

Prevalence of Depression in Migraine Patients: A Multicentre Cross-Sectional Study from Pakistan

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ABSTRACT

Objective: Aim of current study was to determine the frequency of depression in patients with migraine visiting to Neurology outpatient department.

Study Design: Cross-sectional

Place of study: Data was collected from different tertiary care hospitals of Pakistan, including Lady Reading Hospital, Peshawar, Ghulam Mahar medical college and United medical and Dental College, Karachi, during period from November, 2021 to April, 2022.

Methods: Total 425 patients of both genders had age 18-70 years were included in this study. Included patients had migraine and visited outpatient department of Neurology. After obtaining informed written consent detailed demographics of enrolled cases included age, sex, education status and place of living were recorded. Frequency and severity of depression among all cases were assessed. SPSS 24.0 was used to analyze all data.

Results: Among 425 patients, 265 (62.4%) were males and 160 (37.6%) patients were females. Mean age of the patients was 29.7±10.50 years with mean BMI 23.7±11.26 kg/m². 230 (54.1%) were married and 195 (45.9%) were unmarried. There were 215(50.6%) patients educated and 210 (49.4%) cases were non-educated. 180 (42.4%) patients had migraine with aura and 245 (57.6%) patients were without aura. We found that 300 (70.6%) patients had depression among all cases. Among 300 cases of depression, frequency of mild was 75, moderate was 125 and severity of depression was found in 100 cases.

Conclusion: We came to the conclusion that since migraine sufferers had a relatively high rate of depression, there may be a connection between migraine and depression. When assessing migraine patients for a favorable prognosis and appropriate illness care, depression shouldn't be disregarded.

Keywords: Depression, Migraine, Aura

INTRODUCTION

One of the main factors that patients' quality of life is lowered is headache. [1] Patients in Neurology and Psychiatric clinics frequently voice this complaint, making it one of the most frequent ones. [2] In clinical practice, an accurate diagnosis and course of care can aid patients in lessening their discomfort and enhancing their quality of life. A headache might be either primary or secondary according to the IHS categorization. Although there is no recognized reason for secondary headaches, which include organic, metabolic, or drug-induced causes, primary headaches are thought to be functional. [3] Most often occurring primary chronic headaches include migraine, tension-type headaches, and cluster headaches, whereas secondary chronic headaches include persistent posttraumatic headache, headache brought on by infection, vascular headache, and headache brought on by drug abuse. Migraine is the most common condition in the majority of people who complain of headaches when they see a doctor. Clinical data that is more convincingly supporting the idea that headache symptoms are extremely commonly seen among patients presenting with mental illnesses to general hospital psychiatric units is in constant growth. Evidence reveals that anxiety and sadness are more frequently linked to headaches when it comes to mental disorders. [4]

A pounding headache, or a sensation of fullness so over forehead, which appears during recurring episodes and is frequently unilateral, is the hallmark of migraine, a chronic neurological illness. [5]

The signs of depression include melancholy, a lack of spirit, loss of pleasure, changes in eating and sleep patterns, and low energy that causes increasing lethargy that lasts for two weeks. The Global Health Organization (WHO) has identified clinically severe depression as the leading global cause of disability burden and suicide [6]. It is also connected with bad quality of life. Since each condition increases the likelihood of the other, there appears to be a bi-directional relationship between migraine and depression [7]. According to published research, 69% to 87% of migraine

sufferers are also thought to have mental comorbidities [8]. According to the results of a pooled meta-analysis, depression occurs approximately twice as frequently in migraine sufferers as it does in non-migraine sufferers [9]. A connection between migraines and emotional disorders, notably depression, was shown by a different study done in England [10]. Lastly, a research conducted in Taiwan found that more than 78% of those with altered migraine have mental comorbidity, with more than half (57%) experiencing significant depression [11]. The therapy of migraine sufferers is made more challenging by psychiatric comorbidities like depression, which also has a bad prognosis. There is a broad range of variability in migraine sufferers, with some being perfectly functioning while others having severe impairments such having social, emotional, and vocational restrictions. It is believed that migraines are caused by a very complicated set of biological processes. Comorbid conditions, such as mental diseases, can be blamed for a large portion of this variability [9].

The symptoms of a major depressive disorder (MDD), an affective condition that impairs psychosocial functioning, include subjectively poor mood, lack of interest in or enjoyment from daily activities, decreased energy, ease of tiring, guilt-related sentiments, altered sleep and food. MDD is more common in women than in men, with a lifetime incidence of roughly 20% and a point prevalence of 2%–5% [12]. Primary headache syndromes and MDD have been linked, according to data from epidemiological and clinical research. In this sense, it has been proposed that TTH and migraine have a particularly tight relationship with severe depression, and new research suggests that these disorders share shared neurological bases. [13,14].

Determining the frequency of depression among migraine patients who visit the neurology department at our hospital was the goal of this study.

MATERIAL AND METHODS

This cross sectional multicentre study was conducted Lady Reading Hospital, Peshawar, Ghulam Mahar medical college and

United Medical and Dental College Karachi, during period from November, 2021 to April, 2022 and comprised of 425 patients who visited OPD with complaint of headache. After obtaining informed written consent detailed demographics of enrolled cases included age, sex, education status and place of living were recorded. All those who were already taking antidepressants were nonetheless excluded. Additionally, we excluded any individuals who had serious illnesses including diabetes, infarction, or hypertension.

Included patients had age 18-70 years. An interviewer-administered questionnaire was used to gather all of the data. All migraine patients received an explanation from the study's primary investigator on its goals and procedures. Patient Health Questionnaire-9 (PHQ-9) questions were used to determine the frequency of depression in migraine patients based on the recommended time frame (two weeks) and the following scores: mild depression (a score of 5-9), treatment of psychiatric disorders (a score of 10-14), moderately depression (a score of 15-19), and severe depression (a score of 20 or higher) (a score of 20 or above). For a score of 5, depression was classified as positive; otherwise, it was classified as negative. Additionally, the validity and reliability of the questionnaire were examined by two renowned neurologists (reliability index 0.85).

Version 24.0 of the Statistical Package for Social Sciences (SPSS) was used for all statistical analysis. For categorical factors including sex, marriage, education, employment, monthly income, and depression, percentages and frequencies were calculated. For variable variables like age and sickness duration, the standard deviation and mean were calculated. Chi-square and Fischer's exact tests were used to stratify the effects of effect modifiers such age, sex, illness duration, marital status, education level, employment status, and socioeconomic position. Statistical significance was set at a p-value of 0.05.

RESULTS

Among 425 patients, 265 (62.4%) were males and 160 (37.6%) patients were females. Mean age of the patients was 29.7±10.50 years with mean BMI 23.7±11.26 kg/m². 230 (54.1%) were married and 195 (45.9%) were unmarried. There were 215 (50.6%) patients educated and 210 (49.4%) cases were non-educated.(table 1)

Table-1: Patients enrollment among all cases

Variables	Frequency	Percentage
Mean age (years)	29.7±10.50	
Mean BMI (kg/m ²)	23.7±11.26	
Gender		
Male	265	62.4
Female	160	37.6
Marital Status		
Married	230	54.1
Un-married	195	45.9
Education Status		
Educated	215	50.6
Non-educated	210	49.4

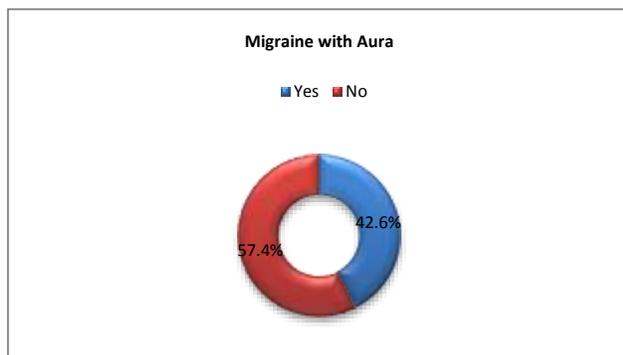


Figure-1: Frequency of aura among all cases

Among all, 180 (42.4%) patients had migraine with aura and 245 (57.6%) patients were without aura.(figure 1)

We found that 300 (70.6%) patients had depression among all cases.(figure 2)

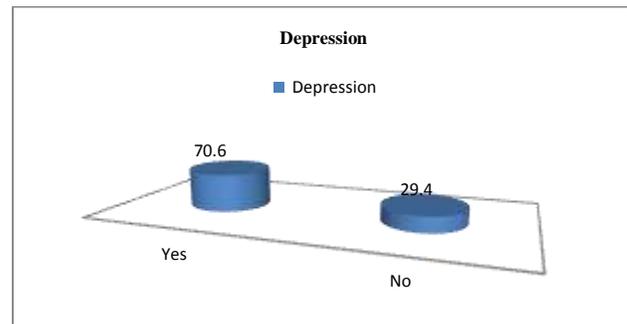


Figure-2: Frequency of depression among all cases

Among 300 cases of depression, frequency of mild was 75, moderate was 125 and severity of depression was found in 100 cases.(table 2)

Table-2: Frequency of types among depressed patients

Variables	Frequency	Percentage
Types of Depression		
mild	75	25
moderate	125	41.7
severity	100	33.3
Total	300	100

DISCUSSION

According to our findings, people with migraines have a significant prevalence of depression. There are more reports linking these migraine bouts to nausea and visual abnormalities. A person's life quality (QOL) is impacted by this neurological condition, which also causes a considerable loss in productivity [15]. The co-occurring mental diseases melancholy, anxiety, phobia, and panic attacks all contribute to a portion of the burden of migraines. In their study, Breslau and his coworkers showed a correlation among migraine and depressed mood by finding that migraine patients had a threefold higher risk of depression than non-migraine patients did, and that people with depression who had never previously experienced a migraine also had a threefold higher risk of experiencing one. [16]

In our study 425 patients had migraine were included. Among 425 patients, 265 (62.4%) were males and 160 (37.6%) patients were females. Mean age of the patients was 29.7±10.50 years with mean BMI 23.7±11.26 kg/m². 230 (54.1%) were married and 195 (45.9%) were unmarried. There were 215 (50.6%) patients educated and 210 (49.4%) cases were non-educated. Results were comparable to the prior researches.[17,18] The interplay between illnesses that cause headaches and psychiatric problems is now more widely understood to have a causal relationship. Patients who visit mental clinics regularly report suffering from headaches. In a comparable research, individuals who were experiencing their first episode of depression reported headache problems in 68% of cases. [19]

Additionally, it has been shown that a lot of mental health patients describe their psychiatric disturbances as just causing headaches. This was noted by a research that examined individuals who visited primary care clinics complaining of headaches and discovered that one-third of those people had significant depression. [20] In a different research, it was shown that 25.4% of patients who complained of headaches at a primary care clinic had significant depressive episodes. [21] At a similar vein, Nimnuan et al. discovered that among headache patients in a tertiary care centre, the prevalence rate of depression was 29.2%. [22]

It has been shown that migraine and depression have a symbiotic relationship. Each has the potential to raise the danger of the other, according to observations. [23] In our study 300 (70.6%) patients had depression among all cases. According to a study by Jelinski et al., a group of individuals with headaches had a higher risk of depression when specific clinical and demographic characteristics are taken into account separately. These included being younger and unemployed, receiving a disability pension or assistance, becoming divorced, separated, or widowed, and being younger and in need of financial support.[24]

Among 300 cases of depression, frequency of mild was 25%, moderate was 41.7% and severity of depression was found in 33.3% cases. Patients who experienced perceived prejudice were more likely than those who did not to suffer depressive symptoms (AOR = 0.244, 95percentage CI: 0.129, 0.462). Other European research back up the conclusion. [25] Previous research has revealed a strong connection between sadness and headaches.[25]

CONCLUSION

We came to the conclusion that since migraine sufferers had a relatively high rate of depression, there may be a connection between migraine and depression. When assessing migraine patients for a favourable prognosis and appropriate illness care, depression shouldn't be disregarded.

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