



Psychiatric Co-Morbidities in Patients Presenting with Headache: A Prospective Study

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Abstract

Background: Psychiatric disorders are commonly encountered in patients attending neurology OPD and headache is one of the most common complaints addressed by primary care physicians and neurologists. These psychiatric co-morbidities are likely to be missed if proper evaluation of these patients is not done. Psychiatric co-morbidities worsen the headache and there is a vicious cycle of headache and psychiatric symptoms aggravating each other. It is of utmost importance that an early psychiatric consultation is sought so that this vicious cycle can be broken. This study is conducted to find out the prevalence of psychiatric co-morbidity among patients attending neurology OPD for various types of headache.

Aims and Objectives: To study the prevalence of psychiatric co-morbidity in various types of headaches in the outpatient Department of Neurology in a tertiary care hospital.

Materials and Methods: This was a prospective cohort study in which all the Patients presenting with primary complaints of headache were included on the basis of a predefined inclusion and exclusion criteria. The type of headache was diagnosed by a Neurologist. Basic investigations like complete blood count, Blood sugar level, estimation of resting blood pressure was done in all patients. These basic investigations were followed by CT Brain and EEG. All patients underwent psychiatric consultation to confirm or rule out Presence of psychiatric co-morbidities and to undergo the necessary psychological evaluation for the diagnosis. The data was tabulated and statistical analysis was done using SPSS 16.0 version software

Results: Out of the 60 subjects with primary complaints of headache there were 21 (35%) males and 39 (65%) females with a M:F ratio of 1:1.85. Out of the studied cases 47 patients (78.33%) had some or the other form of psychiatric co-morbidity. Most common psychiatric co-morbidity was found to be depression which was seen in 18 patients (38.3%) followed by somatoform disorder (31.9%), dysthymia (6.38%), panic disorder (10.63%), psychogenic non epileptic seizures (8.51%) and substance dependence (4.25%). Out of the 60 subjects, 27 patients had Migraine (45%), 24 patients had Tension type of headache (40%), 4 patients had Trigeminal Neuralgia (6.67%), 2 patients had Cluster headache (3.33%), and 3 patients with headache not classifiable (5%). Patients with age less than 35 years most commonly had migraine and with age more than 35 years had depression and somatoform disorder, and most of them were females in both groups.

Conclusion: Psychiatric disorders are a significant comorbidity among patients presenting with headache. It is important to identify presence of such co-morbidity so that a timely psychiatric consultation is sought. Such a psychiatric consultation and further psychiatric treatment, if required, is crucial in these patients.

Keywords: Headache, Psychiatric co-morbidity, vicious cycle, management.

Introduction

Headache may arise from pain-sensitive structures within or outside cranium. These pain-sensitive structures include structures such as the skin, muscles, blood vessels and nerves (outside cranium) or large intracranial arteries or veins, dura and dural vessels, and cranial nerves (intracranial)¹. On the other hand, the structures like brain parenchyma, ependymal lining of the ventricles and choroid plexus are all pain insensitive. Headache may broadly be divided into three broad categories that include vascular (Migraine, cluster headache and toxic vascular headache), myogenic (myositis, psychogenic and cervical spine arthritis) and traction headaches (intracranial mass lesions, cerebrovascular diseases and inflammatory conditions)². Headache is one of the most common symptoms for which patients attend or are referred to neurology OPD. It is said that headache as a symptom occurs almost in 99% of the individuals at some or the other stage of their lives. The one-year prevalence of headache in individuals is found to be almost 90%. Although a vast majority of headaches are benign and not associated with any significant pathology it may evoke a great amount of concern and anxiety in patients as well as their relatives or caregivers³. It however must be emphasized that headache may be first symptom of more sinister pathologies like intracranial space occupying lesions, hydrocephalus and intracranial infections⁴. Therefore, a systematic history directed to find out the probable etiologic factor producing the headache is the treating neurologist's most valuable tool that may help in arriving at a specific diagnosis⁵. Primary headache is defined as one which is not associated with any structural, metabolic or other lesion in the body in general and in brain particularly⁶. Despite not being associated with any serious structural or metabolic disorder primary headache may cause significant disability with reduced efficiency, quality of life and loss of work days⁷. The association of headache with psychiatric co-morbidity is well known since more than a

century but recently this association has gained immense interest amongst researchers⁸. Many studies and randomized trials have found psychiatric co-morbidity in migraine and tension type headaches in approximately 80-85% of the patients. Whether headache aggravates psychiatric symptoms or psychiatric symptoms cause headache has been subject of many researches. Irrespective of whether these psychiatric symptoms are cause or effect of headache it is important to understand that psychiatric symptoms aggravates headache and headache causes psychiatric symptoms setting up a vicious cycle⁹. This vicious cycle needs to be interrupted by proper evaluation and management of psychiatric comorbidity in patients with headache. Various psychiatric co-morbidities seen in patients presenting primarily for headache may include Depression, Suicidal thoughts, worthlessness, hopelessness, affective and anxiety disorders, panic attacks and phobic disorders. In many patient chronic headache is accompanied by disturbed sleep which again may aggravate headache and resolution of this disturbed sleep once again is crucial for successful management of these patients. Recognition and treatment of psychiatric co-morbidity in patients with chronic and recurrent headaches is necessary to improve quality of life, prognosis and reduce the risk of chronicity of the disease¹⁰. Keeping in mind above facts we undertook this prospective cohort study to estimate the prevalence of psychiatric co-morbidity in various types of primary headache and the factors influencing it.

Materials and Methods

This was a prospective study of 60 patients conducted at a tertiary care medical institute situate in an urban area. Institutional ethical committee approved the study. All the patients with primary complaints of headache attending neurology OPD were included in this study on the basis of a predefined inclusion criteria. Any patient having any exclusion criteria was excluded from the study. Informed consent was taken from

all the patients. A detailed history was taken. sociodemographic profile of the patient was noted down. The analysis of type of primary headache in terms of location, onset, duration, associated factors, aggravating and relieving factors, current medications and their duration was done. All patients were subjected to detailed clinical and neurological examination. Imaging in the form of CT brain in all patients and MRI in selected patients (in whom CT findings were equivocal). Patients with any organic intracranial lesions were excluded from the study. Complete blood count and Erythrocyte Sedimentation Rate was done in all the patients to rule out temporal arteritis and if positive were excluded from the study. After being evaluated for the type of primary headache, they were asked for specific psychiatric complaints, previous history of psychiatric treatment, family history of psychiatric illness, history of substance of abuse usage like alcohol, smoking etc. and were subjected to psychological evaluation using specific rating scales like Hamilton's Rating scale for anxiety and depression, Young mania rating scale etc., and psychiatric analysis after duly applying ICD-10 diagnostic criteria for depression, bipolar disorder, panic disorder, somatoform disorder, substance dependence syndrome and DSM-V criteria for diagnosing dysthymia and psychogenic non epileptic seizures. The results were studied using appropriate statistical methods. Data analysis was carried out using SPSS16.0 version software. Microsoft word and excel were used for generating charts and graphs.

Inclusion Criteria

- 1- Patients attending neurology OPD with a primary complaint of headache.
- 2- Age more than 18 years.
- 3- Informed Consent was given by patients.

Exclusion Criteria

1. Age less than 18 years.
2. Those who refused informed consent.
3. Patients with organic brain diseases.
4. Patients with temporal arteritis.

Results

Out of the 60 subjects presenting to neurology OPD for the primary complaint of headache there were 21 (35%) males and 39 (65%) females with a M: F ratio of 1:1.85.

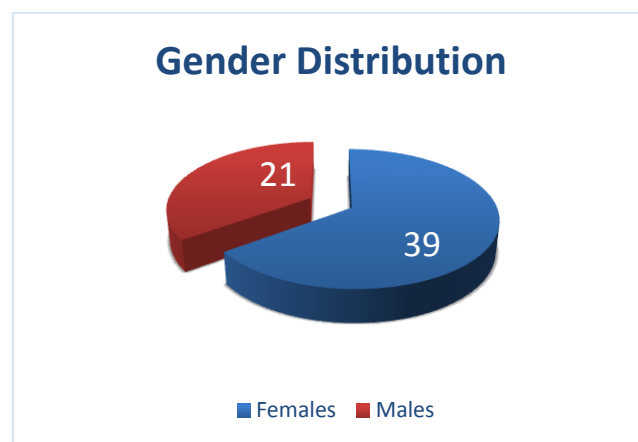


Figure 1: Gender Distribution of the studied cases.

The analysis of affected age group showed that the most common age group presenting with primary complaint of headache was 20-40 years (60%) followed by 41-60 years (30%). Age groups of less than 20 years and more than 60 years were equally affected at each formed 5% of the total patients.

Table 1: Age groups of the studied cases

Age group	No of patients	Percentage
<20 years	3	5 %
20-40 years	36	60 %
41-60 years	18	30 %
> 60 years	3	5 %

Most of them belonged to low socio economic status and educated less than 8th standard. Most of them were farmers from rural areas. 75% of the studied cases were married and were living with spouses. 20% patients were unmarried and 5% patients were married but either widowed or separated. 30% of them were in joint family and majority of them (70%) were living in a nuclear family set up.

Table 2: Demographic characteristics of the studied cases

Demographic Factors	Sociodemographic variable	N	%
Family Income (Per Month)	Less than 5000	30	50 %
	5000-10000	18	30 %
	More than 10000	12	20 %
Educational Status	Illiterate	30	50 %
	Upto 8 th Standard	14	23.3 %
	Higher Secondary	10	16.7 %
	Graduate and Above	6	10 %
Residence	Rural	49	81.7 %
	Urban	11	18.3 %
Marital Status	Married	45	75 %
	Unmarried	12	20 %
	Lost a spouse	3	5 %
Type of Family	Joint	18	30 %
	Nuclear	42	70 %
Occupation	Agriculture	40	66.7 %
	Employed/salaried	12	20 %
	Unemployed	3	13.3 %
	Own small business	5	8.33%

Out of the 60 subjects, 27 patients had Migraine (45%), 24 patients had Tension type of headache (40%), 4patients had Trigeminal

Neuralgia (6.67%), 2 patients had Cluster headache (3.33%) and 3 patients with headache not classifiable (5%).

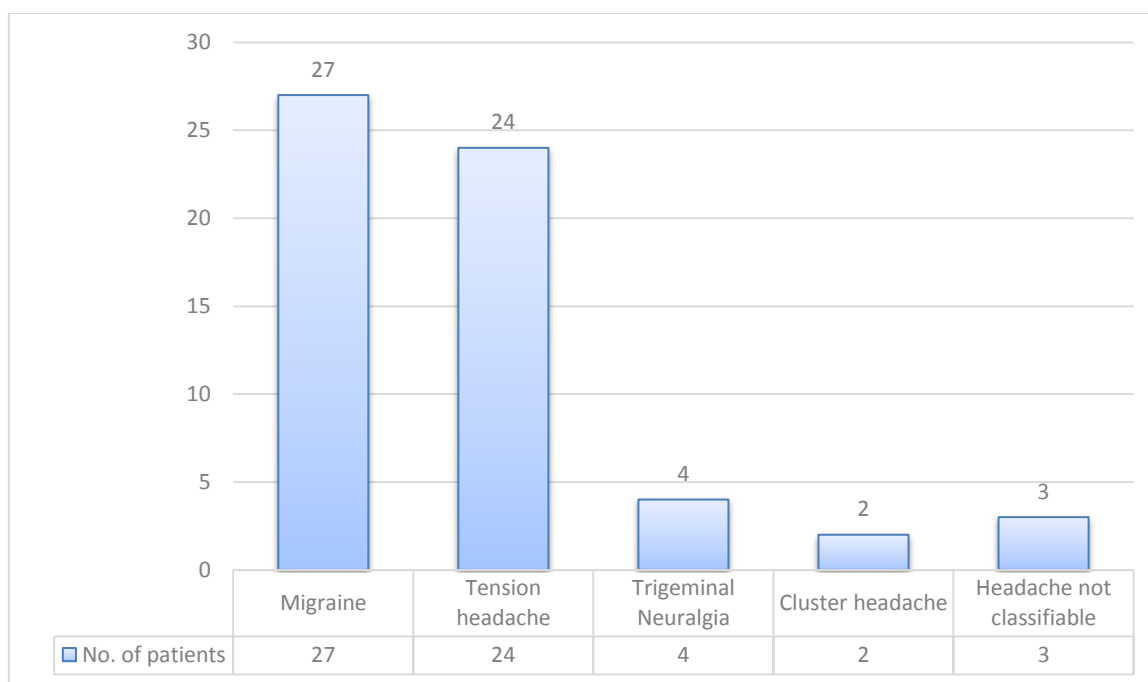


Fig 2: Break up of Neurological diagnosis in studied cases

Out of the 60 subjects with primary complaints of headache 47 subjects (78.33%) had psychiatric co-morbidity. The most common psychiatric co-morbidity in the studied cases was found to be depression which was seen in 18 patients

(38.3%) (mild-5, moderate-10, severe-3) followed by somatoform disorder (31.9%), dysthymia (6.38%), panic disorder (10.63%), psychogenic non epileptic seizures (8.51%) and substance dependence (4.25%).

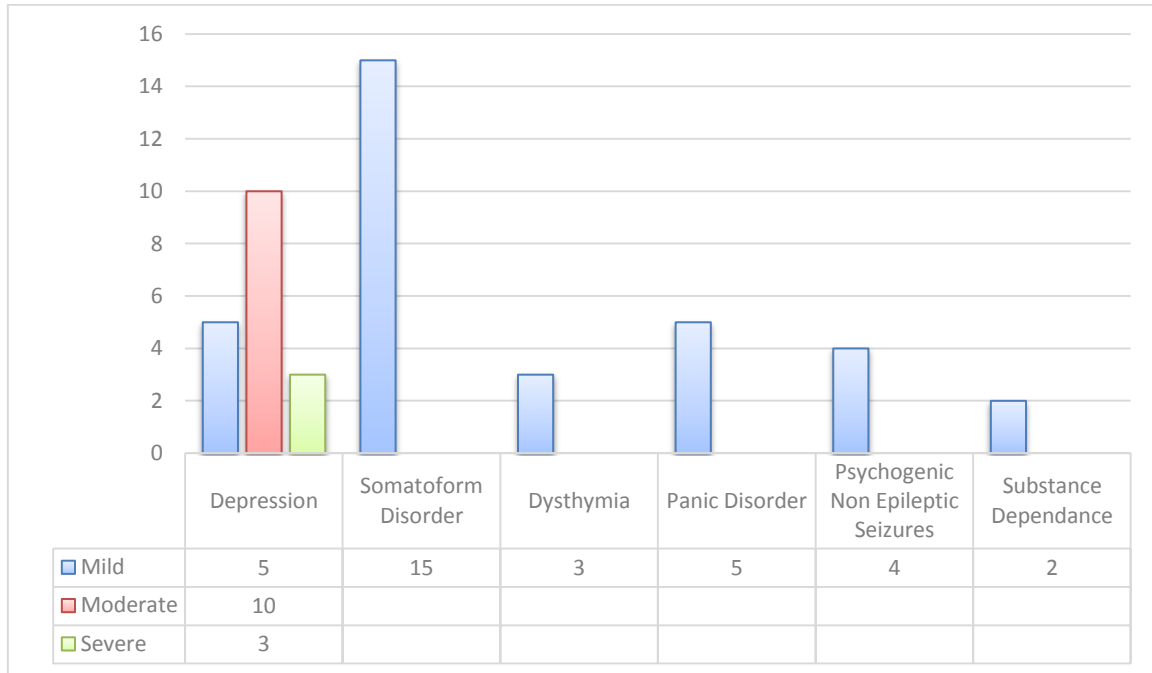


Figure 3: Breakup of Psychiatric Diagnosis in studied cases

The analysis of patients with psychiatric comorbidity showed that dysthymia and Somatoform disorder were common among patients with Migraine. Depression and Panic disorders were common among patients with tension type of headache. Out of 4 patients with psychogenic non epileptic seizures, 3 patients were with headache unclassifiable, and 1 patient had tension type of headache. Married females with an average age of 35 with

agriculture as their prime occupation presenting with migraine type of headache were having more somatoform disorders whereas Males with an average age of 40 with agriculture as their prime occupation presenting with tension type of headache were having more affective disorders and panic disorders. The common presenting complaints in the studied cases after headache were found to be body ache (55%), disturbed sleep (53.3%) and fatigue (46.6%).

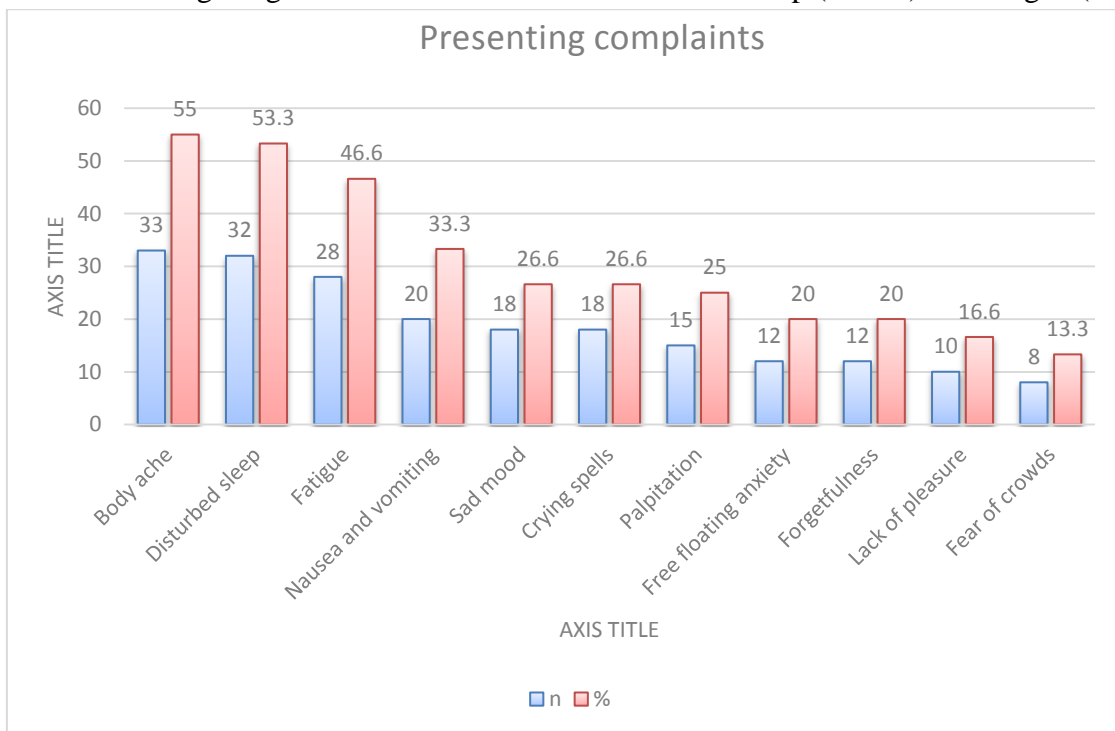


Figure 4 : Presenting complaints, in addition to headache, in studied cases

Discussion

It was not until the end of the nineteenth century that Freud categorically associated the concepts of psychopathology with common place migraine. Wolff has been credited with developing the influential notion of the 'the migraine personality' that he characterized as a medley of 'personality features and reactions dominant in individuals with migraine', including 'feelings of insecurity with tension manifested as inflexibility, conscientiousness, meticulousness, perfectionism, and resentment'¹¹. Numerous epidemiological studies have revealed that psychiatric disorders (e.g. depression and anxiety) occur with greater frequency among recurrent headache patients than among the general population¹².

In this study, out of 60 cases, 47 patients (78.33%) had psychiatric co-morbidity according to ICD-10 classification. Among these 21 were men (35%) and 39 were women (65%). A large number of women patients, especially middle-aged ones, had migraine as well as depression. Longitudinal data indicate that relative to men, women are four-times more likely to develop migraine and two-times more likely to develop major depression. 54 subjects (90%) were between 20 and 60 years of age. Most of the subjects with migraine had onset during early 30s while those with tension headache had a middle age onset; they were mostly women. Thirty subjects (50%) were earning less than Rs.5000 and were more susceptible to onset of headache as well as psychiatric morbidity. Thirty subjects (18%) were illiterate, 12 (20%) were unmarried and 3 persons (5%) had lost a spouse; 42 (70%) had a nuclear family, 3 (13.3%) were unemployed. Family history of mental illness and past history of mental illness was present in 10 (16.67%) and 6 (10%) subjects, respectively. They were all susceptible to headache and depression.

The comorbidity reported by Alvin *et al.*¹³ is as follows: MDD (34%), dysthymia (9%), bipolar II (4%), manic episode (5%), panic disorder (11%), generalized anxiety disorder (GAD) (10%), obsessive-compulsive disorder (OCD) (9%),

phobia (40%), illicit drug use (20%), and nicotine dependence (33%). In comparison, this study shows MDD (30%), dysthymia (5%), panic disorder (8.33%), psychogenic non epileptic seizures (6.7%), somatoform disorder (25%), and substance dependence (3.33%). The incidence of MDD, dysthymia, panic disorder is comparable, but the results of this study report no GAD, OCD or bipolar disorder, surprisingly this study found more somatoform disorder & psychogenic non epileptic seizures and less substance dependence¹⁴.

Wacogne *et al.* measured the intensity of stress, anxiety and depression in a sample of 141 patients with migraine compared with a control group of 109 non-migraine workers matched for age and sex. Their results indicated that stress and anxiety were higher in the migraine group than in the control group. The main symptoms were 'morning fatigue', 'intrusive thoughts about work', 'feeling under pressure', 'impatience', and 'irritability'. In the present study, disturbed sleep (53.3%), free floating anxiety (20%), sad mood (26.6%), lack of pleasure (16.6%), body ache (55%) and fatigue (46.6%) were the main complaints¹⁵.

Headache may be a form of 'somatization' (a term used for the pathology, e.g. depression) when patients cannot verbalize their mental symptoms but present them by way of somatic symptoms. It was also called 'depressive equivalent' and was considered a typical manifestation of depression in non-industrialized countries^{16,17}. This hypothesis has been challenged by Patel who proved that this phenomenon is also common in industrialized countries¹⁸. This may be a cross-cultural phenomenon. However, there is at least some evidence that headache can be a manifestation of a somatoform disorder. The most common somatoform disorder associated with headache was 'undifferentiated somatoform disorder'. In somatoform disorder, headache would represent only one of many medically unexplained somatic complaints such as fatigue, loss of appetite, gastrointestinal symptoms, and urinary complaints.

Recent characterizations of psychopathology and head-ache have implicated shared neuropathic mechanisms between migraine and affective disorders and bidirectional influences. Both concepts refer to neuro plasticity processes in cortico-limbic structures, where an expanding cortico-limbic field becomes activated by both nociceptors and psychological stimuli over a period of time, resulting in an integrated relationship between migraine (or pain) and psychiatric disturbance in susceptible individuals¹⁹.

Evidence suggests that patients with elevated psychological symptoms are more likely to seek medical assistance. When present, psychiatric comorbidity often complicates management of headache and portends a poorer prognosis for treatment of headache. These results indicate that patients with long history and high frequency of headaches might benefit from psychiatric evaluation²⁰. It is important that neurologists and primary care physicians be sensitized to look for psychiatric symptoms in patients presenting with headache.

Conclusions

Headache was the main somatic presentation of psychiatric morbidity in nearly 80% of subjects in this study. The associated psychiatric morbidity included depression, dysthymia, panic disorder, somatoform disorder, psychogenic non epileptic seizures and substance abuse.

Middle-aged women with migraine, people who were illiterate, unemployed, or had lost a spouse and with a family and past history of mental illness were more likely to develop mental illness. Disturbed sleep, free floating anxiety, sad mood, lack of pleasure, body ache and fatigue were the main presenting complaints along with headache.

Limitations

This study comprised of small sample size. Better planned, longitudinal studies are required to study this area further.

Conflict of Interest: None

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