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Research Article

Disability in Migraine and its Impact on Quality of Life: A Descriptive Study from a Tertiary Care Centre

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Abstract

Background: *Migraine is one of the most disabling primary headaches and is the second most prevalent headache disorder worldwide. It is associated with significant impairment in quality of life and work productivity, but data from our population remain sparse.*

Methods: *In this descriptive study, 50 consecutive patients with recently diagnosed migraine (with or without aura), defined according to the International Classification of Headache Disorders (ICHD-3), were included. Patients with other primary/secondary headaches or significant comorbidities were excluded. Headache characteristics were recorded, and disease burden was assessed using the Headache Impact Test-6 (HIT-6), Migraine Disability Assessment (MIDAS), and Migraine-Specific Quality of Life Questionnaire (MSQoL v2.1).*

Results: *Among 50 patients (36 females, 14 males; mean age 31.7 ± 9.6 years), 36% had migraine with aura. The mean duration of migraine was 5.4 ± 4.6 years, with a mean attack duration of 13.4 ± 7.2 hours and a frequency of 8.7 ± 5.2 episodes/month. Mean HIT-6 score was 65.9 ± 7.0, with 82% experiencing severe impact. The mean MIDAS score was 22.9 ± 8.8, with 66% in Grade IV (severe disability). MSQoL scores revealed significant impairment across all domains, with emotional function being most affected (52.6 ± 36.2).*

Conclusions: *Migraine is a disabling disease with a profound impact on daily functioning and QoL, particularly in young adults during their productive years. Emotional function was disproportionately affected, suggesting possible coexistent mood disorders. Comprehensive management strategies addressing both physical and psychological components are essential.*

Keywords: *Migraine, Disability, Quality of Life, HIT-6, MIDAS, MSQoL*

Introduction

Migraine is a common, recurrent, primary headache disorder affecting over 1 billion people worldwide, making it the second most prevalent neurological disorder (Steiner et al., 2020; Vos et al., 2020). It is characterized by episodic attacks of moderate to severe headache, often accompanied by photophobia, phonophobia, nausea, and functional disability(Charles, 2018). The Global Burden of Disease (GBD) study ranks migraine among the top causes of years lived with disability (YLDs), particularly affecting individuals

in their most productive years (Buse et al., 2012; Stovner et al., 2018).

Migraine not only causes physical suffering but also significantly interferes with psychosocial well-being, work productivity, and quality of life (QoL) (D'Amico et al., 2013; Lipton et al., 2007). Despite this, migraine remains under-recognized and undertreated, especially in low- and middle-income countries (Martelletti et al., 2018). Disease-specific instruments such as the Headache Impact Test-6 (HIT-6), Migraine Disability Assessment Scale (MIDAS), and Migraine-Specific Quality of Life Questionnaire (MSQoL) are widely used to quantify its burden on daily living (Jhingran et al., 1998; Kosinski et al., 2003a; Stewart et al., 1999). Data on the burden of migraine in our population are limited. Understanding the impact on disability and QoL is crucial to improving disease management strategies. This study was therefore conducted to evaluate the functional impairment and quality of life among patients with migraine, using validated instruments.

Materials and Methods

Study Design and Setting

This was a hospital-based, descriptive cross-sectional study conducted in the Department of Neurology at a tertiary care teaching hospital. The study was carried out over a period of 12 months. Ethical clearance was obtained from the Institutional Review Board prior to recruitment, and written informed consent was obtained from all participants.

Participants

Fifty consecutive patients attending the outpatient neurology clinic who were newly diagnosed with migraine were recruited for the study. The diagnosis of migraine, with or without aura, was made according to the International Classification of Headache Disorders, 3rd edition (ICHD-3) criteria.

Patients with other types of primary headache disorders (such as tension-type headache, cluster headache) or secondary headaches (due to trauma, intracranial pathology, infection, or vascular causes) were excluded. Individuals with significant systemic illnesses (such as uncontrolled hypertension, diabetes mellitus, thyroid dysfunction, renal or hepatic impairment) or major psychiatric illness were also excluded to avoid confounding factors.

Clinical Data Collection

Demographic details (age, sex, education, occupation), medical history, and clinical profile were recorded using a structured proforma. Headache attributes including:

- duration of illness since symptom onset,

- mean duration of acute attacks (in hours), and
- mean frequency of attacks per month

were systematically documented.

Assessment Tools

Three validated instruments were employed to quantify the burden of migraine:

Headache Impact Test-6 (HIT-6): A six-item self-report questionnaire measuring the adverse impact of headache on daily life, including role functioning, vitality, social interactions, and cognition. Scores range from 36 to 78, with higher scores indicating greater impact [2].

Migraine Disability Assessment (MIDAS): This questionnaire quantifies disability due to migraine over the past three months by assessing missed days of work, household chores, and social activities. Scores are graded as follows: Grade I (minimal disability, 0–5), Grade II (mild disability, 6–10), Grade III (moderate disability, 11–20), and Grade IV (severe disability, ≥21) [3].

Migraine-Specific Quality of Life Questionnaire (MSQoL v2.1): A 14-item instrument designed to assess health-related QoL in migraineurs. It evaluates three domains: Role Function–Restrictive (RR), Role Function–Preventive (RP), and Emotional Function (EF). Lower scores in each domain indicate poorer quality of life [4].

All questionnaires were administered by trained interviewers in the patient's preferred language to ensure reliability of responses.

Statistical Analysis

Data were entered in Microsoft Excel® and analyzed using IBM SPSS Statistics® version 25. Descriptive statistics were used to summarize demographic and clinical variables. Continuous variables were expressed as mean ± standard deviation (SD), while categorical variables were presented as frequencies and percentages. Associations between clinical characteristics and scale scores were examined using independent sample t-tests, chi-square tests, and Pearson correlation where appropriate. A p-value of <0.05 was considered statistically significant.

Results

Demographic and Clinical Characteristics

The study included 50 patients, 36 females (72%) and 14 males (28%), with a mean age of 31.7 ± 9.6 years. Most patients were between 20–40 years. Migraine with aura was observed in 36% of participants. The mean

duration of illness was 5.4 ± 4.6 years, with mean attack duration of 13.4 ± 7.2 hours and frequency of 8.7 ± 5.2 episodes/month (Table 1).

Impact and Disability

The mean HIT-6 score was 65.9 ± 7.0. Severe impact (HIT ≥ 60) was observed in 82% of patients, while 12% had substantial impact. The mean MIDAS score was 22.9 ± 8.8. Most patients had Grade III (moderate) or Grade IV (severe) disability (Table 2).

Quality of Life (MSQoL)

The mean total MSQoL score was 67.1 ± 24.6. All domains were affected, with emotional function most severely impacted (Table 3).

Table 1. Clinical Characteristics of Patients with Migraine (n=50)

Variable	Mean ± SD
Age (years)	31.74 ± 9.66
Migraine duration (years)	5.46 ± 4.62
Attack duration (hours)	13.44 ± 7.25
Frequency/month	8.7 ± 5.22
HIT-6 score	65.96 ± 7.07
MIDAS score	22.98 ± 8.86
MSQoL total	67.06 ± 24.58

Table 2. MIDAS Disability Grades

Grade	Disability	n	%
II	Mild	4	8%
III	Moderate	13	26%
IV	Severe	33	66%

Table 3. MSQoL Domain Scores

Domain	Mean ± SD
Role function restrictive (RR)	70.8 ± 20.2
Role function preventive (RP)	77.8 ± 17.3
Emotional function (EF)	52.6 ± 36.2
Total	67.1 ± 24.6

Discussion

In this study, we evaluated the clinical characteristics, disability, and quality of life among migraine patients. The results demonstrate that migraine predominantly affects young and middle-aged adults, with a clear female preponderance (72%). This finding is consistent with global epidemiological studies, where migraine is two to three times more common in women, likely due to hormonal influences and psychosocial factors (Stewart et al., 2008; Vetvik & MacGregor, 2017).

The mean age of our participants (31.7 years) and the predominance of cases in the 20–40 year age group further highlight the considerable socio-economic implications of migraine, as this age group represents the most productive years of life. Migraine with aura was observed in 36% of patients, which is slightly higher than the global prevalence of 25–30% reported in earlier studies (Russell & Olesen, 1996). This difference may reflect regional variations or selection bias in our study population.

Our results indicate a significant burden of disease, with patients experiencing an average of 8.7 attacks per month, each lasting for more than 13 hours. This frequency and duration are comparable to those reported in studies from India and other Asian populations (Kulkarni et al., 2014; Takeshima et al., 2004). The chronic nature of migraine, with a mean illness duration of over 5 years, further contributes to cumulative disability and reduced quality of life.

Disability assessment revealed that 66% of patients had severe disability (MIDAS Grade IV), while only a minority had mild disability. Similar findings have been reported in Indian cohorts, emphasizing that migraine is not merely a headache disorder but a cause of major functional impairment (Ray et al., 2017). The HIT-6 scores in our study also showed that the majority of patients (82%) experienced severe impact, supporting the use of HIT-6 as a sensitive tool to assess the burden of migraine in clinical practice (Kosinski et al., 2003a).

Quality of life, measured using MSQoL, was markedly affected in all domains. The emotional function domain was most severely impaired, indicating that migraine significantly affects mental health, consistent with evidence linking migraine to higher rates of depression and anxiety (Kosinski et al., 2003b). Role-restrictive and role-preventive functions were also affected, reflecting limitations in both work productivity and social activities. This aligns with prior findings that migraine is one of the leading causes of years lived with disability globally (Buse et al., 2013).

Overall, our study reinforces the disabling nature of migraine and its multidimensional impact on patients' lives. These results highlight the urgent need for early diagnosis, patient education, and comprehensive management strategies, including pharmacological treatment and lifestyle modifications, to reduce the burden of migraine.

Limitations

This study had a relatively small sample size and was conducted at a single center. Disease-specific scales were used, which may limit comparability with general QoL instruments. Psychiatric comorbidities such as depression and anxiety were not assessed with validated scales, though suggested by the MSQoL findings. Some patients were on treatment, which might have influenced disability scores. Being descriptive, follow-up assessments were not performed.

Conclusions

Migraine is a disabling neurological disorder, causing significant impact on daily functioning, quality of life, and emotional well-being. The majority of patients in this study experienced moderate-to-severe disability, with emotional health being particularly affected. Comprehensive management strategies, addressing both physical and psychological dimensions, are essential to reduce disease burden.

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