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Mental Maze of Migraines: A Qualitative Exploration of Psychological Issues

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ABSTRACT

Migraines place a heavy burden on sufferers—both personally and in terms of reduced activity and personal suffering—as well as on society—due to the high expense of the condition. Migraine is ranked as the most burdensome neurological disorder to society by the World Health Organization, and the sixth highest cause of disability worldwide. This indicates that migraine has become increasingly burdensome on an international scale, which hinders the routine functioning and processes of patients. One of the more recent psychological viewpoints on the migraine issue is the connection between migraine and mental health problems. The objective of the present research is to find out the participants' experiences and cultural expression of psychological problems associated with migraine. A qualitative research method was used, and data was collected through in-depth interviews with 14 migraine patients taken from different hospitals in Punjab province. The data was analyzed by using thematic analysis. An inductive thematic analysis approach was carried out on the responses given by the migraine patients to identify the major themes. The analysis resulted in 3 super-ordinate themes (Anxiety Related Problems, Depression Related Issues, Negative (emotions/thoughts), 8 themes (Cognitive impairment, Behavioral manifestation, Physiological indicators, Decline in cognitive abilities, Behavioral expression, Physiological problems, Negative thoughts, Negative emotions) and 30 subthemes. The findings of this study underscore the significant impact of migraines on patients' mental health, revealing a heightened prevalence of anxiety, depression, and negative thoughts and emotions among individuals grappling with this chronic condition.

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1. Introduction

Migraine is not "just a headache" – it's a complex neurological disorder where the mind-body connection is particularly evident. The experience of chronic pain can lead to alterations in brain structure and function, impacting emotional regulation, stress response, and cognitive processes (Raggi et al., 2012). Migraine headaches prevalent all over the world are among the major psychological problems. Migraine is the third most common disease, after dental caries in the first place and headache from stress in second place (Stovner, et al., 2018). Further, according to the

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World Health Organization, migraine is the most debilitating neurological condition in society and the sixth leading cause of disability globally (Reddy, 2016). Thus, migraine is more common than other well-known diseases, and more patients report migraine than diabetes, asthma, or epilepsy combined. This indicates that migraine has become increasingly burdensome on an international scale, which hinders the routine functioning and processes of patients. When migraine attacks occur, they do not allow the sufferers to carry on normal days of routine work. Lampl et al. (2016) stated that a person with migraine loses 5.3% of his life due to experiencing a migraine attack. The time lost due to migraine attacks and subsequent burdens on the international healthcare system cannot be ignored. The simplest definition of migraine is that it is a form of headache that is further characterized by symptoms of nausea, vomiting, or a higher sense of sensitivity (Houts, Wirth, McGinley, Lipton, Hirman, & Cady, 2020). Therefore, a person experiencing migraine has a severe headache as well as other physiological/ biological symptoms/ that integrate a greater sense of distress. Schulte and May (2015) have given more detailed definition of migraine, which is a headache that is pervasive in the form of waves coming after an interval of every 30 minutes or so. Not only variations in timing but also the region of headache in migraine are in the form of waves, as ipsilateral autonomic symptoms occur (May, Schwedt, Magis, Pozo-Rosich, Evers, & Wang, 2018). Among the emerging approaches to the issue of migraine from a psychological point of view is the connection of migraine with mental health disorders. As stated previously, migraine is correlated with anxiety and depression (Moon, Seo, & Park, 2017). Migraine and depression are inversely correlated, meaning that one condition raises the chance of the other and vice versa, indicating shared biological mechanisms (Yang, Ligthart, Terwindt, Boomsma, Rodriguez-Acevedo, & Nyholt, 2016).

Jacobson and Newman (2017) further added that migraine and depression or anxiety also function bi-directionally, with one causing the onset of another. However, Seng and Seng (2016) highlighted that Individuals with coexisting depression or anxiety may benefit from considering preventive migraine treatment, as psychiatric comorbidity has been associated with heightened migraine symptoms and disability. Therefore, the effect of migraine is much more pronounced and multidimensional than previously understood through research. It has been explained by Smitherman et al. that there are numerous physiological and psychological concerns associated with migraine. The aforementioned researchers expanded that migraine often leads to mental health complexities and causes anxiety and depression. From a narrow perspective, Brown, Newman, Noad, and Weatherby (2012) alluded that the frequency of migraines determines the intensity of depression experienced by an individual. As per the views of Karimi, Wijeratne, Crewther, Evans, Ebaid, and Khalil (2021), panic disorder has been considered as one of the emerging psychological issues that occur due to migraine. To appraise the preceding argument, one study found that out of three patients suffering from migrant, two of them experience panic disorder, which causes severe headaches, a migraine frequently (Karim et al., 2020). Ferro (2016) revealed that dysthymia has been another major psychological issue related to migraine. In relevance to the prior argument, Vázquez, Rahona, Gómez, Caballero, and Hervás (2015) asserted that like other disposition and depression conditions, dysthymia has been linked with elevated co-occurrence of migraine, stress, and non-organic severe headaches. In this regard, it was recorded that of the psychiatric conditions, the prominence of reconciling dysthymia was especially significant.

Shehbaz, Ali, Akhtar, and Aziz (2007) conducted a hospital-based case-control study in the Neurology Department of Jinnah Postgraduate Medical Centre Karachi and assessed the impact of coexisting depression in diagnosed cases of migraine. The findings of the study suggested that when depression comorbid with migraine, it increases the duration, frequency, and severity of migraine and makes it more resistant to treatment. Further, the quality of life of migraine patients is affected badly and consequently increases the burden of the disease. To evaluate migraine frequency, symptoms, typical triggers, and patient perceptions, a prospective study including university students and patients was conducted in Peshawar City, Khyber Pakhtunkhwa Province, Pakistan (Zahid et al., 2014). The results indicated that the age group over 30 had a higher frequency of migraines (65.0%), with tension being the most common trigger, followed by either oversleeping or lack of sleep. In a different study carried out in Karachi, 185 migraine sufferers ranging in age from

16 to 60 were questioned to find out the main causes of migraine attacks. It was demonstrated that emotional and mental stress was the primary cause of headaches that worsened with physical activity. Secondly, there were frequent reports of exposure to bright lights and strong sunlight. The two main controls that have been found to lessen the incidence of headache pain are medication and sleep deprivation (Ahmed, Noushad, Nasir, Khalid, & Tahir, 2014). In another study, Lahore city surveyed with 516 cases (452 among general university students). Rawalpindi City reported 201 cases. Further, Faisalabad, Bahawalpur, and Peshawar reported 175 physicians and medical students, 28 general university students, and 155 medical students with migraines, respectively (Jamali, Khan, Channa, Khuhro, Shaikh, & Chandio, 2024). The frequency of migraines in patients with depressive disorders was investigated in a clinical sample at the Department of Psychiatry and Behavioral Sciences at the Jinnah Postgraduate Medical Centre (JPMC), Karachi, Pakistan. The results showed that migraines had been reported by married women with severe depressive disorder (Jat, Afridi, Amar, & Lal, 2018). Jawed, Ali, Yaqoob, Shah, Uddin, and Haq (2019) looked on the degree of disability, prophylactic habits, and healthcare-seeking behaviors of migraine sufferers.

1.1. Significance of Study

Migraines are a complex neurological disorder that affects millions of people worldwide. Aside from their physical symptoms, migraines can have substantial psychological and social consequences for those who encounter them. Qualitative research can shed light on the psychological factors that cause and intensify migraines, as well as provide valuable insights into migraine sufferers' lived experiences. These individuals may not necessarily be "neurotic" in the clinical sense, but their personality traits can contribute to the development and maintenance of migraine symptoms. So, the aim of the present study is to find out the participants' experiences and cultural expression of psychological problems associated with migraine.

1.2. Research Question

How do individuals with migraine experience and express the psychological challenges associated with their condition?

2. Method

The present research was carried out to find out the participants' experiences and cultural expression of psychological problems associated with migraine.

2.1. Sampling Strategy and Sample

Fourteen patients with migraine were selected for semi-structured, in-depth, and one-on-one interviews. Criterion sampling technique was used in this study to identify the cases that meet some predetermined criterion of importance. All the participants fulfilling the inclusion criteria were included in the study. The sample was collected from different hospitals in the Punjab province of Pakistan. Out of nine divisions of Punjab province, the Neurology Departments are found in teaching hospitals of Lahore, Faisalabad, Multan, and Rawalpindi. All these four divisions were selected for this study which have hospitals with Neurology Departments. 2 cases from each hospital (n=14) was selected to explore in-depth view of the living experiences of migraine patients. Patients with clinically confirmed migraine diagnosis (provided by the neurologist) at least 2 years ago were included in the study. Both genders were included and the age range of all the research participants was between 20 to 40 years.

Table 1

Summary of the Key Participants Characteristics

Participant	Age	Gender	Education	Duration of the Disease in Years
Participant 1	28	Male	Primary	4
Participant 2	40	Female	Masters	8
Participant 3	39	Female	Matric	6

Participant 4	23	Female	Middle	6
Participant 5	25	Male	Graduation	5
Participant 6	38	Male	Graduation	4
Participant 7	30	Female	Masters	5
Participant 8	30	Male	Primary	3
Participant 9	22	Female	Intermediate	4
Participant 10	25	Female	Primary	3
Participant 11	22	Female	Graduation	3
Participant 12	40	Female	Matric	6
Participant 13	26	Male	Matric	3
Participant 14	38	Female	Intermediate	6

2.2. Interview Guide

For the purpose of exploring migraine specific psychological problems, Previous literature was consulted in the preparation of an interview guide. Following a preliminary test of the interview guide, feedback led to some minor modifications being made to the narrative and wording of the questions.

2.3. Procedure

To explore migraine-specific psychological problems, permission was taken from the hospital administration. They were briefed about the purpose and significance of the study. The administration was told about the characteristics of the sample for the current study. Each interview was prolonged for 45-60 minutes duration. Every interview was transcribed, and if necessary, grammatical corrections were made to enhance the text's flow.

2.4. Ethical Considerations

This research paper is a part of the doctoral research of the first author on the topic “Distress Tolerance, Social Support and Psychosocial Problems of Patients with Migraine.” The study methodology and protocols have been reviewed and approved by the Advanced Study and Research Board of the University of the Punjab via letter No. D/10083/Acad. The researcher took care of ethical considerations while collecting the data. Before exploring the psychological problems of migraine patients, informed consent was taken from each research participant. Respondents were briefed about the purpose of the study. They were ensured that the information taken from them would be kept confidential and was used for research purpose only. Further, researcher replaced names with unique identifiers and avoid including specific details that could lead to participant identification.

2.5. Data Analysis

An inductive thematic analysis approach was carried out on the responses given by the patients with migraine to identify the major themes. One way to analyze qualitative data is through thematic analysis. The process of going from disorganized data to a map of the most significant themes in the data is described by thematic analysis as being iterative.The data were evaluated using a cyclical approach in which the researcher went through multiple iterative steps. Audiotapes were transcribed using large margins on both sides of the paper. Transcripts were read and reread multiple times. After gathering an overview of the data, researcher began taking initial notes. Lines were numbered to make it easier to identify examples of various themes. Interview transcripts were coded to identify and define themes, which were then grouped into super ordinate themes based on conceptual similarities. Anything of importance and any specific concern in the transcript was addressed. These steps were repeated for each transcribed interview. The emergence of novel information across interviews was used to determine when data saturation (i.e., the point at which new content no longer appeared in the data) was achieved. No new concepts or terms were identified after 14 interviews in the present study.

Table 2
Table of Themes

Superordinate Themes	Themes	Subthemes/subordinate
Anxiety Related Problems	Cognitive impairment	Trouble concentrating
		Difficult to make decisions
		Fear of losing control
		Worry
		Difficulty in remembering details
	Behavioral manifestation	Uncomfortable in many social situations
		Restlessness
		Frequently asking or repeating questions
		Frequent need for reassurance
		Sleep-related issues
	Physiological indicators	Increased heart rate
		Excessive perspiration
		Muscle tension
Depression Related Issues	Decline in cognitive abilities	Attention problems
		Memory difficulties
		Low self-esteem
		Feeling helpless and hopeless
	Behavioral expression	Excessive personalization of negative events
		Avoidance of situations
		Impaired social relations
		Irritability
	Physiological problems	Negative self-statements
		Fatigue
		Appetite problems
		Changes in weight
Negative Thoughts and Emotions	Negative thoughts	Worthlessness
		Being overwhelmed
		Worrying about migraine
	Negative emotions	Distress
		Envy

3. Results

According to Table 2, the analysis resulted in 3 super-ordinate themes, 8 themes, and 30 subthemes.

3.1. Anxiety Related Problems

Participants reported experiencing anxiety-related problems associated with migraine at cognitive, behavioral, and physiological levels. Anxiety is characterized by difficulty concentrating and focusing. One of the respondents said,

"In my case, I suffer from a loss of focus due to exhaustion and psychological pain. And being in pain makes it much more difficult for me to concentrate and sometimes I did not see the simple points."

Uneasiness, impatience, and difficulty concentrating are all signs of anxiety. If people do not feel like they are getting enough done because of a lack of attention, they may become nervous,

which makes it even more difficult to focus. It was a continuation of the downward trend. Another participant responded,

"Rapidly fluctuating conditions, fear, and anxiousness can all have a substantial impact on my ability to focus."

Regarding the difficulty of making decisions, an interviewee said,

"I feel pressure if I am faced with a difficult last-minute decision which I have to make."

This can sometimes lead them to switch up plans with friends when symptoms hit unexpectedly or remove themselves from social situations entirely. One participant narrated,

"I get uncomfortable in social situations because during migraine I am not able to maintain my composure. I fear that people will judge me as a clumsy person."

Anxiety can lead to major sleep problems including insomnia. However anxiety problems may make many people feel tired. The anxiety and the feeling of fearfulness may make falling asleep more difficult. As one of the participants said,

"My excessive anxiety and panic make it very hard for me to fall asleep and remain asleep all night. And this issue of anxiety makes it extremely difficult for me to get a full night's sleeping."

In addition to that, another participant responded,

"Well in my case when I was in extremely tense and anxious situation. This can affect my memory and temperament, leading to impatience and unrest, and because of this I have to face the problems in sleep."

One of the respondents stated,

"I have a problem with sleep deprivation. Sometimes it is quite difficult for me to sleep at night since my mind cannot stop thinking about various events within my daily life."

3.2. Depression Related Issues

Participants reported experiencing depression-related problems associated with migraine at cognitive, behavioral, and physiological levels. One of the respondents said,

"During migraine, I take a break from interacting with too many people until and unless necessary. However, I do believe that people will understand my isolation and will not take it personally. People are usually there for me when I bounce back from a bout of migraine."

Fatigue often precedes or accompanies migraines, with fatigue serving as both a trigger and a symptom of migraine attacks. One of the participants stated,

"*I feel extremely fatigued during and after migraine. I feel that all the energy has been drained from my body."*

The responses of the respondents show that depression causes physical or psychological changes to the body to assist people in managing stress. The stomach and digestive system are frequently affected by these changes, and people may lose their appetite as a result. One of the respondents answer the question that

"I did not feel hungry when I was worried, nervous, and focused at the moment. It is as if my mind is unable to focus on everything due to stress and a lack of eating."

Furthermore, another respondent answers the question that

"Whenever I am in stressed, it is not a good combination for me; I have a eating problem that makes me want to eat more on that situation, and because of this, I am not interested in exercising regularly."

Low self-esteem can contribute to increased stress levels, which are known triggers for migraines. The debilitating nature of migraines can further undermine self-esteem, creating a cyclical relationship. An interviewee described:

"*I feel that is why I am not active like others or that others also lacked sleep due to some particular event but still they do not have migraine and I have it. It also makes me doubt myself that will I be able to achieve big things in life i.e. doing a degree or taking up a difficult course as I get unable to work. "*

As one of the participants replied:

"Things are created and then forgotten about. The noise is unbearable to me. I am upset about my condition and it keeps getting worse with time."

"There is irritation and dizziness. Anger is at an all-time high as well. I shout at my family and regret it later. I am confused. I used to be able to do everything around the house, but now I cannot. It is getting difficult for me to think and make decisions."

3.3. Negative Thoughts and Emotions

Participants reported negative thoughts and emotions such as being overwhelmed and worrying about migraine. Feeling overwhelmed can trigger migraines due to increased stress levels and muscle tension, exacerbating migraine symptoms and frequency. One research participant shared:

"*I get overwhelmed if the migraine gets prolonged for days. This decreases my confidence, affects my plans, and makes me lethargic, so its persistence makes me highly reactive."*

Another reported:

"*I worry most about what if I am not able to function with my daily chores. It makes me a lot worried to think what if it remains the same for upcoming times and what If I fell ill for more days."*

Worrying about migraines can create a cycle of stress and anxiety, potentially triggering or worsening migraine attacks through heightened tension and psychological distress. One interviewee stated:

"*A constant worry, while doing anything. While eating, while going anywhere."*

Emotional stress, including feelings of envy, has a significant correlation of migraine. Envy involves feelings of inadequacy, resentment, and stress, which can lead to emotional tension. One participant reported it as:

"*Sometimes I look at others and feel envious as they do not have migraine."*

4. Discussion

Migraines can have a profound impact on an individual's psychological well-being, as the debilitating nature of the condition can lead to significant distress and impairment in various aspects of life (Estave et al., 2021). This qualitative research paper aims to explore the psychological problems experienced by migraine patients, delving into the complex interplay between the physical and mental aspects of the disorder. As found out by the interviews people who are suffering from migraines are most likely to suffer from anxiety, depression, and negative thoughts and emotions. As per the above-mentioned response of the participants it has been described that anxiety symptoms like continuous fear, and increasing concerns can take people out of the current moment and make it difficult to stay focused on what they are doing. The anxiety sufferers frequently exhibit symptoms such as mental disorientation, hazy thinking, and difficulty focusing (Estave et al., 2023). Continuous stressful scenarios can negatively impact working memory, making even the most basic tasks feel more difficult than they once were since the person's capacity to focus is affected. Anxiety can cause muscle tension, difficulty in breathing and heartbeat, sweating, shaking, gastrointestinal problems, and exhaustion (Gottschal & de Waal Malefijt, 2019). It can arise from being worried about falling asleep, making it difficult for some people to even go to bed and effect on their sleeping duration. Moreover, anxiety may disrupt Sleep cycles, resulting in more complex, disturbing experiences. Anxiety can be induced or worsened by sleep problems. Anxiety issues can interact with other mental health issues such as depression, which can lead to sleeping problems. Sleeping is significant to the overall well-being (Tiseo et al., 2020). Over time, those who suffer from anxiety disorders may get dependent on worrying to the point where their distress and anxiety seem normal. People who are anxious, sleep for shorter periods and have a harder time getting a good night's sleep. It is important to highlight the cyclical character of many situations. For example, focus issues and memory issues brought on by migraines can exacerbate anxiety and tension and raise the risk of further attacks (McCracken, Thaxter, & Smitherman, 2024). This can set off a vicious cycle that affects a person's self-perception, resulting in poor self-esteem, feelings of powerlessness and hopelessness, and negative self-statements. The unpredictable nature of migraines exacerbates frequent anxiety that people with chronic conditions experience: the fear of losing control. This could cause people to avoid situations that could set off an episode, which could strain their social interactions and make them feel alone. The psychological burden is increased by physical symptoms including fatigue, difficulty sleeping, tense muscles, and problems with appetite. These might intensify restlessness, irritation, and emotions of impatience, making day-to-day living even more challenging (Peres, Mercante, Tobo, Kamei, & Bigal, 2017).

The present literature focuses on the bidirectional link between mood problems and migraine. Individuals with severe migraines frequently experience elevated levels of stress, which can, in turn, aggravate the disease (Leo & Singh, 2016). Factors such as lifestyle, sleep patterns, and emotional well-being were all found to play a significant role in the experience and progression of migraines. Patients who are suffering from migraines on a chronic level are more likely to experience depression, sadness, emptiness, and anxiety (Raucci et al., 2021). As patients, in this case with chronic migraines were also reported to experience inefficient behaviour and lack of productivity, which resulted in a negative quality of life among migraine patients. It is because of mental illnesses for instance depression and insomnia. It is also discovered that migraine sufferers have more difficulty thinking effectively, performing complex functions, and making sane decisions. The unpredictable nature of migraine attacks can make it difficult to plan and engage in daily activities. This can lead to missed work or school, strained relationships, and social isolation (Mangrum et al., 2024). The constant fear of the next attack can be debilitating, leading to a diminished quality of life and feelings of hopelessness (Al-Quliti, 2022). Furthermore, as per the responses of the participants show that when people battle with their psychological health, anxiety, depression, or abnormal eating behaviors can be brought on by negative thoughts, poor behavioral control, and a low sense of self-worth. The patients often emphasize the variety of negative emotions and terrible feelings that lead to poor psychological health. Frequent migraine attacks can induce feelings of inadequacy and worthlessness. Individuals may feel like a burden to their relatives and friends because they are unable to fully participate in activities or meet commitments. Migraines' unpredictable nature can disrupt work and social life, adding to feelings of poor self-

worth (Hervik, Foss, & Stub, 2023). Chronic pain, sensory disruptions, and cognitive deficits caused by migraines can be extremely distressing. Patients frequently report feelings of helplessness and a lack of control over their bodies and lives. The persistent anticipation of the next migraine attack might add to emotions of worry and overwhelm (Scaratti et al., 2018). The stress and anxiety that comes with anticipating the next migraine attack can be crippling. This continual worry can manifest as anticipatory anxiety, resulting in a vicious cycle in which stress triggers more frequent and severe headaches. Maladaptive coping methods, such as catastrophizing, have a role in worsening migraine-related misery. Migraines can induce severe emotional distress, including feelings of despair, anxiety, and impatience. Chronic pain and interruption in everyday life can have a negative impact on mental health, leading to social isolation, difficulties focusing, and sleep disruptions. highlights the close connection between migraine and psychiatric problems, underlining the need for a holistic approach to therapy (Sullivan, Cousins, & Ridsdale, 2016). For people who suffer from migraines, feeling envious of others who do not experience the sickness is not uncommon. They may feel resentful of others when they see them engaging in activities that they are forced to limit or avoid due to headaches. Jealousy can lead to feelings of social disengagement and loneliness (Pirthiraj & Bhagwan, 2023).

5. Conclusion

This qualitative research study concludes by highlighting the importance of addressing the psychosocial aspects of migraine. It's important to emphasize that these emotional and psychological challenges do not imply weakness. These are typical experiences for many who suffer from migraines, which highlights the necessity of an all-encompassing therapeutic strategy that takes the disorder's mental and physical components into account. It is important to emphasize that there is no mutual exclusion between these psychological barriers. When people with migraines interact and exacerbate one another, a complicated web of suffering is usually produced. Counseling, support groups, and other therapies are essential ways to address these psychological needs and enhance the overall quality of life for migraine sufferers.

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