



TO STUDY THE PREVALENCE OF DEPRESSION IN PATIENTS SUFFERING FROM HEADACHE IN PSYCHIATRY OPD IN A TERTIARY CARE INSTITUTE

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ABSTRACT

Background: Primary headache and psychiatric disorders are quite often comorbid, previous studies have reported that depression have bidirectional relationship with headache. The research in India in this field strikingly scarce.

Aims: To investigate the subtypes of headache and correlation with Depression in patients who comes in psychiatry OPD.

Methodology: our study is a descriptive cross sectional study with 200 sample size. Patients with Headache in Headache Clinic of department of Psychiatry, MGGMC, Indore. Patient aged between 18-65 years, either sex. Diagnosis of headache was done clinically in accordance with International Classification of Headache disorders, while depression was diagnosed as per ICD-10. Semi-structured headache questionnaire, Hamilton Depression Rating Scale were used for assessment of samples.

Results: Among 200 patients, there were 73(36.5%) males and 127 (63.5%) females. The mean age was 33.35 ± 10.7 years. Tension type headache was 73.5%, Migraine was 22%, Mixed headache was 4.5%. Tension-type headache (73.5%) was the most predominate type of headache. Depression in primary headache was 68%. Depression was more in females (59.5%) than males(40.5%). It was also more in urban (60.3%) than semi urban areas (26.5%) & rural areas (13.2%).

Conclusion: Patients with headache had higher comorbid depressive disorder. Screening patients with headache for depression and timely psychiatric intervention can go a long way in improving the quality of life of headache patients with comorbid depressive disorder.

KEYWORDS : Primary Headache, Depression, Prevalence

INTRODUCTION

Headache also define as pain located in the head, above the orbitomeatal line and/or nuchal ridge.^[1] Disorders of headache are one of the most common disorder in the central nervous system.^[2]

It may manifest as migraine, tension type headache, or cluster headache. Headache may affect the social, functional & occupational-related works. There is a heightened risk of psychiatric comorbidity with cephalgia especially depressive and anxiety disorders.^[2]

There are numerous classification systems available for headaches. However, the most well-recognized is that of the International Headache Society which encompasses all probable aetiologies and is comprehensive. Currently, we utilize The International classification of headache disorder 3rd edition (ICHD-3) given by the International Headache Society (IHS).^[1]

Previous studies have shown a high prevalence of headache among young age group, their lifestyle puts them at high risk to suffer from tiredness, tenseness and anxiousness which are the most common causes of TTH and migraine. The prevalence of migraine and TTH was reported to be higher among women. Migraine and TTH sufferers were found to have a higher risk to develop depression. Psychiatric disorders as depression are associated with increased headache-related disability.^[3]

Often overlooked is the high prevalence of psychiatric comorbidities associated Primary headache, such as depression, anxiety. Headache with psychiatric comorbidity have higher healthcare utilisation tendencies than headache without psychiatric comorbidity. If left untreated, these comorbid psychiatric conditions can increase the risk of headache to turn chronic in nature. In addition, if left untreated, the comorbid psychiatric conditions can increase headache-related disability, reduce quality of life and negatively impact treatment outcomes.^[4]

In the present study, we analysed the prevalence of primary

headaches & depression.

Methodology & Procedure

This was a cross-sectional hospital-based study of 200 patients to cognize the prevalence of depression and anxiety in the patient suffering from primary headache. Primary headache patients aged between 18-65 years were included in the study. Patients having any other major physical, endocrinology, current scheduled use of any anti-psychotics, anti-depressants, pregnancy were excluded. Written informed consent was obtained from all participants after complete description of the study to the subjects. A detailed physical examination was done to rule out major medical or neurological illness. Evaluation of the samples was done as per procedure of methodology.

Subjects were included in the study from Headache clinic of department of psychiatry, MGM, medical college, Indore after meeting inclusion criterion. Subjects not meeting inclusion criteria or meeting exclusion criteria were excluded from the study. Department of psychiatry runs Headache clinic on every Tuesday during OPD hours in OPD block.

Socio-demographic data was collected. After obtaining the written consent from subject, subject were included in study. A detailed assessment of the patients complaint was done on the basis of headache questionnaire and diagnosis was formulated clinically in accordance with International classification of headache disorders. Depression was diagnosed using ICD-10. Afterwards HAM-D scale was used for assessment of severity of depression. All the collected information was stored and later digitalized for interpretation.

RESULTS-

Table 1. Description of depression in different types of primary headache.

	TTH	MIGRAINE	MIXED	N=200
DEPRESSION PRESENT	103	28	5	136 (68%)
DEPRESSION ABSENT	44	16	4	64 (32%)
TOTAL	147	44	9	200 (100%)

In our study, of the 200 primary headache cases 68% had depressive disorder.

Table 2. Sociodemographic variables of the patients suffering from depression

Depression patients with primary headache (n=136)	
Age(mean) in years	33.3 years
F : M	1.47
Marital status in %:	
Married	73.5%
Unmarried	26.5%
Religion in %:	
Hindu	69.1%
Muslim	30.9%
Education in %:	
Illiterate	25.7%
Primary (5th)	9.6%
Middle(8th)	15.4%
High School	11.8%
Inter	14.7%
Diploma/Graduate/Post graduate Professional	22.8%
Occupation	
Housewife	53.7%
Private job	29.4%
Labour	16.9%
Locality	
Urban	60.3%
Semi urban	26.5%
Rural	13.2%

Primary headache with depression had 32.4 years as mean age of onset. Primary headache with depression had more females, married, Hindu religion, Illiterates, housewife, urban based samples.

Table 3. Description of different types of Headache & Depression

Types of headache	With Depression(%)	Total
TTH	103 (70.1%)	147
Migraine	28 (63.6%)	44
Mixed	5 (55.6%)	9
Total	136	200

Table 6. Description of community of different types of Headache with comorbid Depression

Types of Headache	Locality						Depression Count(%)
	URBAN		SEMIURBAN		RURAL		
	Count	%	Count	%	Count	%	
TTH	60	58.3%	28	27.2%	15	14.6%	103(100%)
Migraine	20	71.4%	7	25.0%	1	3.6%	28(100%)
TTH with Migraine	2	40.0%	1	20.0%	2	40.0%	5(100%)

Most of TTH cases with comorbid depression belonged to urban locality at 58.3% while 27.2% & 14.6% cases belonged to semi urban & rural locality respectively.

Most of Migraine cases with comorbid depression belonged to urban locality at 71.4% while 25.0% & 3.6% cases belonged to semi urban & rural locality respectively.

Most of Mixed headache cases with comorbid depression belonged to urban locality at 40% while 20% & 40% cases belonged to semi urban & rural locality respectively.

Table 7. Description of Occupation of different types of Headache with comorbid Depression

Types of Headache	Occupation						Depression Count(%)
	Housewife		Labour		Private Job		
	Count	%	Count	%	Count	%	
TTH	58	56.3%	15	14.6%	30	29.1%	103(100%)
Migraine	13	46.4%	5	17.9%	10	35.7%	28(100%)
TTH with Migraine	2	40.0%	3	60.0%	0	0.0%	5(100%)

TTH cases had Depression at 70.1% while Migraine & Mixed headache cases had Depression in 63.6% & 55.6% respectively.

Table 4. Description of Age group(in years) of different types of Headache & Depression

Types of Headache	Age groups			Depression Count(%)
	18 - 31	32 - 45	46 - 60	
	Count	Count	Count	
TTH	52(50.4%)	33(32.0%)	18(17.4%)	103(100%)
Migraine	13(46.4%)	15(53.5%)	0(0%)	28(100%)
TTH with Migraine	3(60%)	2(40%)	0(0%)	5(100%)

Most of TTH cases with comorbid depression belonged to age group between 18 – 31 years at 50.4% while 32% & 17.4% cases belonged to age group between 32 – 45 years & 46 – 60 years respectively.

Most of Migraine cases with comorbid depression belonged to age group between 32 – 45years at 53.5% while 46.4% cases belonged to age group between 18 – 31years.

Most of Mixed headache cases with comorbid depression belonged to age group between 18 – 31 years (60%) while 40% cases belonged to age group between 32 – 45 years.

Table 5. Description of gender-wise distribution in different types of Headache with comorbid Depression

Types of Headache	Sex				Depression Count(%)
	MALE		FEMALE		
	Count	%	Count	N %	
TTH	42	40.8%	61	59.2%	103(100%)
Migraine	10	35.7%	18	64.3%	28(100%)
TTH with Migraine	3	60.0%	2	40.0%	5(100%)

Most of TTH cases with comorbid depression were Female 59.2% while 40.8% cases were Male. Most of Migraine cases with comorbid depression were Female 64.3% while 35.7% cases were Male. Most of Mixed headache cases with comorbid depression were Male 60% while 40% cases were Female.

Types of Headache	Occupation						Depression Count(%)
	Housewife		Labour		Private Job		
	Count	%	Count	%	Count	%	
TTH	58	56.3%	15	14.6%	30	29.1%	103(100%)
Migraine	13	46.4%	5	17.9%	10	35.7%	28(100%)
TTH with Migraine	2	40.0%	3	60.0%	0	0.0%	5(100%)

Majority of TTH cases with comorbid depression were Housewife at 56.3% while 29.1% & 14.6% of cases were doing Private job & Labour work respectively.

Majority of Migraine cases with comorbid depression were Housewife at 46.4% while 35.7% & 17.9% of cases were doing Private job & Labour work respectively.

Majority of Mixed headache cases with comorbid depression were doing Labour work in about 60% cases while only 40% cases were Housewife.

Table 8. Description of different types of Headache with comorbid depression & HAM – D Score

Types of headache	N	Minimum	Maximum	Mean	Std. Deviation
TTH	103	8.00	28.00	16.5049	6.12592
Migraine	28	8.00	27.00	15.9643	7.14652
Mixed	5	8.00	24.00	14.2000	7.36206

The TTH cases had a mean of HAM -D score 16.5 ± 6.1 . The maximum score were 28 respectively while minimum score was 8. Migraine cases had a mean of HAM -D score 15.9 ± 7.1 . The maximum score were 27 respectively while minimum score was 8. The Mixed headache had a mean of HAM -D score 14.2 ± 7.3 . The maximum score were 24 respectively while minimum score was 8.

Table 9. Description of different types of Headache with comorbid depression & Severity of depression

Types of headache	Mild	Moderate	Severe	Very Severe	Total
TTH	38 (36.8%)	20 (19.4%)	26 (25.2%)	19 (18.4%)	103 (100%)
Migraine	13 (46.4%)	3 (10.7%)	6 (21.4%)	6 (21.4%)	28 (100%)
Mixed	3 (60%)	0%	1 (20%)	1 (20%)	5 (100%)

Most of TTH cases had Mild depression at 36.8% while 25.2%, 19.4% & 18.4% cases had Severe depression, Moderate depression & very severe depression respectively.

Most of Migraine cases had Mild depression at 46.4% while 21.4%, 21.4% & 10.7% cases had severe depression, very severe depression & Moderate depression respectively.

Most of Mixed headache had Mild depression at 60% while severe depression & very severe depression found in 20% cases respectively.

Table 10. Comparison of mean of HAM -D score of different Types of headache

Types of headache	N	HAM-D Mean	Std. Deviation	Std. Error
TTH	103	16.5049	6.12592	.60361
Migraine	28	15.9643	7.14652	1.35057
Mixed headache	5	14.2000	7.36206	3.29242
Total	136	16.3088	6.35553	.54498

ANOVA					
HAM - D SCORE					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	29.518	2	14.759	.362	.697
Within Groups	5423.512	133	40.778		
Total	5453.029	135			

There were no statistical significant differences between the mean of HAM - D scores of different types of headache P-value > 0.05.

DISCUSSION

In our study, of the 200 primary headache cases 68% had depressive disorder.(Table 1). We established that TTH cases had Depression at 70.1% while Migraine & Mixed headache cases had Depression in 63.6% & 55.6% respectively. (Table 3) which were in agreement with the previous studies like Bera et al.^[5], Shoib et al.^[6], Beghi et al.^[7], Jette et al.^[8], Desai et al.^[9], Aich et al.^[10] who also found depression is comorbid with primary headache.

In our study we observe that about half of the TTH cases with

comorbid depression were between 18 – 31 years of age at 50.4%, while about half of migraine cases with comorbid depression were between 32 – 45 years of age at 53.5% and about more than half of mixed cases were between 18 – 31 years of age at 60%.(Table 4) Similar findings were found by Sharma et al.^[4], Aich et al.^[10], Bhachech et al.^[11], Thomas et al.^[12] they also found that primary headache with comorbid depression more common between age group of 18 – 45 years. The depression is very much common in all three types of headache, it can be secondary to headache or headache can be the secondary to depression and depression is the psychiatric illness which is important in affecting the course and severity along with contributing to the effect of depression on morbidity of life.

We found that about more than half cases of primary headache with comorbid depression were female and rest were male. About 59.2% of TTH cases with comorbid depression were female while 64.3% of Migraine cases with comorbid depression were female. In mixed headache cases with comorbid depression about 60% cases were male in abundance while 40% cases were female. It may be due to small sample size of mixed headache cases. (Table 5). Our study findings also supported by previous literature Gupta R, Bhatia MS et al. 2011^[13], Sharma H, Shah S et al. 2006^[4], Aich TK, Gupta U et al. 2018^[10] which is demonstrated that primary headache is prevalent in the female. Primary headache more frequent in female as compared to male is thought to be due to factors such as social expectations, social limitations and stress of life issues, sensitivity to the hormone, genetics, and differences in response to stress and pain perception can help to explain this difference.

In our study, most of TTH cases with comorbid depression belonged to the urban community at 58.3%, while 27.2% of cases belonged to semi-urban community & 14.6% cases belonged to the rural community. Most of the Migraine cases with comorbid depression belonged to the urban community at 71.4%, while 25% of cases belonged to the semi-urban community & 3.6% cases belonged to the rural community. Most of the mixed headache with comorbid depression cases belonged to the urban community at 40%, while 20% cases belonged to semi-urban & 40% cases belonged to rural community. (Table 6). The urban majority can be explained by the fact that our study centre is a tertiary healthcare institute which is based in an urban setting and most patients who visited the hospital were urban dwellers. Shoib S et al.^[6] shows a similar distribution of the community.

We found that the majority of primary headache with comorbid depression cases were housewives (unemployed) at 40 – 60%. Most of TTH cases with comorbid depression were housewives at 56.3%, while most of the migraine cases with comorbid depression were housewives at 46.4% and about 40% cases of the mixed headache with comorbid depression were housewives. (Table 7) which is backed by Sharma H et al.^[4], Bhachech et al.^[11], Shankar et al.^[14]. The higher prevalence of comorbid depression is thought to be due to factors such as social expectations, social limitations and stress of marital life issues.

We concluded that the mean of HAM -D score of TTH cases with comorbid depression was 16.5 ± 6.1 , while the mean of HAM -D score of migraine cases with comorbid depression was 15.9 ± 7.1 and the mean of HAM -D score of mixed headache cases with comorbid depression was 14.2 ± 7.3 . (Table 8)

Most of TTH cases had mild depression at 36.8%, most of the migraine cases had Mild depression at 46.4% and most of the mixed headache had Mild depression at 60%.(Table 9). We concluded that in our study most of the primary headache

cases had mild depression, this finding is different from the finding of Bhachech et al.⁽¹¹⁾, which found that the majority of cases had moderate depression. However, they also found that mild depression was also quite commonly associated with primary headache, this finding was similar to the finding of Desai et al.⁽⁹⁾.

The mean of HAM – D score (Table 10) did not vary statistically within different categories of primary headache. (P-value is > 0.05). Our findings are similar to the findings of Bhachech et al.⁽¹¹⁾ and Desai et al.⁽⁹⁾.

CONCLUSION

In conclusion, this study has demonstrated that out of all three types of primary headache, there was a very high prevalence of tension-type headache.

We concluded that the majority of patients with primary headache had depressive disorder. We confirm that the majority of patients with tension-type headache had comorbid depression at 70.1% while Migraine & Mixed headache cases had Depression in 63.6% & 55.6% respectively. Our study demonstrates a clear relationship between headache and depression in patients. Also, depressive disorders are more likely to be found in young adults with more disabling headaches.

After analysing the present study findings, we concluded that primary headache should be assessed for comorbid depression and treated as a comorbid disorder because it might worsen the headache or psychiatric comorbidity or both. If both are not treated simultaneously. Screening patients with a primary headache for depressive and well-timed psychiatric intervention can go a long way in improving the quality of life of headache with comorbid depressive disorder. Limitation are small sample size, samples were recruited only from a headache clinic run by department of psychiatry in a tertiary care center which could increase the bias for obtaining comorbid psychiatric disorders. Future studies with a larger sample size, longitudinal design are warranted as per our conclusions which would shed further light on the depressive disorder comorbid with primary headaches.

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Conflicts of interest

There are no conflicts of interest.

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