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# The prevalence and the clinical characteristics of migraine in Kafr-El Sheikh neurology clinic

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**Abstract**

In context, migraines are main headaches characterised by recurrent, episodic throbbing pain that may last anywhere from a few hours to a few days. More than a billion people (nearly 14 percent of the global population) suffer from migraines, making it one of the leading causes of disability and a major social and economic burden, as reported by the Global Burden of Disease Study 2016. The primary purpose of this research was to analyse the incidence rate and clinical features of migraine. Methods: The research was conducted as a cross-sectional, prospective, observational study in the Ophthalmology clinic of the Kafr-El Sheikh university hospital. Based on the International Classification of Headache Disorders, Third Revision (ICHD-3) criteria for migraine with aura and migraine without aura classified considering MIDAS into 3 groups, 90 patients (15-50 years old) were included in the research. A total of 30 patients who only experience minor headaches made up Group [1]. Thirty people who suffer from mild migraines make up Group [2]. Migraine sufferers, n = 30 (Group 3). The results of this research showed that demographic or other patient factors were not significantly related to migraine severity. In this dissertation, we showed that the frequency of migraine attacks, the prevalence of chronic migraine, and the length of illness all increased significantly with the intensity of the headache. All of these correlations were statistically significant at the 0.001 level. When looking at instances with a p-value 0.001, it was discovered that migraine symptoms occurred in a significantly larger proportion of the extreme cases. The proportion of patients with status migrainosus lasting more than 72 hours rose significantly with the severity of migraine, as did the frequency of migraine attacks, the number of years a patient had been suffering from migraines, and the total time he or she had been sick from migraines. In extreme circumstances, the migraine symptoms were more common.

**Key words:** Migraine Prevalence, Clinical Features, and Risk Factors.

## 1. Introduction

A migraine is a severe kind of headache that may continue for many hours or even several days. According to the Global Burden of Disease Study 2016, migraines are one of the top causes of disability worldwide, impacting over a billion people (almost 14 percent of the global population) and inflicting a considerable monetary and social burden on society. [1]. The 2013 International Classification of Headache Disorders, Third Edition recognises two basic kinds of migraine: migraine without aura and migraine with aura (ICHD-3).

It was formerly believed that vasodilation caused headaches, whereas vasoconstriction caused the associated aura. In light of current knowledge, we may assume that the various stages of a migraine attack are influenced by distinct neuroanatomical components and that neurovascular dysfunction is the root cause of both intracranial and extracranial sequence abnormalities [2]. These changes to the neurovascular system will cause vasospasm in the cerebral and retrobulbar arteries. Reduced blood flow to the optic nerve head (ONH) is a transient condition, but it is associated with long-term risks of brain and retinal/optic nerve damage in patients who suffer from the underlying disease [3]. Migraine patients may experience varying degrees of ganglion cell loss due to changes in the perfusion quality of the ONH microcirculation [4].

There have been a lot of clinical and epidemiological studies on migraine therapies, and one of the most important outcomes has been the reduction in migraine severity. There are a number of standardised and established assessments that may be used by both patients and doctors to evaluate the intensity of migraines and, hence, the level of functional impairment they cause. The Henry Ford Disability Inventory, the Migraine Severity Scale, the Headache Impact Test, and the Migraine Disability Assessment Scale (MIDAS) are all examples of such measures. However, most of these tools are designed to gauge functional impairment brought on by migraine and are vulnerable to recall bias [5].

This study aims to better understand the nature and prevalence of migraines by analysing their clinical manifestations.

## 2. Patients and Methods

The study was performed at the Ophthalmology clinic, Kafr-El Sheikh university hospital, as a cross sectional, prospective and observational study. Informed consent for the examinations was obtained from each patient or one of their parents.

**Patients:**

The study included 90 patients aged 15–50 years old, of both sexes, recruited from Kafr-El Sheikh neurology clinic and diagnosed by a neurologist based on the ICHD-3 criteria for migraine with aura and migraine without aura subdivided regarding MIDAS into 3 groups:

- Group [1]: (30) Patients with mild migraine.
- Group [2]: (30) Patients with moderate migraine.
- Group [3]: (30) patients with severe migraine.

**The inclusion criteria:**

- Patients with criteria of classic migraine.
- Age from 15-50 years old.

**The exclusion criteria:**

- Associated systemic diseases such as diabetes mellitus and hypertension.
- Other neurological disease e.g. Alzheimer disease, epilepsy and pathological headache.

**Methods:**

All subjects enrolled in this study underwent the following:

**A.History:**

**1-** Complete personal history (age, sex, occupation and residency).

**2-** Medical history:

- Diabetes mellitus.
- Hypertension.
- Drug intake for systemic disease.

**3-** Measurement of blood pressure.

**4-** Duration, frequency and medications of migraine.

**B.Migraine Disability Assessment Scale (MIDAS):**

Patients are asked questions by neurologists about the frequency and duration of their headaches, as well as how often these headaches limit their ability to participate in activities at work, at school, or at home. Once scored, the test gives the patient an idea of how debilitating his/her migraines are based on this scale:

- 0 to 5 → MIDAS Grade I, Little or no disability
- 6 to 10 → MIDAS Grade II, Mild disability
- 11 to 20 → MIDAS Grade III, Moderate disability
- 21+ → MIDAS Grade IV, Severe disability.

**Statistical Analysis**

Data were collected, revised, coded and entered to the Statistical Package for Social Science (IBM SPSS) version 23. The quantitative data were presented as mean, standard deviations and ranges when parametric and median with inter-quartile range (IQR) when non parametric. Also qualitative variables were presented as number and percentages.

The comparison between groups regarding qualitative data was done by using ***Chi-square test***.

The comparison between more than two independent groups with quantitative data and parametric distribution was done by using ***One Way ANOVA test.***

The p-value was considered significant as the following:

- P-value > 0.05: Non significant (NS)
- P-value < 0.05: Significant (S)
- P-value < 0.01: Highly significant (HS)

## 3. Results

**Table (1)** Relation severity of migraine and demographic data of the studied patients.

| | | Mild migraine No. = 30 | Moderate migraine No. = 30 | Severe migraine No. = 30 | Test value | P-value | Sig. |
|---|---|---|---|---|---|---|---|
| Age (Yrs) | Mean±SD | 34.40 ± 11.20 | 30.63 ± 9.50 | 32.03 ± 12.45 | 0.880• | 0.418 | NS |
| | Range | 14.00 - 50 | 15 - 46 | 16 - 60 | | | |
| Sex | Female | 25 (83.3%) | 24 (80.0%) | 20 (66.7%) | 2.609* | 0.271 | NS |
| | Male | 5 (16.7%) | 6 (20.0%) | 10 (33.3%) | | | |
| SBP | Mean±SD | 117.83 ± 9.26 | 117.33 ± 9.44 | 121.57 ± 10.79 | 1.654• | 0.197 | NS |
| | Range | 90.00 - 130 | 100 - 140 | 100 - 140 | | | |
| DBP | Mean±SD | 78.50 ± 7.89 | 78.00 ± 10.80 | 77.77 ± 5.22 | 0.061• | 0.941 | NS |
| | Range | 60.00 - 90 | 60 - 90 | 63 - 85 | | | |

**P-value >0.05: Non significant (NS); P-value <0.05: Significant (S); P-value< 0.01: highly significant (HS)**

*:Chi-square test; •: One Way ANOVA test

The previous table shows that there was no statistically significant relation found between severity of migraine and demographic or characteristics of the studied patients.

**Table (2)** Relation between severity of migraine and the other migraine parameters of the studied patients.

| | | Mild migraine No. = 30 | Moderate migraine No. = 30 | Severe migraine No. = 30 | Test value | P-value | Sig. |
|---|---|---|---|---|---|---|---|
| Status Migrainosus > 72hrs | No | 29 (96.7%) | 27 (90.0%) | 12 (40.0%) | 31.163* | 0.000 | HS |
| | Yes | 1 (3.3%) | 3 (10.0%) | 18 (60.0%) | | | |
| Treatment | Not on ttt | 18 (60.0%) | 17 (56.7%) | 12 (40.0%) | 5.392* | 0.495 | NS |
| | Acute ttt | 5 (16.7%) | 2 (6.7%) | 4 (13.3%) | | | |
| | Preventive ttt (+) Topiramate | 5 (16.7%) | 6 (20.0%) | 9 (30.0%) | | | |
| | Preventive ttt (-) Topiramate | 2 (6.7%) | 5 (16.7%) | 5 (16.7%) | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frequency (month) | 1-4 / month | 10 (33.3%) | 3 (10.0%) | 0 (0.0%) | 33.263* | 0.000 | HS |
| | 5-9 / month | 16 (53.3%) | 16 (53.3%) | 6 (20.0%) | | | |
| | > 10 / month | 4 (13.3%) | 11 (36.7%) | 24 (80.0%) | | | |
| Chronic Migraine | No | 28 (93.3%) | 18 (60.0%) | 6 (20.0%) | 33.158* | 0.000 | HS |
| | Yes | 2 (6.7%) | 12 (40.0%) | 24 (80.0%) | | | |
| Disease duration (year) | Mean±SD | 1.68 ± 1.37 | 2.35 ± 1.93 | 4.23 ±2.05 | 16.095• | 0.000 | HS |
| | Range | 0.25 - 7 | 0.25 - 8 | 2 - 10 | | | |
| Association | Nausea | 0 (0.0%) | 2 (6.7%) | 0 (0.0%) | 4.091* | 0.129 | NS |
| | All | 9 (30.0%) | 15 (50.0%) | 26 (86.7%) | 20.070* | 0.000 | HS |
| | Nausea + Vomiting | 14 (46.7%) | 7 (23.3%) | 0 (0.0%) | 18.261* | 0.000 | HS |
| | Nausea + Photophobia | 6 (20.0%) | 2 (6.7%) | 4 (13.3%) | 2.308* | 0.315 | NS |
| | Photophobia + Phonophobia | 1 (3.3%) | 4 (13.3%) | 0 (0.0%) | 5.506* | 0.063 | NS |

**P-value >0.05: Non significant (NS); P-value <0.05: Significant (S); P-value< 0.01: highly significant (HS)**
*:Chi-square test; •: One Way ANOVA test

The proportion of patients with status migrainosus >72 hours rose significantly with increasing migraine severity (p0.001), as did the frequency of migraine attacks, the prevalence of chronic migraine, and the duration of illness (all p0.001). When looking at instances with a p-value 0.001, it was discovered that migraine symptoms occurred in a significantly larger proportion of the extreme cases.

## 4.Discussion

The severity of migraines was not related to any of the demographic or clinical variables of the participants in this research.

This is consistent with the findings of Salman et al.6, who reported no age or sex differences between those with severe and moderate migraines (p>0.05).

Age and sex were also not significantly linked with migraine severity (p > 0.005), as shown by Lin et al.

In this dissertation, we showed that the frequency of migraine attacks, the prevalence of chronic migraine, and the length of illness all increased significantly with the intensity of the headache. All of these correlations were statistically significant at the 0.001 level. When looking at instances with a p-value 0.001, it was discovered that migraine symptoms occurred in a significantly larger proportion of the extreme cases.

Bulboacă et al. 8 corroborated our findings by showing that there was a substantial difference in the pattern of symptoms based on their severity, with status migrainosus being more common in severe migraine and lengthy duration being evident in severe migraine (Fisher exact test; p = 0.0006).

In addition, Lin et al. 7 discovered that patients with severe migraine had a considerably greater incidence of status migrainosus compared to those with moderate migraine (p 0.001).

## 5. Conclusion

We found that the frequency of migraine attacks, the prevalence of chronic migraine, and the length of sickness all increased with the severity of the condition. In extreme circumstances, the migraine symptoms were more common.

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