

Comorbid Anxiety and Depression in Chronic Daily Headache Patients

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Introduction

Chronic Daily Headache, an illness affecting 4-5% of the general population is described as a heterogeneous group of headaches that includes chronic migraine, chronic tension-type headache, new daily-persistent headache and hemicrania continua present on least 15 days in a month for at least 3 months [1, 2]. CDH per se is not a diagnosis.

Patients with chronic daily headache have high frequencies of psychiatric comorbidity. The prevalence of psychiatric co-morbidity in patients with CDH ranges from 64-90%, with higher rates in women than in men [3]. Chronic Migraine is often present with depression (80%), anxiety (70%), insomnia (71%), chronic fatigue (66%), and fibromyalgia (35%) [4]. This association between CDH and psychiatric co-morbidities may be explained by shared mechanism in structures of the central nervous system between pain and affective disorders, perhaps involving Limbic activation [5].

The comorbid psychiatric conditions play a significant role in the development of drug resistance and chronicisation of primary headache [6]. The presence of psychologic distress also contributes to the poor quality of life and impede prognosis for CDH.

By this study, we aim to identify the CDH patients for associated psychiatric conditions such as depression and anxiety using the Hospital Anxiety and Depression Scale (HADS). CDH and the associated psychiatric comorbidities still remain as an under explored aspect in India. The early recognition of depression and anxiety enriches the quality of life of these patients and assures better prognosis. Thus, this study is focussed at screening CDH patients for anxiety and depression.

Review of Literature

An eight-year follow up study of 100 young adults with headache by Guidetti et al. studied the relationship between psychiatric disorders at initial evaluation and headache status at follow up [5]. Patients with two or more psychiatric disorders at initial evaluation exhibited no improvement or deterioration in headache in 57% of the cases at follow up. In contrast, patients with no or only one psychiatric disorder exhibited greater headache improvement eight years after the

initial evaluation. Only 15% of cases were the same or worse, while 53% of cases were improved and 40% cases were headache-free.

Puca F found that the frequency of anxiety and mood disorders were 3-15 times higher in CTTH patients than in control [7]. The investigation of comorbidity between psychiatric disorders and TTH in clinical populations has shown the association to be commoner among the chronic type.

Bera SC et al. found that there was significant impairment in the quality of life on all domains in the patients with migraine and TTH compared to headache free controls [8]. There was significant disability present in patients with both types of headache. However, there was no statistically significant difference between the two headache groups on measures of quality of life and disability.

Torrelli et al. in their study found a non-causal association between headache types and psychiatric comorbidity [9]. The relationship between migraine and depression is “bi-directional” (migraineurs have a more than three-fold risk of developing depression compared with non-migraine patients, while depression patients that have never suffered from migraine before have a more than three-fold risk of developing migraine compared with non-depressed patients) and specific (i. e., the presence of migraine or severe non-migraine headache increases a patient’s risk of developing depression or panic attack disorder, whereas the presence of depression or panic attack disorder is associated with a greater risk of developing migraine, but not severe non-migraine headache)

Identifying psychiatric comorbidity is important in the selection of therapeutic agent. Silberstein SD et al. has described the prophylactic management of migraine [10]. It can be noted that the beta blockers may aggravate depressive symptoms, whereas tricyclic antidepressants.

Aims and Objectives

1. Assessment of sociodemographic details of CDH patients.
2. Assessment of comorbid psychiatric symptoms such as depression and anxiety in CDH patients.

Methodology

Institutional Ethical Committee approval was obtained and the study was conducted. 200 patients diagnosed with Chronic Daily Headache in the Department of Psychiatry during the study period were included in this cross-sectional study. Informed written consent was taken from all patients participating in the study. Socio demographic data was obtained as per the pro forma enclosed.

Criteria for Chronic Daily Headache were the presence of headache with duration of more than 4 hours per day on least 15 days in a month for at least 3 months [11]. The diagnosis of various types of CDH was based on the criteria given by the International Headache Society [12].

The Hospital Depression and Anxiety Scale (HADS) was applied to assess anxiety and depression [13]. HADS has Anxiety subscale (HADS-A) and a Depression subscale (HADS-D) both containing 7 intermingled items. Each item had been answered by the patient on a four point (0-3) response category. The possible scores ranged from 0 to 21 for anxiety and 0 to 21 for depression. A score of 0 to 7 for either subscale could be regarded as being in the normal range, a score of 8 to 10 being just suggestive of the presence of the respective state, a score of 11 or higher indicating the caseness [14].

HADS has been found to perform well in assessing the symptom severity and caseness of anxiety disorders and depression in both somatic, psychiatric and primary care patients and in the general population [15].

Inclusion Criteria

1. Patients with the diagnosis of Chronic Daily Headache
2. Patients of both the sex >18 years

Exclusion Criteria

1. Patients who don't consent the study
2. Patients with other psychiatric diseases

Statistical Analysis: Data was analysed using descriptive statistics, univariate and multiple regressions employed in SPSS version 20.

Results

Among the 200 participants, 48.5%(97) belonged to age group 31-45. The mean age was 35 with SD 10.17. 74.5%(149) were females. 55%(110) were from rural area. 43.5%(87) had high school education. 52.5%(105) were semiskilled in occupation. 61.5%(123) belonged to Middle Class. 86.5%(173) were married. The demographic details are summarized in Table 1.

Table 1: showing the socio demographic profile of the study subjects

Characteristic		Frequency	Percentage
Age	18-30	76	38
	31-45	97	48.5
	46-60	23	11.5
	>60	4	2
Gender	Male	51	25.5
	Female	149	74.5
Residence	Rural	110	55
	Urban	90	45
Education	Primary	74	37
	High School	87	43.5
	Pre- University/Degree	39	19.5
Occupation	Unemployed	80	40
	Semiskilled	105	52.5
	Skilled	15	7.5
SES	Lower	77	38.5
	Middle	123	61.5
Marital Status	Married	173	86.5
	Single	27	13.5

79.5%(159) had Migraine. 11.5%(23), 9%(18) had TTH and combined headache respectively as shown in Table 2. 44%(88) of the 200 patients had abnormal HADS score. Among these, 37.1%(59) and 69.6%(16) had Migraine and TTH respectively as summarized in Table 3. Further, the mean of anxiety score was 6.12(SD 5.12), depression 4.69(SD 4.73) and total score 10.74(SD 8.91).

Table 2: showing distribution of CDH subtypes

CDH Type	Frequency	Percentage
Migraine	159	79.5
TTH	23	11.5
Combined	18	9

Table 3: showing HADS score in different subtypes of CDH

CDH Subtype	HADS		
	Normal	Borderline	Abnormal
Migraine	79(49.7%)	21(13.2%)	59(37.1%)
TTH	5(21.7%)	2(8.7%)	16(69.6%)
Combined	3(16.7%)	2(11.1%)	13(72.2%)

Marital status, Migraine and TTH showed significance in Univariate analysis. In regression analysis, Marital status ($p < 0.05$) and Migraine ($p < 0.001$) showed significance whereas TTH was removed saying that it is a confounding factor. The univariate and multiple regression of associated factors with HADS score is shown in Table 4.

Table 4: univariate and multiple regressions of associated factors with HADS score

Variable		Normal n(%)	Borderline n(%)	Abnormal n(%)	Univariate p-value	Multiple regression p-value
Age	18-30	40(52.6%)	40(52.6%)	29(38.2%)	0.202	
	31-45	36(37.1%)	16(16.5%)	45(46.4%)		
	46-60	10(43.5%)	1(4.3%)	12(52.2%)		
	>60	1(25%)	1(25%)	2(50%)		
Gender	Male	25(49%)	8(15.7%)	18(35.3%)	0.33	
	Female	62(41.6%)	17(11.4%)	70(47%)		
Residence	Rural	49(44.5%)	17(15.5%)	44(40%)	0.265	
	Urban	38(42.2%)	8(8.9%)	44(48.9%)		
Education	Primary	28(37.8%)	12(16.2%)	34(45.9%)	0.597	
	High school	39(44.8%)	9(10.3%)	39(44.8%)		
	Pre University/ Degree	20(51.3%)	4(10.3%)	15(38.5%)		
Occupation	Unemployed	35(43.8%)	11(13.8%)	34(42.5%)	0.959	
	Semiskilled	45(42.9%)	13(12.4%)	47(44.8%)		
	Skilled	7(46.7%)	1(6.7%)	7(46.7%)		
SES	Lower middle	27(35.1%)	11(14.3%)	39(50.6%)	0.163	
	Upper middle	60(48.8%)	14(11.4%)	49(39.8%)		
Marital Status	Married	69(39.9%)	22(12.7%)	82(47.4%)	0.026	0.017
	Unmarried	18(66.7%)	3(11.1%)	6(22.2%)		
Migraine	Yes	79(49.7%)	21(13.2%)	59(37.1%)	0.001	<0.001
	No	8(19.5%)	4(9.8%)	29(70.7%)		
TTH	Yes	5(21.7%)	2(8.7%)	16(69.6%)	0.030	
	No	82(46.3%)	23(13%)	72(40.7%)		

Discussion

We conducted this study with the aim of assessing psychiatric comorbidities such as anxiety and depression in CDH patients. It was found that 48.5% patients belonged to the age group 31-45 with mean age 35. 74.5% were females and 86.5% were married. Studies done by Dr. Bhuvana and A.P. Jain et al. found that the mean age of presentation was 32.01 years and 31 years respectively. It was also found that females outnumbered males and majority were married in these studies [16, 17].

The cause of presentation of headache in middle age could be increased work stress, marital disharmony, and financial stress. Increased presentation of headache in married women may be due to gender based discrimination, social and economic inequality and inevitable household duties.

In our study, migraine and TTH were present in 79.5% and 11.5% respectively. Among migraineurs, 37.1% patients had comorbid anxiety and depression. In those with TTH, 69.6% had anxiety and depressive symptoms. Juang KD et al. in their study found depression was present in 57% of migraineurs and 51% of chronic TTH; panic disorder was present in 30% of migraineurs and 22% of TTH patients. Desai et al. found that 48.5% of the CDH patients

had depressive symptoms and 17.90% had anxiety symptoms [18, 19]. It is difficult to compare the psychiatric symptomatology of our study with other studies as our study has only screened for both anxiety and depression without discrete percentage estimation of anxiety and depression in CDH.

Two-thirds (69.6%) of the TTH patients in our study showed comorbid anxiety and depression. Previous studies in clinical population have found that the frequency of anxiety and mood disorders were 3-15 times higher in chronic TTH patients than in control [7].

In our study, Migraine showed statistically significance in regression analysis. It is very well proven in the literature that migraine shows bidirectional relationship with psychiatric comorbidity. There is always higher risk for the onset of depression in migraine patients and threefold higher risk of migraine onset in patients with pre-existing major depression [20]. The community based studies Breslau et al showed the incidence and prevalence of GAD is five times higher in migraine [21].

Our study has some limitations. This was a hospital based study. The subtypes of CDH described in this study were only migraine and TTH as these were the only forms of headache presenting to the

clinic in the study period. Among the other psychiatric co-morbidities that could be present in CDH patients, only anxiety and depression were included. Further, the study was limited only to the screening of CDH patients for anxiety and depression. An explicit psychiatric diagnosis was not done.

Conclusion

In this study, a significant portion of the headache patients had comorbid anxiety and depression which calls for early intervention. It is thereby advised for the screening of psychiatric comorbidities like mood and anxiety disorders in headache patients for a better prognosis and improvement in the quality of life.

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