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# A PROSPECTIVE STUDY ON THE ASSESSMENT OF PRESCRIBING PATTERN AND THE IMPACT OF PATIENT COUNSELING ON MEDICATION ADHERENCE AND QUALITY OF LIFE AMONG MIGRAINE PATIENTS IN A TERTIARY CARE HOSPITAL- A PILOT STUDY

**Devika J.J.[1], Lijolin V.S.[1], Mobin. P. Chacko[1], Swathy N.S.[1], Prasobh G.R.*[2] and Grace N. Raju[3]**

[1]Doctor of Pharmacy Students, Sree Krishna College of Pharmacy and Research Centre Parassala, Thiruvananthapuram, Kerala, India.

[2]Principal and HOD, Department of Pharmacy Practice, Sree Krishna College of Pharmacy and Research Centre, Parassala, Thiruvananthapuram, Kerala, India.

[3]Assistant Professor, Department of Pharmacy Practice, Sree Krishna College of Pharmacy and Research Centre Parassala, Thiruvananthapuram, Kerala, India.

***Corresponding Author: Dr. Prasobh G. R.**
Principal and HOD, Department of Pharmacy Practice, Sree Krishna College of Pharmacy and Research Centre Parassala, Thiruvananthapuram, Kerala, India.

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**ABSTRACT**

**INTRODUCTION:** Migraine is a neurological disease which is characterized by recurrent headache, Nausea, Vomiting, Visual disturbances etc. **AIM**: The study aimed to analyse the prescribing pattern of migraine and evaluate the impact of patient counselling on the health related quality of life of the patient. **METHOD**: A Prospective observational comparative study was conducted in a tertiary care hospital. A total of 20 migraine patients were enrolled in the study. Medication adherence was assessed by using ARMS scale and QOL was assessed by using MSQ Version 2.1. **RESULT**: The age distribution data shows 30% of patients were in the age group of 41to 50 years. Gender wise distribution data of overall study population result indicated a predominant female population (80%). Out of 20 patients, 10 patients (36%) were prescribed with NSAID's, in which Naproxen+Domperidone combination is dominated. The medication adherence was assessed by using ARMS scale and the results shows that after giving patient counselling there is improvement in patients.The quality of life of migraine is assessed by using MSQ version 2.1 questionnaire and observed that quality of life of migraine patient after counseling was found to be significant.

**KEYWORDS:** Migraine, Prescribing patterns, Medication adherence, quality of life, patient counselling.

## 1. INTRODUCTION

Migraine is a neurological disease which is characterized by a recurrent headache moderate to severe. These attacks are often present with any combination of pain, nausea, light and sound sensitivity or vomiting.[1]

Migraine headaches are the third most common in women than in men. Family history of migraine is present in about 70-80% of people. Many women experiences migraines which are related to the hormonal changes of menstruation, oral contraceptives, pregnancy, post-partum and menopause.[2] Pain typically on one side of the head, Pain may be pulsating or throbbing, Moderate to severe pain affecting daily activity, Nausea or vomiting, Sensitivity to light and sound, Attacks last 4 to 72 hours, sometimes longer, Visual disturbances or aura (e.g. wavy lines, some dots, flashing lights and the blind spots or disruptions in smell, taste or touch) from 20-60 minutes before onset of headache, Exertion (e.g. climbing stairs or running) worsens the headache.[3]

Migraine is considered as the major common paroxysmal neurovascular disorder by the World Health Organization (WHO). The exact cause of the migraine attack is not known but it is probably lying within the central nervous system.[4] The ICHD criteria for migraine and the other primary headaches uniformly include "not attributed to another disorder" and recommend that secondary headache disorders that suggest the patient's history or physical or neurological examinations be excluded by the appropriate investigations. CT imaging is also preferred for ruling out acute haemorrhage, fracture or paranasal sinus disease, while MRI is better if other conditions are suspected.[5] Non-pharmacological options include strategies that can employ for ourselves as well as treatments used by trained practitioners. Cognitive Behavioral Therapy (CBT), Complementary Treatments like acupuncture or acupressure, massage, exercise and chiropractic, herbs etc., Yoga therapy are mainly done. The pharmacological therapy was done by giving NSAIDS, antiemetics, triptans.[6,7]

## 2. MATERIALS AND METHODS

In this study, a total of 20 patients who visited the Department of Neurology at a tertiary care hospital who have migraine and with symptoms as their chief complaints were enrolled for the study. The medication adherence of patients before and after counseling was estimated by using ARMS scale and the quality of life of migraine patients before and after patient counseling was assessed by using MSQ version 2.1 questionnaire.

### 2.1. Inclusion Criteria

- Migraine patients who are willing to participate in the study.
- Patients within 18– 70 years of age with diagnosis of migraine criteria international classification of headache disorders ICHD3

### 2.2. Exclusion Criteria

- Patient who are not willing to participate in the study
- Patient who are minor (<18yrs of age)

### 2.3. Statistical Analysis

Data were presented as mean ± SD between continuous variables were analyzed by using paired t test. In all test, a p value of <0.05 was considered to be significant.

## 3. RESULT

From the Neurology department, as per the study criteria 20 migraine patients were enrolled in the study and all of them are completed the study.

### 3.1 Age Wise Distribution

Among 20 patients screened, the age distribution data shows 30% of patients were in the age group of 41to 50 years, 20% of patients were in the age group of 51 to 60 years and an another 20% of patients were in the age group of greater than 60 years, 15% of patients were in the age group of 31 to 40 years and 18 to 30 years.

**Table 1: Age wise distribution of study population.**

| Sl.No. | Age in years | No of patients (n=20) | Percentage (%) |
|---|---|---|---|
| 1 | 18 – 30 | 3 | 15 |
| 2 | 31- 40 | 3 | 15 |
| 3 | 41 – 50 | 6 | 30 |
| 4 | 51 – 60 | 4 | 20 |
| 5 | >60 | 4 | 20 |

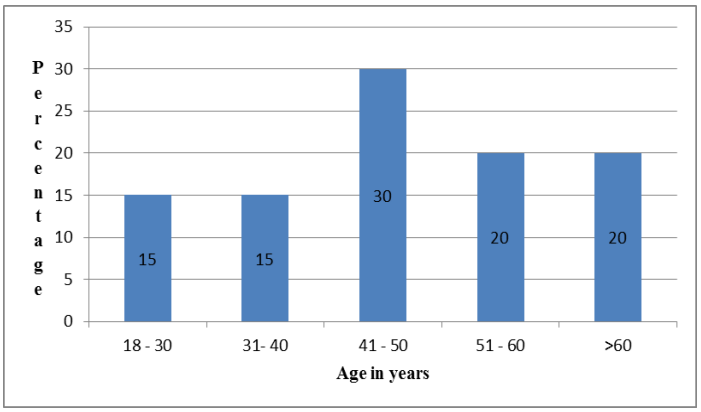


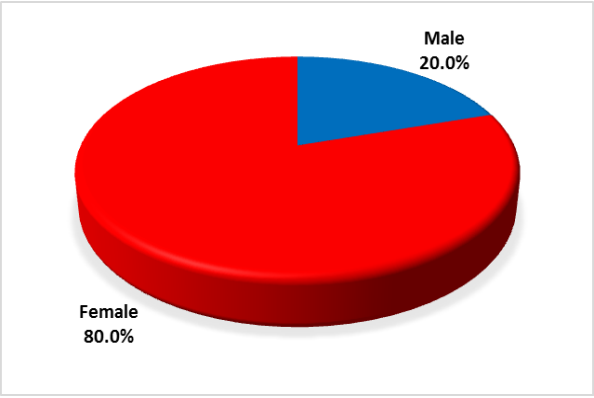

**Figure 1: Age wise distribution of study population.**

### 3.2 Gender Wise Distribution

Gender wise distribution data of overall study population was given in (Table:1) and (Figure: 1). Result indicated a predominant female population (80%).

**Table 2: Gender wise distribution of study population.**

| Sl.No. | Gender | No. of Patients (n=20) | Percentage (%) |
|---|---|---|---|
| 1 | Male | 4 | 20 |
| 2 | Female | 16 | 80 |



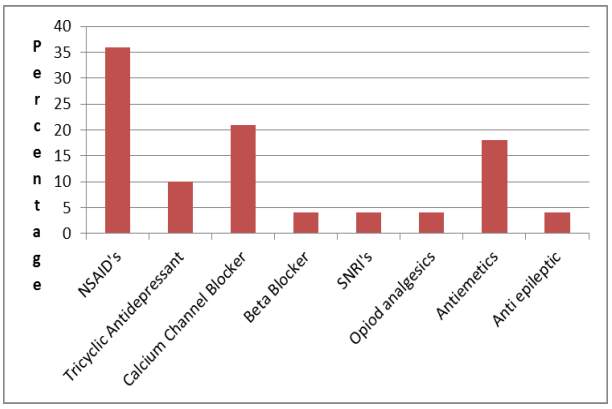

**Graph 2: Gender wise distribution of study population.**

### 3.3. Prescription Pattern Analysis

A total of 20 prescriptions were analysed and the collected medications were coded in terms of their generic names by using IBM Micromedex solutions, a leading global medical resource. Out of 20 patients,10 patients (36%) were prescribed with NSAID's, 6 patients (21%) received Calcium Channel Blocker particularly Flunarizine, 3 patients (10%) received Tricyclic antidepressants, 5 patients (18%) received antiemetics, and 4% of patients received beta blocker, SNRI's, Opioid analgesic and Anti-epileptic drugs. In present study the utilization rate of NSAID's was high in which Naproxen+Domperidone combination is dominated. This prescribing trend may be attributed to the goals of migraine therapy to minimize the frequency, severity and duration of attacks.

**Table 3: Individual drugs prescribed in the treatment of Migraine.**

| Classes of Drugs | Drug Name | No. of Patients |
|---|---|---|
| NSAID's | Paracetamol<br>Naproxen+Domperidone<br>Diclofenac<br>Paracetamol+Metaclopramide | 2<br>5<br>1<br>2 |
| Calcium Channel Blocker | Flunarizine | 6 |
| Tricyclic Antidepressants | Nortriptyline<br>Amitriptyline<br>Dosulepin | 1<br>1<br>1 |
| Beta blocker | Propranolol | 1 |
| SNRI's | Disvenlaflaxine | 1 |
| Opiod Analgesic | Tramadol | 1 |
| Antiemetics | Prochlorperazine | 5 |
| Antiepileptic | Gabapentin | 1 |




**Graph 3: Percentage Assessment of Prescription Pattern.**

### 3.4 Impact of Patient Counselling on Medication Adherence

The ARMS was developed to evaluate self-reported adherence to taking and refilling medications among patients with chronic skills, groups that appear to have lower levels of adherence.[8]

Medication adherence is measured by Adherence to Refill Medication Scale (ARMS), which is a valid and reliable medication adherence scale with good performance characteristics even among low literacy patients. It contains a 12-item questionnaire which should be reverse coded and then added up the points.

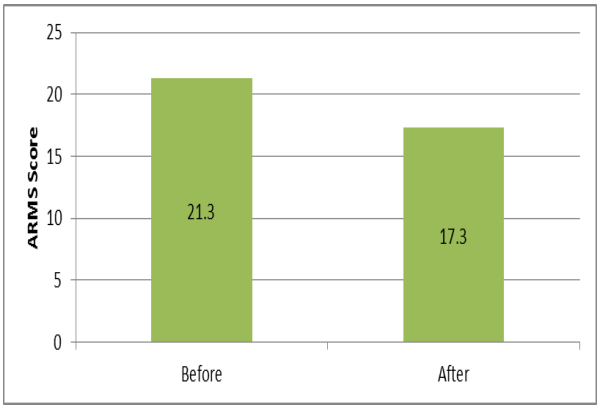
The range of possible score is between 12 to 48. Lower score indicates better adherence. Scores can be treated as continuous measure or dichotomized as 12 or >12.

#### 3.4.1 Table 7: Medication Adherence Assessment Before and After Patient Counselling.

| | No. of Patients | ARMS Score (Mean ± SD) |
|---|---|---|
| **Before Counselling** | 20 | 21.3 ± 3 |
| **After Counselling** | 20 | 17.3 ± 1.3*** |

****P value <0.001 was considered to be extremely significant*

Table shows that the Medication Adherence Assessment Before and After Patient Counselling. Out of 20 patients examined the mean ARMS score before counselling was found to be 21.3 ± 3 and the mean ARMS score after counseling was found to be 17.3 ± 1.3. medication adherence after counseling was found to be highly significant($p<0.001$).




**Graph 7: the comparison of ARMS score before and after patient counseling.**

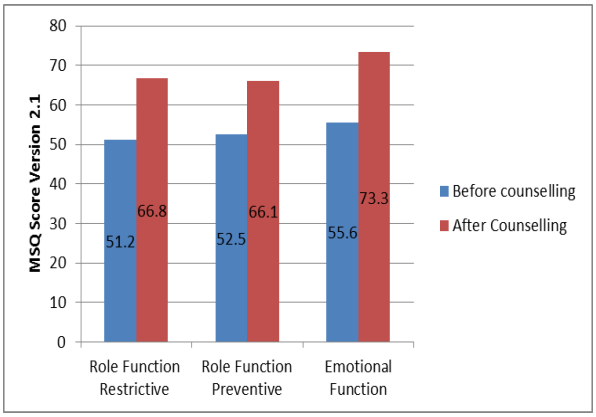
### 3.5 Assessment of Quality of Life of Migraine Patient By Using Msq Version 2.1

The migraine specific quality of life questionnaire version 2.1 has been shown to have good psychometric performance in measuring headache impact's is a 14-item questionnaire that measures the impact of migraine across three essential aspects of a HRQOL over the past 4 weeks role function restrictive, role function preventive and emotional function.[9]

**3.5.1 Table 8: The MSQ version 2.1 questionnaire before and after counseling of each domains.**

| Domains | | MSQ Score (Mean ± SD) |
|---|---|---|
| **Role function restrictive** | Before Counselling | **51.2 ± 15.4** |
| | After Counselling | **66.8 ± 8.5*** ** |
| **Role function preventive** | Before Counselling | **52.5 ± 13.3** |
| | After Counselling | **66.1 ± 10.6*** ** |
| **Emotional Function** | Before Counselling | **55.6 ± 18.5** |
| | After Counselling | **73.3 ± 10.4*** ** |

*****P value <0.001 was considered to be extremely significant*




**Graph 8: The comparison of MSQ domains before and after patient counseling.**

The quality of life of migraine patients before and after counseling by using MSQ Version 2.1 contain three domains. The mean MSQ score for role function restrictive before counseling was 51.2 ±15.4 and after counseling was 66.8 ± 8.5. The MSQ score for role function preventive before counseling was 52.5±13.3 and after counseling was 66.1±10.6. The MSQ score for emotional function before counseling was 55.6±18.5 and after counseling was 73.3± 10.4. When comparing the quality of life before and after patient counseling, after counseling was found to be extremely significant($p<0.001$).

## 4. DISCUSSION

In our study, we assessed the prescription pattern, impact of patient counseling on Medication adherence before and after counseling and quality of life in migraine patients.

In this particular study, Gender wise distribution data shows a predominant female population.These suggested that migraine have more influence on females. Our finding was also similar to the study carried out by Yuliang Guo et al[10], they evaluate the gender on neuro cognitive processing in migraineurs and found that the prevalence is about two times high in females compared with males and the symptoms are more severe in women.

In addition to this, the most prescribed drug classification was found to be NSAID'S (36%). These results were similar to the study done by Marja-Liisa, Samelahti, Kari Mattila, Lauri Sillanmaki, Markku Sumanen et.al[11], studies found that NSAID'S were used more commom in the treatment of acute migraine. Our result was also compared with the study done by Arpad Pardutz, Jean Schoenen et al[12], which also shows that NSAID'S are used in the acute treatment of migraine.

Medication adherence is measured by Adherence to Refill Medication Scale (ARMS), the patient produce significant effect on After counselling when compared with before counselling. This result is similar with the study carried out by Elizabeth K Seng et al[13], which also shows similar results.

The quality of life of migraine patients were assessed by using migraine specific quality of life (MSQ) version 2.1 Questionnaire and the quality of life of migraine patients was assessed in before and after counseling which shows better improvement in quality of life after Counselling. Our finding was similar to study done by Regina Rendas-Baum, Lisa M.Bloudek et al[14], studies found that better quality of life was attained after counselling. In the study of Christine L Bagley et al[15], the Mean and SD values of MSQ Version 2.1 was similar to that of our study.

## 5. CONCLUSION

In this study, we observed that there are more chance of Migraine in females than in males. The mostly prescribed drugs for migraine was found to be NSAID'S. Medication adherence was compared before and after counseling better results found after counseling and the Quality of life was performed using questionnaier before and after counseling quality of life was improved after counselling.

## REFERENCE

1. Lipton RB, Scher AI, Kolodner K, Liberman J, Steiner TJ, Stewart WF. Migraine in the United States: epidemiology and patterns of health care use. Neurology, 2002; 58(6): 885-894.
2. Jeffree RL, Besser M. Colloid cyst of the third ventricle: a clinical review of 39 cases. J ClinNeurosci, 2001; 8: 328–31.
3. Harrison's Principles of Internal Medicine - 20th Edition, I & II.
4. GG Schoonman., et al. Department of Neurology, Leiden University Medical Centre, Leiden, The Netherlands, "The Prevalence of Premonitory Symptoms In Migraine: A Questionnaire Study In 461 Patients", 2006.

5. NJ Giffin., et al. "Premonitory symptoms in migraine an electronic diary study". Article in Neurology, 2003.
6. Selby G and Lance JW. "Observations on 500 cases of migraine and allied vascular headache". Journal of Neurology Neurosurgery Psychiatry, 1960; 23: 23-32.
7. Stewart J., et al. "Mechanisms of Action of the 5-HT1B/1D Receptor Agonists". Archives of Neurology, 2002; 59: 1084-1088.
8. Migraine Specific Quality of Life Questionnaire Version 2.1 (MSQ) Scaling and Scoring, November 2017; 1.0.
9. Gazmararian J, et al. Factors associated with medication refill adherence in cardiovascular-related diseases: a focus on health literacy Gen Intern Med., 2006; 21: 1215-21.
10. Yunliang Guo et al, female versus male migraine: an event – related potential study of visual neurocognitive processing, The journal of headache and pain, 2019; 38.
11. Marja-Liisa, Samelahti, Kari Mattila, Lauri Sillanmaki, Markku Sumanen et.al, Prescription patterns in preventive and abortive migraine medication, Cephalagia, Dec, 2011; 31(16): 1659-63.
12. Arpad Pardutz, Jean Schoenen et al, NSAID'S in the acute treatment of migraine : A Review of clinical and experimental data, Jun, 2010: 3(6): 1966-1987.
13. Elizabeth K Seng, Jenetta A Rains et al, Improving medication adherence in migraine treatment, Curr Pain Headache, Jun, 2015; 19(6): 24.
14. Regina Rendas-Baum, Lisa M.Bloudek et al, The psychometric properties of the Migraine-specific quality of life Questionnaire version 2.1(MSQ) in chronic migraine patients,Qual Life Res., 2013; 22(5): 1123-1133.
15. christine L Bagley et al, Validating Migraine - Specific Quality of Life Questionnaire v 2.1 in episodic and chronic migraine. Headache, Mar, 2012; 52(3): 409-21.