



Migraine Associated Disability Assessment among Students in Southern Kerala Using Migraine Disability Assessment Scale (MIDAS)

¹Ms. Fphamin. P. Philipose, Sixth Year Pharm D. Department of Pharmacy Practice. Nazareth College of Pharmacy, Kerala, India

²Ms. Heleny Elsa Sunu, Sixth Year Pharm D. Department of Pharmacy Practice. Nazareth College of Pharmacy, Kerala, India

³Mr. Sreehari. R, Sixth Year Pharm D. Department of Pharmacy Practice. Nazareth College of Pharmacy, Kerala, India

⁴Ms. Anjima S, Sixth Year Pharm D. Department of Pharmacy Practice. Nazareth College of Pharmacy, Kerala, India

⁵Mr. Jayakumar K S, Assistant Professor. Department of Pharmacy Practice. Nazareth College of Pharmacy, Kerala, India

⁶Dr. Roshiny Thankam James, Assistant Professor. Department of Pharmacy Practice. Nazareth College of Pharmacy, Kerala, India

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Corresponding Author: Ms. Fphamin. P. Philipose, Sixth Year Pharm D. Department of Pharmacy Practice. Nazareth College of Pharmacy, Kerala, India

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Abstract

Migraine is one of the most common diseases worldwide and, imperatively, a major cause of disability. Thus it implicates a huge clinical and economic burden to individuals and society. Despite being an important source of disability, works done to understand the burden of migraine on daily living remains meager. Clinical and regulatory guidelines are

encouraging the use of tools for disability assessment, productivity, quality of life, and emotional and physical functioning and understanding these factors will enable us to better manage the disease. One of such tools is Migraine disability assessment scale (MIDAS) that measures disability related to migraine in a three-month period. The aim of the study is to assess the migraine

associated disability among scholars in southern part of Kerala. In this descriptive study, 161 migraineurs were studied and migraine associated disability was measured using MIDAS. Some students were found to have moderate to severe disability and this shall be avoided by providing proper education and treatment

Keywords

Migraine, disability, assessment, disease burden, MIDAS

Introduction

Migraine is one of the most common primary headache disorders that affect about 15% and 40% in general population, respectively, with a higher prevalence between the ages of 25 and 55. Migraine is a primary headache disorder, most often begins at puberty. It is more common in women, usually by a factor of about 2:1, because of hormonal influences. It is caused by the activation of a mechanism deep in the brain that leads to the release of pain-producing inflammatory substances around the nerves and blood vessels of the head. According to WHO, migraine is recurrent, often life-long, and characterized by recurring attacks. Attacks typically include headache, which is of moderate or severe intensity, one-sided, pulsating in quality, aggravated by routine physical activity and with duration of hours to 2-3 days. Migraine is the third most common disease worldwide, with a global prevalence estimated at 14.7% in both genders in the Global Burden of Disease (GBD) Survey. Migraine is found to be affected over 20% of people at some point in their lives, but mostly it is under diagnosed. [1] Different questionnaires are available to quantify different aspects of migraine, some of them are migraine specific quality of life questionnaire (MSQ) that evaluates quality of life in migraine patients [2], migraine severity (MIGSEV) scale that accesses

severity of pain in different attacks [3], and migraine disability assessment scale (MIDAS) that measures disability related to migraine in a three-month period [4]. Migraine ranks as the second most prevalent primary headache disorder. It is the major cause of disability among patients with a primary headache disorder, causing functional impairment, which includes both physical and psychological components. Although migraine has an insignificant association with mortality, headache disorders adversely affect disability-adjusted life years (DALYs) in excess to the collective neurological disorders. Measurement of migraine-specific quality of life (MSQoL) and migraine-related disability (Migraine Disability Assessment Scale, MIDAS) are important approaches in comprehensive evaluation and management of migraine. [5] MIDAS questionnaire is a short, self-administered questionnaire designed to quantify headache-related disability over a 3-month period. The migraine disability assessment (MIDAS) questionnaire was developed by Lipton et al [4] and can be used to assess all associated aspects with migraine. It has been extensively studied and its reliability and validity have been proved by standard methods in many countries [6, 7]. This questionnaire has five questions, based on the total score migraine associated disability can be determined. The questionnaire is as follows:

1. On how many days in the last 3 months did you miss work or school because of your headaches?
2. How many days in the last 3 months was your productivity at work or school reduced by half or more because of your headaches? (Do not include days you counted in question 1 where you missed work or school.)
3. On how many days in the last 3 months did you not do household work (such as housework, home

repairs and maintenance, shopping, caring for children and relatives) because of your headaches?

4. How many days in the last 3 months was your productivity in household work reduced by half of more because of your headaches? (Do not include days you counted in question 3 where you did not do household work.)

5. On how many days in the last 3 months did you miss family, social or leisure activities because of your headaches?

Scoring: After the questionnaire is filled out, the total number of days from question 1-5 added.

MIDAS Grade	Definition	MIDAS Score
I	No disability	0-5
II	Mild disability	6-10
III	Moderate disability	11-20
IV	Severe disability	21+

Table 1: MIDAS grade based on score obtained

The aim of this study was to assess the migraine associated disability among scholars and the result thus obtained can be used to raise awareness, and eventually influencing a change in behavior of healthcare providers. Better therapies for migraine are still needed, but progress in managing the condition also depends on a thorough understanding of disease burden and also how migraine affects an individual’s life.

Material & Methods

A community based cross sectional study done in Southern part of Kerala. Study duration was 6 months (January 2022 to June 2022). The sample size has been calculated by the formula $n = Z^2_{1-\alpha/2} \sigma^2/d^2$. In Study population, inclusion Criteria consists of individuals with age group between 18 – 35 Years and students from the southern part of Kerala and exclusion criteria include pregnant women and lactating mothers. Data collection technique was as follows the data collection Performa was prepared using Google form. Before sending the Performa, telephonic conversation

was made with the subjects providing a brief description of the study and their consent would be obtained, and then a leaflet would be provided regarding migraine followed by the Google form and asked to provide the response within an hour. In case of any further clarification, they could contact us. The response was recorded in Microsoft excel and the data was statistically analysed. Data collection tool was predesigned data collection form (Google form).

Results

The aim of the study was to determine the migraine associated disability in students who have migraine. Table 2 and figure 1 depicts the disability assessment using the MIDAS questionnaire among the migraineurs, which revealed that 47.2% had Grade I or no disability, 20.5 % had Grade II or mild disability, 19.9 % had Grade II or moderate disability , whereas 12.4 % had severe disability or Grade IV disability.

Stage	Scale	No. Of Subjects	Percentage
No Disability	0-5	76	47.2 %
Mild Disability	6-10	33	20.5 %
Moderate Disability	11-20	32	19.9 %
Severe Disability	21 +	20	12.4 %

Table2: Distribution of migraine disability among migraineurs

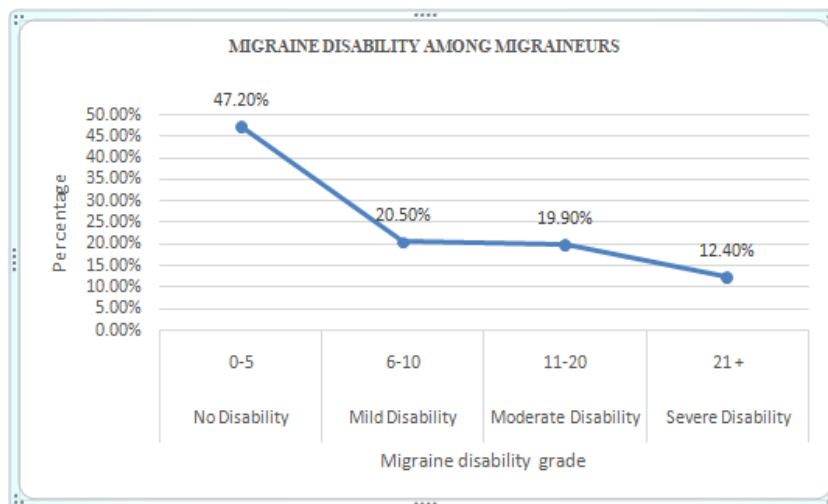


Figure 1: Line graph showing distribution of migraine disability among migraineurs

The pattern adopted for treatment of migraine was also assessed. Among the migraineurs 52% was not taking any medication for migraine, 26% use OTC medications and 22% take medication prescribed by doctor for migraine treatment.

Discussion

This descriptive study has shown that about 32.3 % of the migraine sufferers have moderate to severe disability on the MIDAS score. Although the MIDAS questionnaire is useful in suggesting treatment and preventive therapies for migraineurs, we are not aware of any study that has utilized MIDAS score in the evaluation of migraine in a standardized manner in Southern Kerala. Among our respondents, we found

that the migraine associated disability was grade I in 47.2%, grade II in 20.5% and grade III in 19.9%, while 12.4% had grade IV disability. The migraineurs with moderate-severe disability in this study is low (32.3%) when compared to the study conducted by Pradeep R, Nemichandra S. C , Harsha S , and Radhika K on migraine disability, quality of life and its predictors, where it was found that most migraineurs have a grade III to grade IV disability indicating significant migraine related disability^[5]. However, the result is similar to study conducted by Koalwolw W, W, Asuwemhe U J on migraine prevalence and associated disability among Nigerian undergraduates were 53% have grade I, 10.3% grade II, 20.7% grade III, and 15.9% have grade IV ^[8]. The reasons for this low disability could possibly that

our respondents were not able to recall the disturbances from all the attacks they had in the three months prior to the study or that they were still able to do their activities in spite of the headache. If this situation applies, then they are likely to have under-reported the disability associated with migraine. It is also imperative to notice that the social perception of the person with recurrent headaches would have influenced the reported disability in this study because in many cultures in Kerala, recurrent inability to do duties and household chores as a result of headaches is socially regarded as a form of malingering. As shown in the results, 52% of students were not taking any medication for the migraine headache, 26% uses OTC medication and 22% uses the medication prescribed by doctor. This study shows that proper awareness has to be provided among students regarding their health care to seek medical advice from the health professionals as they are unaware about the disease. Several studies have reported that majority of the migraineurs preferred self-medication treatment. The improper usage of the medication might lead to untoward effect of the drug and can cause rebound headache or medication overuse headache, abdominal problems etc. This result is similar to the study conducted by Bostanudin. M.F, Atassi.S.A and Fei.T.Son epidemiology of headache disorder among pharmacy students^[9].

Conclusion

The study aimed to find the migraine associated disability and trend in management of migraine among students. We found that there were a few students with severe disability and majority of migraineurs didn't take proper treatment and this may lead to chronic migraine condition and migraine associated disability. Moreover, we suggest that there is a need for launch of various public health awareness program on migraine and that

the effective therapies should be made available, thus they would have improved quality of life. The main strength of this study is the fact that in addition to determining the associated disability in the sufferers it has also determined the treatment pattern among them. To the best of our knowledge, this is the first time the MIDAS questionnaire was used in the systematic evaluation of disability among migraineurs in Southern part of Kerala although we appreciate that the study has certain limitations. Firstly, the study could have been influenced by recall bias because it is possible that some of the students did not immediately recall the decrease in the ability to do their daily activities. Nevertheless, we believe that the objectives were largely achieved, though a community-based study will be needed to validate our findings.

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