DOI: 10.7860/JCDR/2021/49515.15078

Original Article

Psychiatry/Mental Health Section

A Cross-sectional Study to Assess Psychiatric Co-morbidity among Patients of Migraine and Other Headaches

PIR DUTT BANSAL[1], DEEPIKA GARG[2], PRIYANKA BANSAL[3], BHAVNEESH SAINI[4]

ABSTRACT

Introduction: Migraine is the most common cause of vascular headache with a one-year prevalence as high as 6-14.3%. Having various pathophysiological theories, it occurs in much co-morbidity with several medical as well as psychiatric disorders like mood disorders, phobia, anxiety spectrum, etc. Migraine, especially when co-morbid with psychiatric illness stands markedly burdensome economically, diagnostically, therapeutically and prognostically. Hence, needs even further research.

Aim: To study patients with migraine versus other types of headache and to study psychiatric co-morbidity among patients with migraine.

Materials and Methods: This cross-sectional study was conducted on total 100 patients presenting with headache, meeting the criteria were taken up for the study and divided into two groups. Patients meeting International Headache Society (IHS) criteria for migraine were enrolled under group A and patients suffering from headache other than migraine under group B. Having subjected to detailed history and evaluation, patients were subjected to Symptom checklist-80, Hamilton's Anxiety Rating Scale (HARS) and Montgomery Asberg Depression Rating Scale (MADRS), International Classification of Diseases (ICD)-10 criteria. The data so collected was subjected to statistical analysis and association of psychiatric morbidity with migraine patients was assessed.

Results: Patients with migraine (group A) and among those too, patients having psychiatric morbidity had significantly ($p<0.01$) longer duration of illness (≥8 years), more frequent attacks ≥5 attacks per month and had longer duration of each attack >24 hours compared to the other groups. Patients having migraine had significantly ($p<0.01$) higher psychiatric morbidity, more SCL-80 symptoms (mean score 83.05); more depressive symptoms (mean MADRS score was 31.9±9.2) and more anxiety with the mean Hamilton Anxiety score was 23.3 than in patients without psychiatric morbidity.

Conclusion: A thorough evaluation of psychiatric disorders in migraine is important so as to propose a non segregated model of care to direct the burden and deterioration associated with psychiatric co-morbidity in migraine.

Keywords: Mood disorder, Pathophysiological theories, Psychiatric illness

INTRODUCTION

Headache stands as the most prevailing and disabling public health problem with 64% lifetime prevalence. Primary headaches are the most common with migraine being second most common of these [1,2]. Broadly, the International Classification of Headache Disorders, classifies migraine under two types: Migraine without aura and Migraine with aura [3]. With a one-year prevalence rate as high as 10-14%, it adds much to the global disease burden with almost 959 million people estimated to be suffering from migraine worldwide [4].

Multiple pathophysiological theories (genetic, vascular, neurological, cellular) contribute to strong association of migraine with numerous medical disorders like inflammatory conditions, neurological, respiratory, allergic, cardiovascular diseases etc., [5]. As many as 9-58% patients have psychiatric co-morbidity that includes mood disorders, phobias, anxiety disorders and depression [6,7]. The psychiatric co-morbidities and migraine bidirectionally influence each other. Leaving one unaddressed complicates the management, increases the morbidity due to other [8].

Together, these are prevalent and burdensome conditions challenging the healthcare system worldwide yet remaining underdiagnosed and underrated with a lack of multifaceted disease approach [9]. Hence, the present study aimed to add light to this undervalued co-existing pattern sighting better diagnostic and management plans in near future with objectives;

- To study and compare patients with migraine versus other types of headache.
- To study psychiatric co-morbidity among patients with migraine.

MATERIALS AND METHODS

This was a cross-sectional study conducted in the Department of Psychiatry of a tertiary care hospital in North India over a period of six months (January 2020 to June 2020). Approval for conducting the study was taken from Institutional Ethics Committee.

Sample size calculation: Hundred patients selected by convenient sampling method were taken for the study. The prevalence of headache disorders was variable in studies. As per the World Health Organisation (WHO), the prevalence of headache disorder is 50% [10], while, based on the departmental data of previous year, prevalence was 7%. For the purpose of current study, 50% prevalence, with 20% error was taken for calculating sample size as per formula:

$$n=4pq/d^2$$

$$n=4\times50\times50/10^2=100$$

Based on the patients' availability and feasibility, and considering tentative dropouts, 100 patients were chosen, out of which 20 patients did not fulfill inclusion/exclusion criteria or didn't consent for the study, so, final data analysis was conducted on 80 patients.

Hundred patients selected by convenient sampling with complaint of headache, presenting to the Department of Psychiatry or Neurology were initially screened. Subjects fulfilling the inclusion and exclusion criteria were then selected.

Inclusion and Exclusion criteria: Patients of both sexes, aged 20-60 years, presenting with complaint of headache were included. Patients suffering from epilepsy, mental retardation, pregnant females, any organic brain disorders, acute or chronic medical illness or who are on long-term treatment for any other medical/psychiatric conditions were excluded.

Study Procedure

Patients meeting International Headache Society (IHS) criteria [3] for Migraine were among group A, while the rest either not fulfilling complete IHS criteria, or having tension type of headache were enlisted as group B. Care was taken that both groups had similar socio-demographic attributes like age and sex. Selected patients were subjected to detailed psychiatric examination after completing personal bio-data proforma. All the subjects were subjected to suitable scales like Symptom Checklist-80 (SCL-80) [11] and HARS [12] and MADRS [13] for psychiatric symptom evaluation and severity assessment. Psychiatric diagnosis, if any, was made using ICD-10 diagnostic guidelines [14], along with the scales. Further assessment of psychiatric co-morbidity with migraine and other types of headache was assessed using statistical analysis.

Instruments

1. **Personal biodata proforma:** Consists of all socio-demographic and illness-related variables.
2. **Symptom Checklist 80 (SCL-80):** It consists of 80 items divided into nine subscales- somatisation, depression, paranoid ideation, interpersonal sensitivity, phobia, anxiety, Obsessive Compulsive Disorder (OCD) anger hostility, and additional symptoms. Each item had maximum score of 4 depending upon severity as absent, mild, moderate and severe [11].
3. **Hamilton's Anxiety Rating Scale (HARS):** Semi-quantitative scale was used to assess severity of anxiety. It has 14 items, rated from 0 to 3. Scoring is as- 0-5 (no anxiety), 6-10 (mild), 11-15 (moderate), and >15 (severe anxiety) [12].
4. **Montgomery Asberg Depression Rating Scale (MADRS):** Includes 10 symptoms of depression. The rating is based on clinical interview which moves from broad questions to detailed ones. Rater decides whether score lies on defined scale steps (0,2,4,6) or between them (1,3,5). Score of 0-6 means normal/recovered, 7-19 mild, 20-34 moderate, and 35-60 severe depression [13].

STATISTICAL ANALYSIS

The data were entered in Microsoft Excel and analysed using IBM Statistical Package for the Social Science (SPSS) v20.1. Descriptive statistics for categorical variables are presented in the form of frequencies, and continuous variables, in the form of mean and standard deviation. Association between various parameters was explored using Pearson's Chi-square test. The p-values of significance ≤0.05 were considered significant.

RESULTS

A total of 100 subjects with complaint of headache were initially included. However, after an initial screening, 20 patients who either did not fulfill the inclusion/exclusion criteria or didn't consent for the study were excluded. Final analysis was thus, conducted on 80 patients.

[Table/Fig-1] shows that group A had significantly more (52%) patients hailing from rural areas than group B (26.7%) (p=0.03). Considering migraine patients, those with psychiatric morbidity were significantly older in age (Mean=31.6 years, p=0.04), married (75.7%, p-value=0.04), and literate (78.4%, p-value=0.03) as compared to those without morbidity.

Migraine characteristics depicted in [Table/Fig-2] shows that patients in group A (52%) had longer duration of illness (≥8 years), had more frequent migraine attacks ≥5 per month (34%) with longer duration of each attack ≥24 hours (64%), as compared to group B (p-value=0.002, 0.006, 0.001, respectively). Specifically, among migraine patients' higher number of patients with psychiatric morbidity (62.2%) had longer (≥8 years) duration of illness, more frequent attacks ≥5 per month (40.5%), and longer duration of each attack ≥24 hours (81.1%) (p-value=0.008, 0.032, <0.001, respectively).

Attributes			Group A* n=50 n (%)	Group B* n=30 n (%)	p-value†	Migraine with psychiatric morbidity, n=37 n (%)	Migraine without psychiatric morbidity, n=13 n (%)	p-value†
Sex	Male		12 (24)	13 (43.3)	0.08	6 (16.2)	6 (46.2)	0.07
	Female		38 (76)	17 (56.7)		31 (83.8)	7 (53.8)	
Age (in years)	20-30‡		28 (56)	16 (53.3)	0.34	21 (56.8)	7 (53.8)	0.04
	31-40		13 (26)	8 (26.7)		11 (29.7)	2 (15.4)	
	41-60		9 (18)	6 (20)		5 (13.5)	4 (30.8)	
	Range		20-60	21-52		24-60	20-52	
	Mean age±SD		31.4±9.9	30.2±9.5		31.6±8.6	29.6±12.4	
Domicile	Urban		24 (48)	22 (73.3)	0.03	21 (56.8)	3 (23.1)	0.02
	Rural		26 (52)	8 (26.7)		16 (43.2)	10 (76.9)	
Marital status	Married		35 (70)	21 (70)	0.64	28 (75.7)	7 (53.9)	0.04
	Unmarried		13 (26)	8 (26.7)		7 (18.9)	6 (46.1)	
	Divorced/Widowed		2 (4)	1 (3.3)		2 (5.4)	0	
Occupation	Labourer/Farmer		11 (22)	11 (36.7)	0.12	8 (21.6)	3 (23.1)	0.09
	Housewife		22 (44)	10 (33.3)		18 (48.6)	4 (30.8)	
	Professional/Student		15 (30)	8 (26.7)		9 (24.3)	6 (46.2)	
	Govt. Employee		2 (4)	1 (3.3)		2 (5.4)	0	
Education	Literate		15 (30)	9 (30)	1.00	8 (21.6)	7 (53.9)	0.03
	Literate	Below matric	8 (16)	9 (30.3)		7 (18.9)	1 (7.7)	
	Literate	Matric- Graduate	23 (23)	10 (33.3)		19 (51.3)	4 (30.8)	
	Literate	>Graduate	4 (4)	2 (6.7)		3 (8.1)	1 (7.7)	
	Literate	Total literate	35 (70)	21 (70)		29 (78.4)	6 (46.1)	
Income yearly	<1 Lacs		23 (46)	18 (60)	0.06	14 (37.8)	9 (69.2)	0.02
	1-2 Lacs		26 (52)	12 (40)		23 (62.2)	3 (23.1)	
	>2 Lacs		1 (2)	-		0	1 (7.7)	

[Table/Fig-1]: Comparison of socio-demographic attributes among patient groups.
*Group A- Patients with Migraine as per IHS criteria; Group B- Patients with other types of headaches; †p-values ≤0.05 considered statistically significant; Chi-square test applied; ‡No patient was found below the age of 20.

Category	Group A* n=50 n (%)	Group B* n=30 n (%)	p-value†	Migraine with psychiatric morbidity, n=37 n (%)	Migraine without psychiatric morbidity, n=13 n (%)	p-value†
Duration of illness (in years)						
<4	12 (24)	0	0.002	7 (18.9)	5 (38.5)	0.008
4-8	12 (24)	0		7 (18.9)	5 (38.5)	
≥8	26 (52)	7 (23.3)		23 (62.2)	3 (23.1)	
Continuous	0	23 (76.7)		0	0	
Frequency of attacks (per month)						
0-2	15 (30)	27 (90)	0.006	8 (21.6)	7 (53.9)	0.032
2-4	18 (36)	2 (6.7)		14 (37.9)	4 (30.7)	
≥5	17 (34)	1 (3.3)		15 (40.5)	2 (53.4)	
Duration of each attack (in hours)						
<12	12 (24)	0	0.001	4 (10.8)	8 (61.5)	<0.001
12-24	6 (12)	0		3 (8.1)	3 (23.1)	
≥24	32 (64)	7 (23.3)		30 (81.1)	2 (15.4)	
Continuous	0	23 (76.7)		0	0	

[Table/Fig-2]: Characteristics of headache among different patient groups.
*Group A- Patients with Migraine as per IHS criteria; Group B- Patients with other types of headaches; †p-values ≤0.05 considered statistically significant; Chi-square test was applied

It was seen [Table/Fig-3] that group A patients had significantly higher scores in terms of overall psychiatric morbidity (SCL-80 mean score of 69.34 versus 38.8 in group B); higher depression scores (MADRS mean 26.3 versus 11.6 in group B) and higher anxiety scores (HARS mean 20.04 versus 11.8 in group B). Migraine patients with psychiatric morbidity had significantly more SCL-80 symptom score (Mean=83.1 versus 30.30 in patients without morbidity), more depressive symptoms (MADRS mean 31.9 versus 10.2 in those without morbidity), and more anxiety (HARS mean=23.3 versus 10.8 in patients without morbidity).

Scores		Group A* n=50 n (%)	Group B* n=30 n (%)	p-value†	Migraine with psychiatric morbidity, n=37 n (%)	Migraine without psychiatric morbidity, n=13 n (%)	p-value†
SCL-80 scores							
<20		2 (4)	7 (23.3)	0.005	0	2 (15.4)	<0.001
21-40		9 (18)	7 (23.3)		0	9 (69.2)	
41-60		12 (24)	11 (36.7)		10 (27)	2 (15.4)	
61-80		10 (20)	5 (16.7)		10 (27)	0	
81-100		10 (20)	0		10 (27)	0	
101-120		0	0		0	0	
>120		7 (14)	0		7 (18.9)	0	
Range; Mean±SD		11-140; 69.3±33.4	06-76; 38.8±17.9		43-140; 83.1±27	11-46; 30.3±11	
MADRS scores							
Absent	0-6	3 (6)	7 (23.3)	0.005	0	3 (23.1)	<0.001
Mild	7-19	10 (20)	20 (66.7)		1 (2.7)	9 (69.2)	
Moderate	20-34	20 (40)	3 (10)		19 (51.3)	1 (7.7)	
Severe	35-60	17 (34)	0		17 (45.6)	0	
Range; Mean±SD		2-56; 26.3±12.8	0-44; 11.6±6.9		10-56; 31.9±9.2	2-24; 10.2±5.5	
Hamilton anxiety scores							
0-5		2 (4)	4 (13.3)	0.006	0	2 (15.4)	<0.001
6-10		3 (6)	4 (13.3)		0	3 (23.1)	
11-15		13 (26)	14 (46.7)		8 (21.7)	5 (38.2)	
≥16		32 (64)	8 (26.8)		29 (78.4)	3 (23.1)	
Range; Mean±SD		0-34; 20.04±8.5	0-29; 11.8±5.2		11-34; 23.3±6.97	0-19; 10.8±5.2	

[Table/Fig-3]: SCL-80, MADRS and Hamilton Anxiety Rating Scores among patient groups.
*Group A: Patients with Migraine as per IHS criteria; Group B- Patients with other types of headaches; †p-values ≤0.05 considered statistically significant; Chi-square test applied

Considering individual subscales of SCL-80, as depicted in [Table/Fig-4,5], significantly higher number of patients in group A had symptoms of somatisation, depression, moderate anxiety and OCD. In these subscale categories, more group A patients belonged to moderate and severe categories than group B which had no patient falling in moderate severity.

SCL subscales			Group A* n=50 n	Group A* n=50 %	Group B* n=30 n	Group B* n=30 %	p-value†
Somatisation	Absent	0-12	17	34	25	83.3	0.006
	Present	13-48	33	66	5	16.7	
	Mean±SD		16.9±8.5		9.8±4.1		
Depression	Absent	0-13	13	26	23	76.7	0.005
	Present	14-52	37	74	7	23.3	
	Mean±SD		21.5±11.7		9.7±6.1		
Paranoid Ideation	Absent	0-6	50	100	30	100	-
	Present	7-24	0	0	0	0	
	Mean±SD		0.3±1.0		0.1±0.2		
Inter-personal sensitivity	Absent	0-9	46	92	30	100	0.78
	Present	10-36	4	8	0	0	
	Mean±SD		1.2±3.8		0.53±1.4		
Anxiety	Absent	0-10	22	44	27	90	0.001
	Present	11-40	28	56	3	30	
	Mean±SD		11.3±6.4		5.6±3.0		
Phobia	Absent	0-7	50	100	27	90	0.09
	Present	8-28	0	0	3	10	
	Mean±SD		0.4±1.0		0.7±1.7		
OCD	Absent	0-10	41	82	29	96.7	0.04
	Present	11-40	9	18	1	3.3	
	Mean±SD		7.1±4.8		5.0±2.9		
Anger hostility scale	Absent	0-6	46	92	29	96.7	0.74
	Present	7-24	4	8	1	3.3	
	Mean±SD		2.8±1.9		3.2±1.4		
Additional	Absent	0-7	25	50	24	80	0.004
	Present	8-28	25	50	6	20	
	Mean±SD		7.8±4.7		4.3±3.2		

[Table/Fig-4]: Comparison of patients with migraine versus other headaches based on SCL-80 subscales.
*Group A- Patients with Migraine as per IHS criteria; Group B- Patients with other types of headaches
†p-values ≤0.05 considered statistically significant; Chi-square test applied

SCL subscales	Patient group*	Absent n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	p-value†
Somatisation	Group A	17 (24)	21 (42)	11 (22)	1 (2)	0.001
	Group B	25 (83.3)	5 (16.7)	0	0	
Depression	Group A	13 (26)	18 (36)	13 (26)	6 (12)	0.002
	Group B	23 (76.7)	7 (23.3)	0	0	
Paranoid Ideation	Group A	50 (100)	0	0	0	-
	Group B	30 (100)	0	0	0	
Interpersonal Sensitivity	Group A	46 (92)	4 (8)	0	0	0.18
	Group B	30 (100)	0	0	0	
Anxiety	Group A	22 (44)	24 (48)	4 (8)	0	0.008
	Group B	27 (90)	3 (10)	0	0	
Phobia	Group A	50 (100)	0	0	0	0.09
	Group B	27 (90)	3 (10)	0	0	
OCD	Group A	41 (82)	8 (16)	1 (2)	0	0.04
	Group B	29 (96.7)	1 (3.3)	0	0	
Anger Hostility	Group A	46 (92)	4 (8)	0	0	0.54
	Group B	29 (96.7)	1 (3.3)	0	0	
Additional	Group A	25 (50)	20 (40)	5 (10)	0	0.01
	Group B	24 (80)	6 (20)	0	0	

[Table/Fig-5]: Comparison of patients with migraine versus other headaches based on SCL-80 severity.
*Group A- Patients with Migraine as per IHS criteria; Group B- Patients with other types of headaches
†p-values ≤0.05 considered statistically significant; Chi-square test applied

Considering patients fulfilling ICD-10 diagnostic criteria for established psychiatric disorders [Table/Fig-6], more group A patients were diagnosed with depression (24%), generalised anxiety disorder (26%), somatisation (18%) and OCD (6%), as compared to group B (p-value=0.02).

ICD-10 diagnosis*		Group A† n=50		Group B† n=30		p-value‡
		n	%	n	%	
F32 Depression	Mild	4	8	1	3.3	0.02
	Moderate	4	8	1	3.3	
	Severe	4	8	0	0	
	Total	12	24	2	6.7	
F41.1 Generalised anxiety disorder		13	26	2	6.7	
F45 Somatisation		9	18	1	3.3	
F40 Phobia		0	0	0	0	
F42 OCD		3	6	0	0	
Total		37	74	5	16.7	

[Table/Fig-6]: Clinical diagnoses according to ICD-10 diagnositic guidelines.
*Those patients who fulfilled complete diagnositic criteria for disorders as per ICD-10 guidelines have been shown in the table.
†Group A- Patients with Migraine as per IHS criteria; Group B- Patients with other types of headaches
‡p-value ≤0.05 considered statistically significant; Chi-square test applied; p-value for F32 Depression subtypes was 0.04

Lastly, as stated in [Table/Fig-7], significantly (p-value=0.01) higher number of migraine patients with psychiatric morbidity had a family history of migraine (n=14, 37.8%) compared to those without psychiatric morbidity.

Family history of migraine	With psychiatric morbidity, n=37		Without psychiatric morbidity, n=13		p-value*
	n	%	n	%	
With family history	14	37.8	1	7.7	0.01
Without family history	23	62.2	12	92.3	

[Table/Fig-7]: Comparison of migraine patients based on family history.
*p values ≤0.05 considered statistically significant; Chi-square test was applied

DISCUSSION

The present study was conducted to find out psychiatric morbidity among patients of migraine and any relation of psychiatric morbidity with socio-demographic attributes and variables of migraine. For this purpose, 50 patients of migraine were enrolled which constituted group A and 30 patients having headache other than migraine were also enrolled who constituted group B.

It could be observed [Table/Fig-1] that number of females in group A was more as compared to males (76% versus 24%). Banday M et al., found females (90.7%) being widely numerous than males (9.3%) with a mean age of 35.38-38.80 [15].

In patients with psychiatric morbidity, there were significantly (p-value <0.05) higher number of females (83.8%) than male patients, with a mean age of 31.6 years, belonging to urban areas, married, housewives, literate and having moderate income. Bera SC et al., stated such patients to have a mean age of 33.45 years, with significantly wide majority of them being females, married home-makers, middle-school literates, rural background [2]. Although some literature states variability too which might be accounted to socio-cultural differences with geographical differences [6].

Majority patients with migraine had significantly longer duration of migraine i.e., ≥8 years, had more frequent attacks i.e., ≥5 per month and also longer (≥24 hours) duration of each attack. On analysing disease variables [Table/Fig-2], significantly higher number of patients with migraine and psychiatric morbidity had longer duration of illness ≥8 years (p-value=0.008), had more frequent migraine attacks ≥5 attacks/month (p-value=0.032) and had longer duration of each attack ≥24 hours (p-value<0.001). Maizels M and Burchette R concluded that frequent association of somatic symptoms in patients with chronic migraine; in patients with severe headache >2 days/week compared to <2 days/week and in patients with a clinical diagnosis of anxiety or depression [16]. Some literature although state it otherwise [6,17].

As depicted in [Table/Fig-3-5], Group A had significantly more severe somatisation and depression (p-value=0.001) on the SCL-80 individual subscales. The symptoms of anxiety (8%, mean=11.28, p-value <0.01), OCD (2%, mean=7.12, p<0.05) and additional subscale (10%, mean=7.8, p<0.01) were moderately severe with a total SCL-80 mean score of 69.34 in group A. Minen MT et al., found that among the patients suffering from migraine, 41-47% suffered from depression, 51-58% from anxiety [7].

On MADRS, significantly (p<0.01) higher number of patients in group A showed symptoms of depression with mean score of 26.3. Fugger G et al., found MADRS too similarly with majority patients experiencing recurrent depressive episodes with a mean MADRS score of 24.8 [18].

On HARS, significantly (p-value <0.01) higher number of patients showed symptoms of anxiety with mean score of 20.04. Zampieri MA et al., could trace neuroticism in as many as 90% chronic migraine patients with almost half having anxiety disorder and half having depressive disorder [19].

On MADRS and HARS, significantly (p-value <0.001) more symptoms of depression and anxiety were observed in patients with psychiatric morbidity with mean score of 31.94 and 23.27, respectively. Pradeep R et al., found many patients with migraine to have co-morbid anxiety or depression with scores holding a direct correlation with the HAM-A and HAM-D scores [1]. As per ICD-10 criteria [Table/Fig-6], significantly higher (p=0.02) number of patients in group A were diagnosed as Depression F32, Generalised Anxiety Disorder, Somatisation F45 and OCD F42. Bera SC et al., concluded that among the total (62.5%) patients with psychiatric disorders, majority fulfilled criteria for major depressive disorder, social phobia, substance abuse, bipolar disorder, generalised anxiety disorder and though lesser but also with Obsessive Compulsive Disorder [2].

In the current study [Table/Fig-7], significantly higher number of migraine patients with psychiatric morbidity had positive family history of migraine (37.83%) as compared to 7.7% in patients without psychiatric morbidity. Bhatia M and Gupta R, found 12% of

cases to have a positive family history and 6% having family history of depression and migraine with aura as the most common subtype (80%) [20].

Considering strengths of current study, it strongly focuses on the wide co-occurrence of headache (in particular migraine) with various psychiatric symptoms as well as diagnostic disorders, which has been done in relatively fewer studies in north India. To delineate amongst patients with headache as part of underlying psychopathology versus primary headache disorder, a precise wholesome neuro psychiatric history taking was done using semi-structure proforma. This was further reinforced using appropriate scales and the standard IHS and ICD-10 criteria. For future recommendations, current study draws attention towards a multifaceted approach in headache management, to reduce burden on such patients in all spheres.

Limitation(s)

Current study was cross-sectional in nature. A longitudinal pattern would help assessing long-term course and prognosis of headache patients, especially those with psychiatric co-morbidity. Secondly, a higher sample size will better help generalising the results in population.

CONCLUSION(S)

Compared to other headaches, migraine patients, especially those having psychiatric morbidity were found to have longer duration of illness, more frequent attacks and longer duration of each attack. Further, such patients had higher overall psychiatric morbidity, including symptoms of somatisation, depression, anxiety, OCD and depression. As per ICD-10 diagnostic criteria for psychiatric disorders, more migraine patients suffered from Depression (F32), Generalised Anxiety disorder (F41), Somatisation disorder (F45) and OCD (F42).

REFERENCES

[1] Pradeep R, Nemichandra SC, Harsha S, Radhika K. Migraine disability, quality of life, and its predictors. Ann Neurosci. 2020;27(1):18-23.
[2] Bera SC, Khandelwal SK, Sood M, Goyal V. A comparative study if psychiatric comorbidity, quality of life and disability in patients with migraine and tension type headache. Neurol India. 2014;62(5):516-20.
[3] International Headache Society. IHS Classification ICHD-3 [Internet]. London (UK): IHS; 2018 [cited 2021 Apr 11]. Available from: https://ichd-3.org/1-migraine/.
[4] Steiner TJ, Stovner LJ, Vos T. GBD 2015: Migraine is the third cause of disability in under 50s. J Headache Pain. 2016;17:104.
[5] Gupta VK. Pathophysiology of migraine: An increasingly complex narrative to 2020. Future Neurol. 2019;14(2):FNL 13.
[6] Buse DC, Reed ML, Fanning KM, Bostic R, Dodick DW, Schwedt TJ, et al. Comorbid and co-occuring conditions in migraine and associated risk of increasing headache pain intensity and headache frequency: Results of the migraine in Maerica symptoms and treatment (MAST) study. J Headache Pain. 2020;21:23.
[7] Minen MT, De Dhaem OB, Van Diest AK, Powers S, Schwedt TJ, Lipton R, et al. Migraine and its psychiatric comorbidities. J Neurol Neurosurg Psychiatry. 2016;87:741-49.
[8] Jeyagurunathan A, Abdin E, Vaingankar JA, Chua BY, Shafie S, Chang SH, et al. Prevelance and comorbidity of migraine headache: Results from the Singapore Mental Health Study 2016. Soc. Psychiatry Psychiatr. Epidemiol. 2020;55:33-43.
[9] Takeshima T, Wan Q, Zhang Y, Komori M, Stretton S, Rajan N, et al. Prevalence, burden, and clinical management of migraine in China, Japan, and South Korea: A comprehensive review of the literature. J Headache Pain. 2019;20(111):01-15.
[10] World Health Organization. Headache disorders [Internet]. Geneva, CH: WHO; 2016 [updated 2016; cited 2021 Apr 11]. Available from: https://www.who.int/news-room/fact-sheets/detail/headache-disorders.
[11] Derogatis LR, Lipman RS, Rickels K, Uhlenhuth EH, Covi L. The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. Behav Sci. 1974;19(1):01-15.
[12] Hamilton M. The assessment of anxiety states by rating. Br J Med Psychol. 1959;32:50-55.
[13] Montgomery SA, Asberg M. A new depression scale designed to be sensitive to change. BJPsych. 1979;134(4):382-89.
[14] World Health Organization. The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines. In ed. Geneva: AITBS; 2007. Pp. 362.
[15] Banday M, Wani M, Farooq U, Parra B, Rather. Sociodemographic and comorbidity profiles of migraine patients: An outpatient based study in a tertiary care hospital. Asian J Pharm Clin Res. 2020;13(8):59-64.
[16] Maizels M, Burchette R. Somatic symptoms in headache patients: The influence of headache diagnosis, frequency and comorbidity. Headache. 2004;44(10):983-93.
[17] Lipton RB, Seng EK, Chu KM, Reed ML, Fanning KM, Adams AM, et al. The effect of psychiatric comorbidities on headache-related disability in migraine: Results from the Chronic Migraine Epidemiology and Outcomes (CaMEO) study. Headache. 2020;60:1683-96.
[18] Fugger G, Dold M, Bartova L, Mitschek MM, Souery D, Mendlewicz J, et al. Clinical correlates and outcome of major depressive disorder and comorbid migraine: A report of the European group for the study of resistant depression. Int J Neuropsychopharmacol. 2020;23(9):571-77.
[19] Zampieri MA, Tognola WA, Galego JC. Patients with chronic headache tend to have more psychological symptoms that those with sporadic episodes of pain. Arq Neuropsiquiatr. 2014;72(8):598-602.
[20] Bhatia M, Gupta R. Migraine: Clinical pattern and psychiatric comorbidity. Ind Psychiatry J. 2012;21(1):18-21.

PARTICULARS OF CONTRIBUTORS:
1. Associate Professor and Head (Nodal Officer), Department of Psychiatry and Deaddiction, GGSMCH, Faridkot; Deaddiction Centre, Civil Hospital, Bathinda, Punjab, India.
2. Consultant Psychiatrist (MO), Department of Psychiatry and Deaddiction, Deaddiction Centre, Civil Hospital, Bathinda, Punjab, India.
3. Senior Resident, Department of Psychiatry and Deaddiction, GGSMCH, Faridkot and Deaddiction Centre, Civil Hospital, Bathinda, Ferozepur, Punjab, India.
4. Senior Resident, Department of Psychiatry and Deaddiction, GGSMCH, Faridkot and Deaddiction Centre, Civil Hospital, Bathinda, Patiala, Punjab, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Priyanka Bansal,
House No. 40/4, Street No. 1, Ferozepur Cantt, Ferozepur, Punjab, India.
E-mail: priyankabansal2291@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Mar 22, 2021
- Manual Googling: May 01, 2021
- iThenticate Software: May 20, 2021 (8%)

ETYMOLOGY: Author Origin

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Mar 19, 2021**
Date of Peer Review: **Apr 07, 2021**
Date of Acceptance: **May 09, 2021**
Date of Publishing: **Jul 01, 2021**