



Research Article

## PSYCHIATRIC COMORBIDITIES IN PATIENTS WITH MIGRAINE

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### ARTICLE INFO

#### Article History:

Received 12<sup>th</sup> May, 2019

Received in revised form 23<sup>rd</sup> June, 2019

Accepted 7<sup>th</sup> July, 2019

Published online 28<sup>th</sup> August, 2019

#### Key words:

Anxiety, depression, headache, triggers

### ABSTRACT

**Background:** Migraine disproportionately presents comorbidities with a variety of psychiatric illnesses. Identifying and managing comorbid illness is essential and can prove challenging in the treatment of migraineurs.

**Aim:** To study psychiatric comorbidities in patients with migraine

**Patients and Methods:** Seventy-seven patients aged 18 to 45 years visiting outpatient medicine clinic of the hospital for treatment of migraine were enrolled during Sep 2018 to May 2019 at Regional hospital, Bilaspur, Himachal Pradesh. Patients with secondary headache, medication overuse headache and substance dependence were excluded from the study. Data was presented as frequency and percentages.

**Results:** 44% patients belonged to 18-25 years of age-group 77% of the migraine patients were females. 27% (n=21) of the migraine patients had completed secondary school education. 30% of the migraine patients had family history of migraine. Financial issue was the most common cause of stress in the patients with migraine (34%). 45% patients reported that they usually have more than 10 episodes of migraine in a month. Depression was the most common psychiatric co-morbidity in 67% patients followed by anxiety in 29% patients.

**Conclusion:** Migraine is more common in females than males with majority have frequency >10 episodes per month. Depression and anxiety are the most common psychiatric illness in these patients.

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### INTRODUCTION

It is estimated that 80% of the population suffer from routine headache, and 20% of them seek treatment<sup>1</sup>. Headache is also one the most common reason for disability. Migraine affects 12% of adults in the USA, making this condition a worry for many patients and their doctors<sup>2</sup>. Prevalence of migraine has been shown to vary in different region. A community-based survey reported 14.2% prevalence of migraine in Eastern India<sup>3</sup> while a study in South India has reported higher prevalence (25.2%)<sup>4</sup>.

Migraine is found to be associated with psychiatric comorbidities such as depression, anxiety and post-traumatic stress disorder<sup>5-7</sup>. These comorbidities if untreated, may result in to disability, poor quality of life, and also may negatively impact treatment outcomes. Psychiatric disabilities in the patients with migraine have not been studied earlier. Hence, this study was aimed to evaluate psychiatric comorbidities in the patients with migraine.

### PATIENTS AND METHODS

The prospective observational study was conducted during Sep 2018 to May 2019 at Regional hospital, Bilaspur, Himachal Pradesh. All consecutive subjects aged 18 to 45 years visiting outpatient medicine clinic of the hospital for treatment of migraine were screened for eligibility. Patients with secondary headache, medication overuse headache and substance dependence were excluded from the study. Secondary headache was also ruled out with blood investigations, ophthalmic and otorhinolaryngology opinion. Primary Migraine Headache was assessed as per International Headache Society (IHS) criteria 2004 (ICHD-II)<sup>8</sup>.

Psychiatric co-morbidities were assessed on the basis of ICD-10 using MINI – International Neuropsychiatric Interview (M.I.N.I.) 16 (English Version 5.0.0). After the patients agreed to participate in the study, informed consent was taken. Sociodemographic profile of the patients was recorded in a structured proforma. Data was presented as frequency and percentages.

### RESULTS

Eighty-six patients were screened for eligibility in the study. Seventy-seven patients were enrolled into the study. The data were presented in the form of tables and figures.

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**Sociodemographic variables**

Out of 77 patients with migraine, 34 (44%) patients belonged to 18-25 years of age-group followed by 23 (30%) patients aged 26 to 30 years. There were only 3% patients aged between 41 to 45 years (Figure 1). 77% (n=59) of the migraine patients were females (Figure 2). 27% (n=21) of the migraine patients had completed secondary school education followed by 19 (25%) patients who had primary level of education. Migraine was present in only 18% patients who had graduate and higher education (Figure 3). 30% of the migraine patients had family history of migraine (Figure 4).

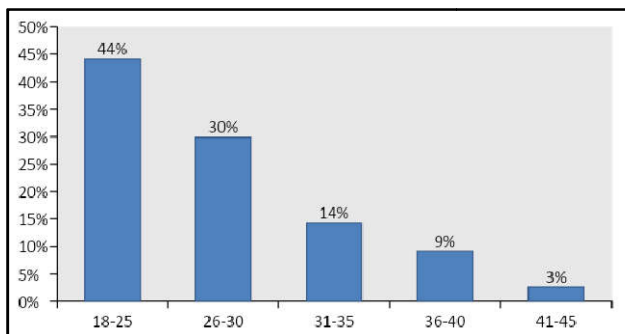


Figure 1 Age-based distribution of patients with migraine

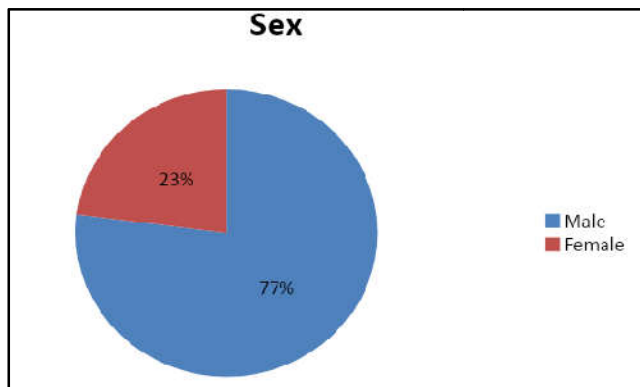


Figure 2 Sex-based distribution of patients

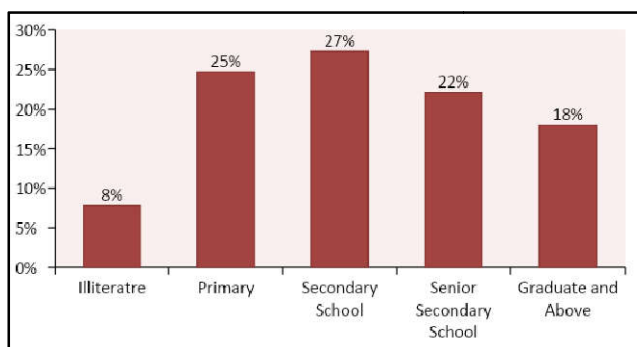


Figure 3 Education-based distribution of patients

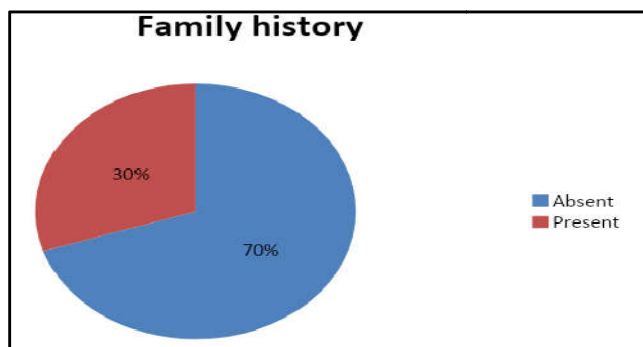


Figure 4 Family history of migraine

**Cause of stress**

Financial issue was the most common cause of stress in the patients with migraine (34%). Other personal issues were the second most common cause of stress in 22% patients. Marital issue was the least common cause of stress in 8% patients (Figure 5).

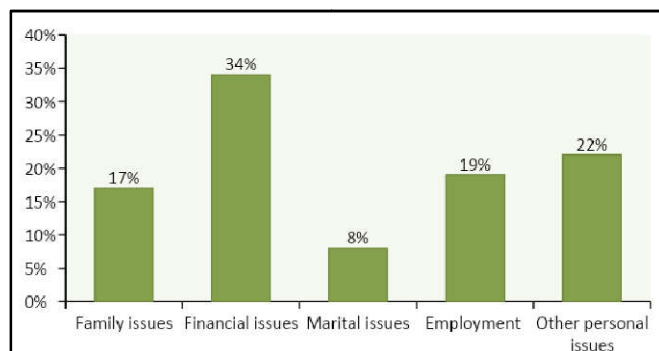


Figure 5 Cause of stress

**Episodes of migraine in a month**

45% patients reported that they usually have more than 10 episodes of migraine in a month. 34% patients reported 6-10 episodes of migraine. Only 3% patients had  $\leq 2$  episodes of migraine in a month (Figure 6).

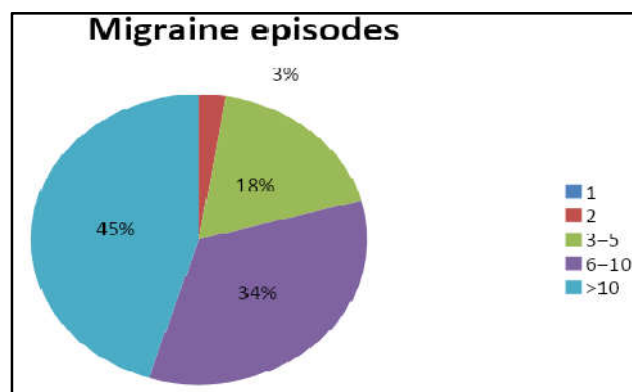


Figure 6 Episodes of migraine in a month

**Psychiatric co-morbidities**

Depression was the most common psychiatric co-morbidity in 67% patients followed by anxiety in 29% patients. Personality disorder, bipolar disorder, and schizophrenia were present in 3, 4, and one patient respectively (table 1).

Table 1 Psychiatric co-morbidities

	n (%)
Depression	47 (61.04%)
Anxiety	22 (28.57%)
Personality disorder	3 (3.90%)
Bipolar disorder	4 (5.19%)
Schizophrenia	1 (1.30%)

**DISCUSSION**

Migraine is a primary headache disorder with varied clinical presentations and associated symptoms, diagnosis is made only on the basis of history and clinical examination. Trigger factors of the migraine also vary among the individuals. In our study, occurrence of migraine was higher in females. 77% of the migraine patients were females. Our results are in concordance with Balakrishnan *et al*<sup>8</sup> who showed 76% of migraine patients were females. It has earlier been established

that the frequency of migraine headaches, is related to changes in female hormones levels<sup>9-10</sup>. It is believed that modulation of the trigeminovascular system by sex hormones plays an important role in mechanism of migraine. 74% of the patients in our study aged 18-30 years. Prevalent age group was found to be high in second decade age groups (18-29 years) in an Indian study<sup>8</sup>. Age-group of migraine patients has been varied in different studies. Approximately 45% of the population of India is aged between 20 and 50 years. Up to 30 years of age is also prone to various stress factors such as financial issues (also related to employment), loss of loved ones, education etc. Financial issues were also the most common cause of stress in our migraine patients. Bhuvana *et al* have shown that 78% of the patients presenting with headache belonged to the age group of 20-40 years and the mean age was 32.01 years<sup>11</sup> 27% (n=21) of the migraine patients had completed secondary school education. In the study by Bhuvana *et al*<sup>11</sup>, 6% of the patients presenting with headache was literate and 24% were illiterates. Literates could be more prevalent in our study population which can be due to stress in the academic activities, more intellectual activities in university colleges. Other study by Tan *et al*<sup>12</sup> found that 97.8% of the patients presenting with headache were literate and 2% were illiterate. Our results are in concordance with the other studies.

30% of the migraine patients had family history of migraine in our study. In a study, Migraine patients who had a positive family history of migraine were 14.4%<sup>8</sup> while Agarwal *et al*<sup>13</sup> shown that where 26% of patients had family history of migraine. 79% of the patients in our study had more than 5 episodes of migraine every month. Bhatia *et al*<sup>14</sup> have shown that the frequency of migraine was more with four episodes per month (26%) and seven episodes per month (12%).

In our study, depression was the most common psychiatric comorbidity in 67% patients followed by anxiety in 29% patients. Migraine is linked to both depression and anxiety. In the study by Bhuvana *et al*<sup>11</sup> the most common psychiatric comorbidity among the patients presenting with headache was mood disorders which were found to be 28%. In fact, people with migraine are about five times more likely to develop depression than someone without migraine. A number of population-based studies from North America and Europe have shown that individuals suffering from migraine have between about 1.3 and 5.8 times higher odds of depression than those without this condition<sup>15-16</sup>. The relationship between migraine and depression, however, is likely to be bidirectional. Breslau *et al*<sup>15</sup> have shown that those reporting depression at baseline have a higher risk of first-onset migraine during the two-year follow-up period and that those with migraine at baseline have an increased risk of developing first onset major depression during follow-up. These findings suggest that the association between migraine and depression is best explained by shared causes, such as genetic factors or neurochemical abnormalities, rather than, for example, solely a psychological response to the experience of recurring migraine.

## CONCLUSION

Depressive and anxiety were the most predominant co-morbid psychiatric disorders among the patients presenting with headache in our patients with migraine.

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