were nonsmoker. Among the smoker 18.4% and 81.6% were past and present smoker respectively. Among the respondents 4.7% gave the history of betel nut or tobacco chewing and rest of them did not. Only 2.4% had history of alcoholism. Out of all female patients 32.1% had history of taking OCP. Due to scarcity of the relevant literature this finding cannot be correlated with other study findings. Patients with epilepsy often exhibit headache during the postictal period, but the pathophysiology of such headaches remains unclear. Post-ictal headache (postil-TA) can be of the migraine type, tension type or unclassified type of headache. [6][7] Several researchers) have pointed has similar symptoms to migraine such as pounding pain and accompanying nausea, photophobia and phonophobia in a significant proportion of patients (41-56%). [7][8][9].

In addition, an effect of antimigraine drugs on (posill-JA) has been found some cases^[10]

In the present study among the respondents with postictal headache 28.5% had worsening of activity, 34.3% had photophobia, 23.4% had phonophobia, 29.9% had vomiting, 61.3% had nausea. Pulsating, pressure/tightening and alternate pulsating/tightening of headache was observed in 5 1.8%, 42.3% and 5.8% patients respectively. Out of all respondents with preictal headache 60.6% had worsening of activity, 21.2% had photophobia, 5 1.5% had phonophobia, 24.2% had vomiting and 45.5% had nausea.

Many reports stated symptoms associated with seizure headache which were phonophobia 83 (72%), hemicrania 52 (45%), throbbing pain quality 48 (42%), photophobia 47 (4 1%), nausea 47 (4 1%), vomiting 24 (2 1%). The present study also showed nearly similar result.^[7]

Conclusion

After many examinations and analysis, it is almost clear that epilepsy related headache mostly occurs in male and Out of all respondents with preictal headache suffer worsening of activity. So, for minimizing effect of epilepsy related headache need developed and faster treatment.

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