Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr Index Copernicus value = 85.10

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

To determine the clinical correlation between migraine and mood disorders

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ABSTRACT:

Aim: The aim of this study to determine the clinical correlation between migraine and mood disorders. **Methods:** To measure impairment, all patients were given the Migraine Disability Assessment Questionnaire (MIDAS). A score of 6 or above is considered positive, with thresholds for mild, moderate, and severe handicap. The Hospital Anxiety and Depression Scale was used to determine the existence of concurrent anxiety and mood disorders (HADS). This comprises of 14 items divided into two subscales of 7 items each, HADS-Anxiety and HADS-Depression. Each question describes the respondent's subjective experience in the previous week and is evaluated 0-3, with zero signifying the most severe symptom intensity. Each subscale's total has a possible range of 0 to 21. A score of 11 or above was considered positive for anxiety or depression, depending on the subscale. **Results:** During the research, 100 patients were studied. The majority of the patients were between the ages of 35 and 45, with a mean age of 36.87. It was a female-dominated sample (70 percent). According to the HADS score, among the 20 patients (20%) suffering from depressive symptoms, 55% had borderline abnormal score and 25% had abnormal score, while among the 55 patients (55%) suffering from anxiety, 10% had borderline score and 35% had abnormal score. Depression had a mean HADS score (SD) of 10.69±2.88 whereas anxiety had a score of 14.31±3.01. There was no correlation between mood symptoms and age or gender group and mood changes. 27 percent of patients had mood swings. There was no correlation discovered between mood changes and gender or age group. Furthermore, no link was discovered between photo and phonophobia symptoms and mood alterations. **Conclusion:** We found that mood disorders co-occur with migraine at a rate equivalent to or lower than that recorded in many studies in the international literature, and that the presence of co-occurring mood disorders substantially adds to migraine-related impairment.

Received: 21 May, 2020 Accepted: 26 June, 2020

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This article may be cited as: Aggarwal N. To determine the clinical correlation between migraine and mood disorders. J Adv Med Dent Scie Res 2020;8(7):186-189.

INTRODUCTION

Migraine is one of the most common neurological illnesses in the world. Mood disorders, such as sadness and anxiety, are also common in many different geographic areas and people. Comorbidity refers to the presence of any extra illness in a person who has an index disease. [1] Numerous epidemiological and clinical research investigations have conclusively shown that mood disorders are comorbid with migraine at a higher rate than would be anticipated by chance. [2]For example, in a meta-analytic analysis [3], significant depression was present in 8.6 percent -47.9 percent of migraineurs, whereas migraineurs were shown to be 4 to 5 times more likely to suffer from generalised anxiety disorder. [4] For the following reasons, these concerns are of more than academic relevance. One, in terms of diagnosis, the presence of one illness, migraine, should induce the doctor to look for mood disorders and vice versa. Second, it aids in treatment, since both migraine and mood problems must be managed for optimal and rapid recovery. Untreated depression, for example, has been identified as a risk factor for the progression of low-frequency episodic migraine to chronic migraine.[5] Third, comorbid depression and anxiety are linked to worse long-term headache outcomes, greater medical expenses, increased healthcare consumption, and increased headache-related impairment. [6]As a result, public health interventions to minimise migraine disability should address both illnesses. Finally, a careful examination of the two illnesses' similar epidemiological, morphological, and neurochemical correlations may provide useful insights into their origin and pathophysiology. We expected that concomitant mood disorders were more frequent in migraineurs and that their impairment would be greater. The purpose of this study was to look at the prevalence of mood disorders in

migraineurs who did not have other types of headache, to look for migraine-related clinical features that may be associated with co-morbid mood disorders, and to compare migraine-related disability in patients with and without comorbid mood disorders.

METHODS AND MATERIALS

After receiving clearance from the protocol review committee and the institutional ethics committee, this cross-sectional research was carried out at the Department of Psychiatry. The International Classification of Headache Disorder 3 beta criteria were used to diagnose the patients as migraine. Each patient was thoroughly examined using a questionnaire that included information such as headache length, frequency and duration of each episode, location, quality and degree of pain, auras, migraine accompaniments such as photo or phonophobia, nausea, vomiting, and triggers. To measure impairment, all patients were given the Migraine Disability Assessment Questionnaire (MIDAS). The MIDAS is a well-validated approach 7 that consists of five questions concerning the effect of migraine headaches in the previous three months on the patient's personal, professional, and social life, as well as another portion addressing the intensity and frequency of these headaches. A score of 6 or above is considered positive, with thresholds for mild, moderate, and severe handicap. The Hospital Anxiety and Depression Scale was used to determine the existence of concurrent anxiety and mood disorders (HADS). [8] This comprises of 14 items divided into two subscales of 7 items each, HADS-Anxiety and HADS-Depression. Each question describes the respondent's subjective experience in the previous week and is evaluated 0-3, with zero signifying the most severe symptom intensity. Each subscale's total has a possible range of 0 to 21. A score of 11 or above was considered positive for anxiety or depression, depending on the subscale. In addition to blood counts, erythrocyte sedimentation rate, and standard blood biochemistry, all patients had neuro-imaging investigations (magnetic resonance imaging) to rule out structural abnormalities.

RESULTS

During the research, 100 patients were studied. The majority of the patients were between the ages of 35 and 45, with a mean age of 36.87. It was a female-dominated sample (70 percent). According to the HADS score, among the 20 patients (20%) suffering from depressive symptoms, 55% had borderline abnormal score and 25% had abnormal score, while among the 55 patients (55%) suffering from anxiety, 10% had borderline score and 35% had abnormal score. Depression had a mean HADS score (SD) of 10.69±2.88 whereas anxiety had a score of 14.31±3.01. The average duration of headache was 5 years. Because the duration of the sickness was not regularly distributed, nonparametric statistics were used. Though females had a longer sickness duration (mean rank: 71.54), it was not substantially different ($P = 0.02$) from men (mean rank: 57.98). Middle-aged people had a longer duration of sickness than other age groups ($P<0.02$). In the case of females, the mean rank of the frequency of headache episodes was 72.5 ($P<0.03$). As a result, females were sicker more often. There was no association identified between gender/age group and frequency of headache bouts. 73 percent of people experienced nausea and vomiting. There was no correlation between nausea or vomiting with gender or age group. Photophobia and photophobia affected 60% of the population. The clinical correlations of migraine and mood disorders are presented in Table 4. There was no correlation between mood symptoms and age or gender group and mood changes. 27 percent of patients had mood swings. There was no correlation discovered between mood changes and gender or age group. Furthermore, no link was discovered between photo and phonophobia symptoms and mood alterations. A link was discovered between mood alterations and the frequency of headache episodes ($P = 0.04$), indicating that the greater the frequency of migraine headaches, the greater the likelihood of experiencing mood symptoms and vice versa. There was no relationship between the occurrence/severity of mood changes and the length of sickness. Auras were seen in 14 percent of migraine sufferers. There was no link found between aura and mood shifts. The assault time (h) median (standard deviation) was 8 minutes (9.3). The longer the assault lasted, the worse the mood alterations were (mean rank 79.87), and this was strongly associated ($P = 0.01$). Only 17% had menstrual headaches, and 3% experienced menstrual mood changes. There was no link found between mood changes and menstruation headaches. According to MIDAS, 42 percent of people had no disability, 4% had light impairment, 34% had moderate disability, and 20% had severe disability. There was a strong connection between MIDAS score severity and mood changes ($P<0.001$), as well as between mood change severity and disability severity.

Table 1: Gender and age of the patients

Gender	Number	%
Male	30	30
Female	70	70
Age		
below25	7	7

25-35	20	20
35-45	50	50
above 45	23	23

Table 2: HADS score in depression

HADS score	Number	Percentage
Depressive symptoms	20	20
Borderline abnormal	55	55
Abnormal	25	25
Mean score	10.69±2.88	

Table 3: HADS score in anxiety

Anxiety	55	55
Borderline score	10	10
Abnormal score	35	35
Mean score	14.31± 3.01	

Table 4: Relation between migraine associated features and mood changes

Parameter	Value	P value
Gender	x: 1.4	0.27
Age group	X:2.7	0.31
Photophobia and phonophobia	X:0.7	0.63
Frequency	Mann-Whitney U:1122	0.02
Total duration of migraine	Mann-Whitney U:1.59	0.59
Aura	0.03	0.49
Attack duration of each episode	Mann-Whitney U:1334	0.02
Disability	1.29	0.002

Table 5: MIDAS

MIDAS	Number	Percentage
No disability	42	42
Mild disability	4	4
Moderate disability	34	34
Severe disability	20	20

DISCUSSION

Migraineurs are 2.5 times as likely to be depressed than non-migraineurs. Anxiety disorders are [9,10] and 2-5 times more frequent in women. [11] Various studies, however, have shown widely varying prevalence rates of mood problems among migraineurs. For example, the aforementioned meta-analytic research [12] found concomitant major depressive illness in 8.6 percent to 47.9 percent of migraineurs. Indeed, few studies have identified no link between migraine and depression. [13] This is most likely related to changes in inclusion criteria (for example, the existence of other types of concurrent headaches), clinic epidemiological variances across regional groups, and discrepancies in the various scales used to indicate psychopathology. Similarly, several investigations have proven the association between migraine and anxiety problems.[11,14-16] In fact, the link between migraine and anxiety disorders is greater than the link between migraine and affective disorders. [17]

The majority of migraineurs (51-58%) will fulfil the criteria for at least one anxiety condition over their lives.[18] The most prevalent anxiety disorders related with migraine were generalised anxiety disorders and social phobia. Many epidemiological studies show that anxiety problems are roughly twice as frequent as depression among migraineurs. [18-20]Several writers have hypothesised that the development of anxiety problems precedes the onset of migraine, which in turn precedes the onset of depression. [12] Data analysis from our investigation verifies our idea. Anxiety affected 55% of the research group, whereas depression affected 20%. Mood problems are more frequent in migraine sufferers than would be predicted by chance, and their impairment is much greater than in persons without mood disorders. We thoroughly ruled out instances of other forms of headaches, particularly tension-type headaches and analgesic overuse migraines. This is critical since tension-type headaches are independently substantially connected with depression but analgesic-dependent migraines may greatly increase migraineurs' impairment.[20] As a result, patients on preventative migraine medications were also rigorously eliminated. This is done to counteract the effects of regularly used preventative medications such beta-blockers, flunarizine, and topiramate, which may produce unfavourable mood responses like depression and cognitive slowdown. The HADS

score was chosen because it is well-validated, convenient, and appropriate for use in an outpatient department setting, as well as because it emphasises subjective manifestations of anxiety and depression and does not include any questions about somatic or pain symptoms, which may include headache.

CONCLUSION

We found that mood disorders co-occur with migraine at a rate equivalent to or lower than that recorded in many studies in the international literature, and that the presence of co-occurring mood disorders substantially adds to migraine-related impairment.

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