

A RETROSPECTIVE STUDY ON PRESCRIPTION PATTERN OF MIGRAINE MANAGEMENT: AN INSTITUTIONAL EXPERIENCE

Deepti Agrawal Garg¹, Dr. Ramesh Chandra Patra², Dr. Anand Mishra³
Phd. Scholar, Sri Aurobindo University, Indore, Madhya Pradesh¹
Assistant professor, Lovely Professional university, Phagwara²
Professor, Sri Aurobindo University, Indore, Madhya Pradesh³

Abstract-Up to 16.6% of people in general can suffer from migraine headaches, which are a common neurological disorder that can be expensive to treat. Based on Global Burden of Disease, injuries and risk factors (GBD), migraine headaches are second-most disable condition in the world. Even though chronic migraine has a serious impact on both physical and psychological functioning, it is nevertheless underdiagnosed and undertreated. There is significant controversy around data on prescription trends and migraine treatments in India.

This retrospective analysis of the out-patient department of the a hospital and a medical institution for the migraine patients in Indore (Madhya Pradesh), India. Data collected from January 2022 to 30th October 2022. There were 753 migraine sufferers among about 11,252 patient data. We have evaluated the treatment patterns, frequency of medicines used, and healthcare resource utilization among adults with migraine in the institution of India.

There were 753 migraine sufferers detected out of a total of about 11,252 patient data. Both male and female patients who were 18 years of age or older and had a diagnosis of migraine (according to ICD-9) were included in the analytic data sheet. Patients under the age of 18, women who were pregnant, and patients with concomitant conditions were eliminated. Out of 349 participants in this institutional study, 85 men (24.36%) and 264 women (75.64%) were present. In our study, women made up a bigger fraction of migraine sufferers than males, but their mean age was mostly consistent with that of other investigations.^{9,10} The predominant age ranges represented and their corresponding percentages were 21–30 years (26.9%), 31–40 years (34.7%).

The three medications that the neuro-physician most frequently recommended were NSAIDs, propranolol, and TCA. The most often utilised drug combinations were specifically those including NSAIDs and beta blockers.

Keywords: Migraine, Chronic, Drug prescriptions, Acute medication, Preventive medication, Retrospective studies, recurrent prescription drugs, Acute treatment, preventative treatment, retrospective research

I. INTRODUCTION

The definition of chronic migraine (CM) has been updated with the third edition (beta version) of the International Classification of Headache Disorders, and is described as headaches that occur on 15 days per month with 8 days per month meeting criteria for migraine and/or for which a migraine-specific medication was used (e.g., triptans or ergot) for >3 months¹. Migraine is most common debilitating disorder, characterized by moderate to severe pain, having negative effect on physical and emotional wellbeing.²⁻⁴ Other than individual wellbeing and sufferings, migraine headache is now a days a public health issue that impacts a burden on society through health care system and their productive costs. There is high prevalence of migraine disorder in south India, probably due to their cultural, lifestyle and or environmental factors.⁵ (Girish B Kulkarni)

This current retrospective study sought to answer few questions like what were the physician's preferences for prescribing medications for the treatment of migraine, which class of medications were most frequently used, frequency at which migraine specific medications were prescribed etc. in Neuro-medicine out-patient department.

II. METHODS

A. Design & Setting

a. Patient selection

We conducted a retrospective cohort study using recorded data from Neurology Out patient Department (OPD) at Sri Aurobindo Institute of Medical Sciences, Indore (M.P.), India. We have taken patients who had

at least once visited the OPD between January’2022 to 30th October 2022. There were total approximately 11,252 patients records, out of which 753 migraine patients were found. Patients who were 18 year or older and have a diagnosis of migraine (as per ICD-9) and both male and female patients were included in the analysis data sheet. Patients below 18 year of age, pregnant females and patients with comorbidities were excluded.

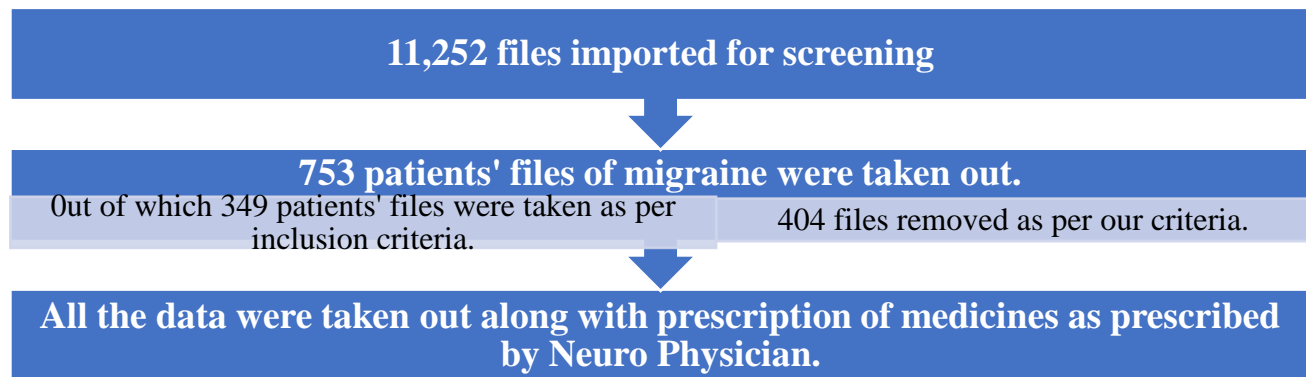


Figure 1. PRISMA flowchart indicating the publication screening and selection process.

III. STATISTICAL ANALYSIS AND RESULT

Data were collected retrospectively from the files of patients consulted each neurology OPD department at Sri Aurobindo Institute of Medical Sciences, Indore, India (patient case report form). Out of 753 total, 349 subjects were suited to our inclusion criteria. Out of 349 subjects, there were 85 males (24.36%) and 264 females (75.64%). In the present study, we have found that the common age group was 31-40 years (34.7%) and least was seen in <10 years (0.6%). In this retrospective study it was seen that NSAIDS were used most commonly (95.4%) and then followed by Propranolol in 73.6%. Frequency of drugs used is described in Table-1:

S. No	Medicine	Frequency	Percentage
1	NSAIDS	333	95.4
2	Propranolol	257	73.6
4	Domperidon	11	3.2
5	TCA (Tricyclic Anti-Depressants)	217	62.2
6	Diavalproate Sodium	28	8.0
Others			
8	Flaunrizine	69	19.8
9	Acetaminophen	02	0.6
10	Betahistine	08	2.3
17	Ergotamine+Analeptic	23	6.6
18	Ferrous Ascorbate	04	1.1

Table II: Medications

S. No	Medications	Frequency	Percentage
1	Single	15	4.30

2	Two	120	34.38
3	Three	207	59.31
4	Four	6	1.72
5	Five	1	0.29
	Total	349	100.0

IV. DISCUSSION

In this institutional study out of 349 subjects, there were 85 males (24.36%) and 264 females (75.64%). The larger proportion of women than men with migraine in our study, and their mean age, was broadly similar to that in previous studies.^{9,10} The common age groups present and respective percentages were 31-40 years (34.7%), 21-30 years (26.9%), 41-50 years (16.0%), 10-20 years (10.3%), 51-60 years (7.7%), 61-70 years (2.3%), >70 years (1.4%) and least common being age <10 years (0.6%).

333 subjects were prescribed NSAIDs (95.4%), 257 subjects had Propranolol (73.6%), 11 subjects had Domperidon (3.2%), 217 subjects had TCA (62.2%), 28 subjects had Diavaproate Sodium (8.0%), 69 subjects had Flunarizine (19.8%), 08 subjects had Betahistine (2.3%), 23 subjects had Ergotamine + Analeptic (6.6%), and 04 subjects had Ferrous Ascorbate (1.1%).

NSAIDs, primarily Naproxen, were by far the most commonly prescribed acute medication in our study, which is in accordance with international treatment guidelines.¹¹⁻¹⁴

Berberian in 2016 has shown in his study that in total 134, 32% of patients were treated with one or more parenteral narcotic analgesic agents. Mostly used medications were antiemetics (92%), antihistamines (70%) and non-steroidal anti-inflammatory medications (62%).⁷

In the present study 15 subjects had single medications, 120 subjects had two medications, 207 subjects had three medications, 6 subjects had four medications, and 1 subject had five medications.

The most common prescribed drugs in this case were NSAIDs, Propranolol, Beta Blocker and TCA, whatever the type of migraine.⁸

V. CONCLUSION

Our findings from the analysis of this large institutional database are representative reflection of migraine treatment. Three drugs NSAIDs, Propranolol & TCA were most commonly prescribed by the neuro-physician. Combination of two medicines particularly, the combination of NSAIDs and Beta Blocker were most commonly used. Prescription of 4 or 5 drugs were most rare as they were prescribed if patients were coming with some comorbidities. NSAIDs were the most commonly prescribed medication for acute attack. Propranolol and TCAs were used as most common prophylactic medicines.

References:

- [1] Headache Classification Committee of the International Headache Society. The International Classification of Headache Disorders, 3rd edition (beta version). Cephalalgia 2013; 33: 629–808.
- [2] Shao, E.; Hughes, J.; Eley, R. The presenting and prescribing patterns of migraine in an Australian emergency department: A descriptive exploratory study. World J. Emerg. Med. 2017, 8, 170–176. [CrossRef] [PubMed]
- [3] Group, Global Burden of Disease Neurological Disorders Collaboration. Global, regional, and national burden of neurological disorders during 1990-2015: A systematic analysis for the Global Burden of Disease Study 2015. Lancet Neurol. 2017, 16, 877–897. [CrossRef]
- [4] Gilmore B, Michael M. Treatment of acute migraine headache [published correction appears in Am Fam Physician. 2011;84(7):738]. Am Fam Physician. 2011;83(3):272.
- [5] Yu S, Liu R, Zhao G, Yang X, Qiao X, Feng J et al (2012) The prevalence and burden of primary headaches in China: a population-based door-to-door survey. Headache 52:582–591
- [6] Wang X, Xing Y, Sun J, Zhou H, Yu H, Zhao Y et al (2016) Prevalence, associated factors, and impact on quality of life of migraine in a community in Northeast China. J Oral Facial Pain Headache 30:139–149

- [7] Wang SJ, Fuh JL, Lu SR, Juang KD (2001) Quality of life differs among headache diagnoses: analysis of SF-36 survey in 901 headache patients. *Pain*. 89:285–292
- [8] Hung PH, Fuh JL, Wang SJ (2006) Validity, reliability and application of the Taiwan version of the migraine disability assessment questionnaire. *J Formos Med Assoc* 105:563–568
- [9] Valade D. The Emergency Headache Center at the Lariboisiere Hospital: 7 years with more than 70,000 patients. *Intern Emerg Med* 2008; 3 (Suppl 1): S3–S7.
- [10] Henry P, Auray JP, Gaudin AF, Dartigues JF, Duru G, Lanteri-Minet M, et al. Prevalence and clinical characteristics of migraine in France. *Neurology* 2002; 59: 232–237.
- [11] Choong CK, Ford JH, Nyhuis AW, et al. Clinical characteristics and treatment patterns among patients diagnosed with cluster headache in US healthcare claims data. *Headache* 2017; 57(9): 1359–1374. [Crossref](#). [PubMed](#).
- [12] Chinese Medical Association Group (2016) Guide to the prevention and treatment of migraine in China [Chinese]. *Chin J Pain Med* 22:721–727
- [13] Evers S, Afra J, Frese A, Goadsby PJ, Linde M, May A et al (2009) EFNS guideline on the drug treatment of migraine--revised report of an EFNS task force. *Eur J Neurol* 16:968–981
- [14] Marmura MJ, Silberstein SD, Schwedt TJ (2015) The acute treatment of migraine in adults: the American headache society evidence assessment of migraine pharmacotherapies. *Headache* 55:3–20
- [15] Berberian, J.; Fischer, M. The utilization of narcotic analgesia in the treatment of migraine headaches. *Acad. Emerg. Med.* 2016, 23, S162–S163.