

# Evaluation of Triggers, Management and Patient Compliance in Migraine

AzkaYousaf<sup>1</sup>, ArshiyaNajam<sup>2</sup>, Dr. BushraSherazi<sup>3</sup>

Institute of Pharmacy, Lahore College for Women University.

**Abstract- Objectives:** The aim of the study was to evaluate the triggers which triggered the migraine attack, management of the migraine and patient compliance towards treatment.

**Methodology:** An observational cross sectional study was conducted for two months in different hospitals of Lahore. A detailed questionnaire was designed and filled by the 100 patients during face to face interview. Collected data was analyzed by statistical method and results was tabulated and represented in the form of tables and graphs.

**Results:** Female patients were found to be more affected as 83% of the females and 17% of males were affected by migraine. Most affected population i.e. 50% fall in age ranges of 20-30 years. Frequently observed triggers were stress (35%) and food (32%) while others were affected by noise and light too (15%, 15%) respectively. Mostly prescribed medicines in migraine were triptans (44%) NSAID's (35%) beta blockers (13%) calcium channel blockers (8%).70% of migraine patients were non-compliant towards their therapy, because of the side effects of medicines. Life style changes also helped in managing migraine attacks.46% patients had family history of migraine. The patients who consulted pharmacist for their therapy were only 3%.

**Conclusion:** Incessant to therapy, life styles changes like exercise, yoga, sleep patterns and by taking preventive measures like take meals at regular intervals and by reducing stress, migraine can be managed efficiently.

**Index Terms-** neurological disorder, triggers, management, Prevention, compliance.

## 1. INTRODUCTION

Migraine is a very complex condition accompanied by the variety of symptoms and is a common, multifactorial, disabling, recurrent, hereditary neurovascular headache disorder. For some people it is only a pain usually in the temporal region but most of the people complain about many symptoms associated with the pain. These symptoms include the sensitivity of light, sound, fragrances, smell and the feeling of sick, nausea and vomiting. Migraine attacks can be very severe and frightening that one can get relief only after lying for several hours without disturbance. It can affect the people of all age groups with a variety of diverse symptoms. It is different from the common headaches and has many types that differ from person to person. It is very difficult to distinguish between these different types of headaches. The patient with migraine may also sometime experience other types of headaches depending upon the condition and situation. [1]

With the progression of science it is now believed that genetically migraine is induced by imbalance of certain chemicals such as serotonin in brain through which pain travel towards brain or by changes in trigeminal nerve pathway(5<sup>th</sup> cranial nerve).[2]

Migraine is the third most prevalent illness in the world, yet the researchers are still in a struggle to determine the exact mechanism that how and why migraines occur. Depending upon the complexity triggers of migraine varies from person to person and intense headache is triggered by number of factors including stress, noise, exertion certain medications or food. [3]

Among the dietary items the most common triggers reported by the patients and addressed by the health care providers are chocolate, coca, caffeine, alcoholic beverages, fatty foods and cheese. Such dietary precipitants in isolation are sufficient to trigger an attack. [4]

Other factors includes sleep (changes in sleep pattern) hormonal (estrogen level changes and fluctuation) environmental (bright lights, odor, pollution, and weather) and visual disturbances. Fruits (papayas,overripe bananas,) vegetables (raw garlic, olives, pickles, onions, snow peas,)bread and grains(freshly bakes yeast bread, doughnuts)meat, fish (canned, processed meat) and desserts (chocolate ice cream, pudding, cookies, cakes).These are the most common triggers that are usually supposed to be the cause of migraine. [5]

Management of the migraine begins with prevention. This includes diagnosis and avoiding the underlying triggers of migraine, however, migraine headaches can be managed by various methods that may include life style changes and therapies. While the choice for an individual patients depends on the severity of the attacks,associated symptoms such as nausea and vomiting and patients

treatment response. Various options are available to stop migraine attacks: acute medications or symptomatic treatment (Pain relieving), Preventive medications, Alternative or non Pharmacological Treatments. [6,7]

Analgesic and anti-nauseatic are the prime choice for the treatment of mild or moderate migraine pains and non-specific treatments these include paracetamol (acetaminophen), ibuprofen and aspirin.[8]

Second class of drug used in treatment of migraine is triptans. Commonly used triptans are sumatriptans, zolmitriptan and almotriptan. Combination of sumatriptan and naproxen sodium has proved more efficacious in terminating migraine than using triptans individually. Favorable benefits of triptans are obtained when they are taken at the beginning of headache, while pain intensity is mild or moderate. However, they are not useful during the aura phase. Ergots are the other group of drug which are used in migraine treatment. Ergotamine are considered effective and appropriate for the treatment of migraine in almost all guidelines. Dihydroergotamine more efficacious and has lesser side effects than ergotamine. Ergotamine are cost effective and also less effective than triptans.[7,9]

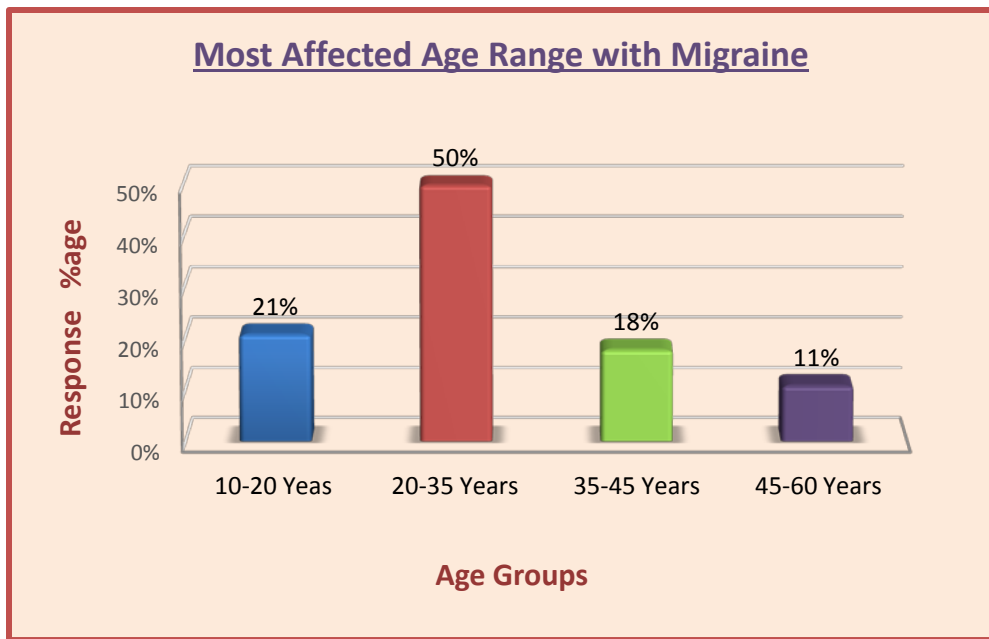
Some guidelines recommend a stepwise treatment of migraine in which initially acute attacks are treated with the safest, least expensive therapies and migraine-specific medication is only used if the initial treatment fails. While other guidelines recommend a stratified approach which is based on severity of illness. Basically this approach recommends migraine specific drugs for severe attacks though these two strategies are equivalent but stratified care result in better clinical outcome than step wise care. Pharmacists can also assist migraine patient to understand the use of non-pharmacological and supportive therapies e.g. providing information regarding foods and medication which may potentiate the migraine and other behavioral factors which include proper sleep patterns and stress reduction. [10]

## 2. MATERIALS AND METHODS

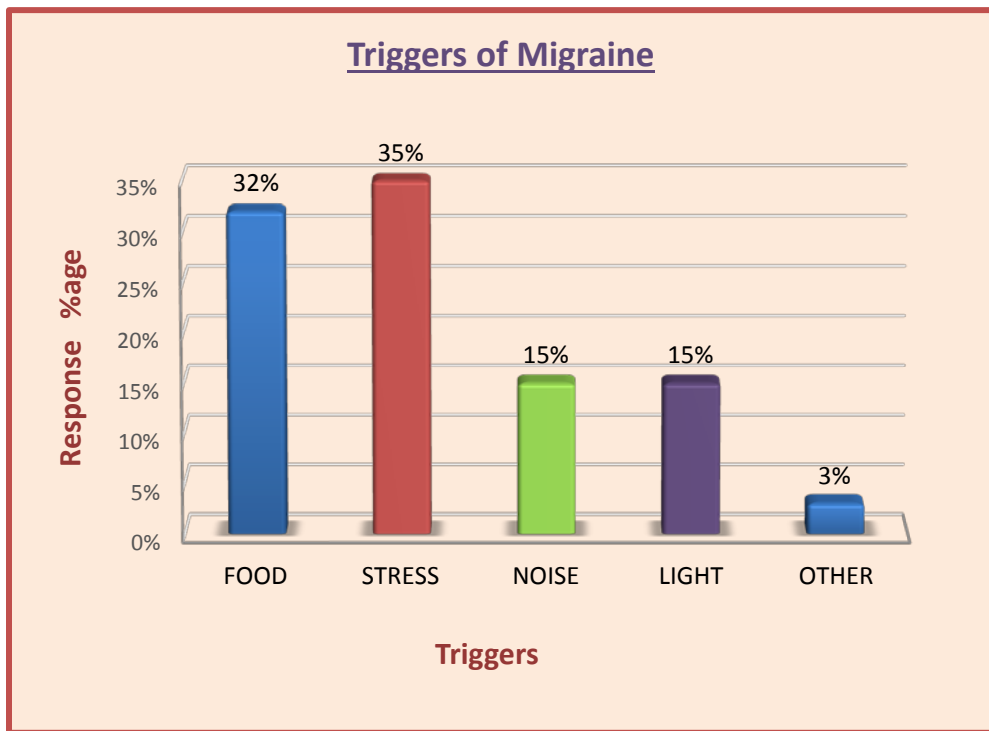
An observational and cross sectional study was conducted at different private and public sectors hospitals of Lahore Pakistan. The duration of study was 2 months and 100 patients of migraine were selected by random sampling technique. A detailed questionnaire was designed related to the evaluation of triggers, management and patient compliance in migraine. The questionnaire was filled by face to face interview with patients both male and female and the collected data was then analyzed statistically and results were shown in form of tables and graphs.

## 3. RESULTS

After conducting survey, on the evaluation of triggers, management and patient compliance in migraine, it was found that the age range which is most likely to be affected by migraine is 20-30 years [Figure 1]. Majority of the triggers that mostly affect the patient were stress (35%) and food (32%) [Figure 2]. In relation to management and treatment, it was found that mostly prescribed medicines were triptans (44%) and NSAID's (35%) [Figure 3]. Frequently used approach for treating migraine were abortive (49%). preventive (34%) and the rest were using the alternating therapies [Figure 4]. However, patient compliance towards treatment was low as 29% only [Figure 5].



**Figure No. 1: Most Affected age range**



**Figure No. 2: Triggers of migraine**

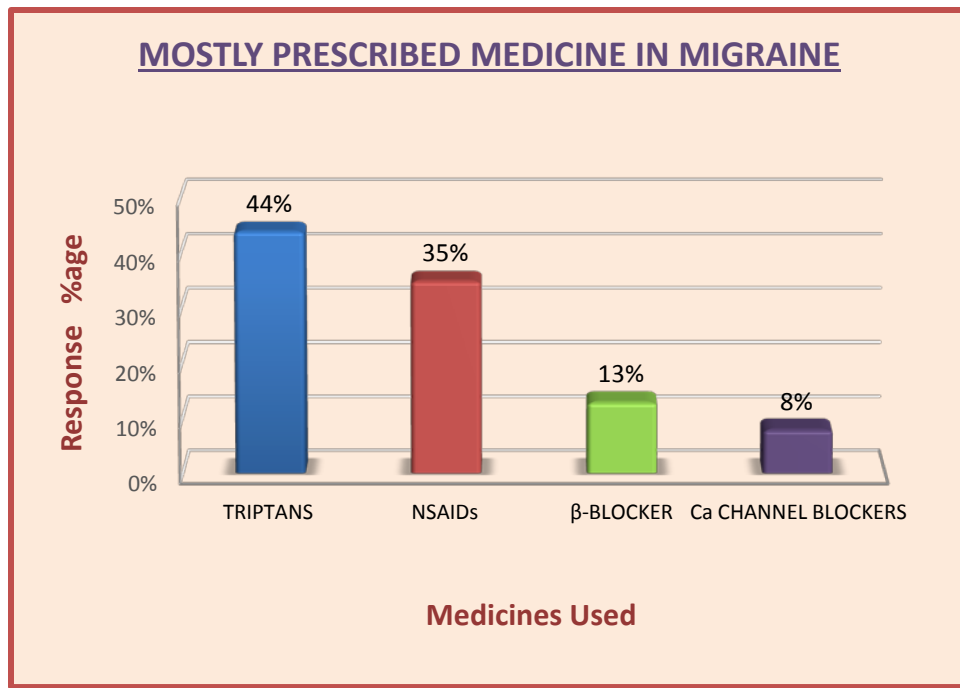


Figure No. 3: Mostly prescribed medications in migraine

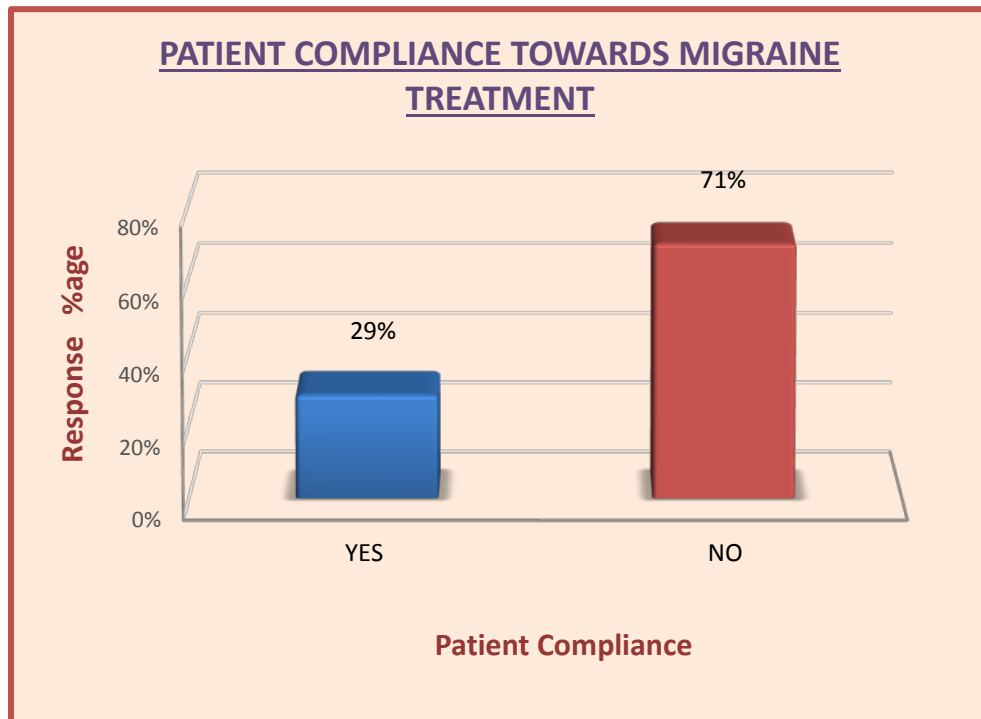


Figure No. 4: Patient compliance towards treatment

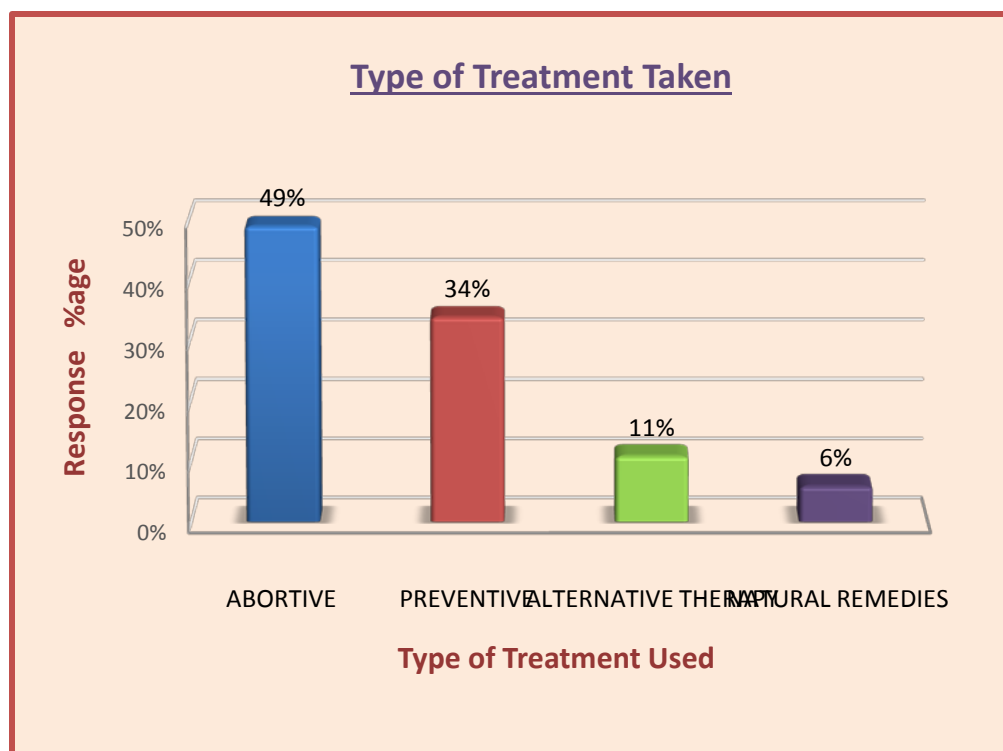


Figure No 5. Type of treatment taken

#### 4. CONCLUSION

Migraine is a neuromuscular disease usually regulated by the flashes of light, sound and fragrances, characterized by the throbbing pain usually at one or both temples or at the back of the head. Frequency of migraine attacks is more common in adult ages. Migraine also follows the trend to run in families. It is usually trigger by environmental factors, food and stress. Although in most of the cases, patients left undiagnosed for a long time, but early diagnosis of the disease can make it treatable. Step care usually follows for the treatment starting with simple analgesics and antiemetic and then step forward to triptans and ergotamine. Pharmacist has the vital role in monitoring the patient's medications therapy regimens.

#### ACKNOWLEDGEMENT

*Challenges are what make life interesting and overcoming them is what makes life meaningful.*

Countless thanks to Almighty Allah, The Merciful, The Beneficent and embracing all knowing who provided us the opportunity, courage and ability to complete this contribution towards knowledge and ever first educator Holy Prophet (PBUH) who is forever a torch of guidance and light of knowledge for mankind and teaches me higher ideas of life. From the formative stages of this report to the final draft, We wish to express my deepest gratitude to HOD **Dr.Saleha Sadeeqa** supervisor **Dr. Bushra Ali Sherazi**, for her guidance, advice and insight throughout the study and finally **Institute of Pharmacy, LCWU**

#### REFERENCES

- [1] Facchinetti F, Sances G, Borella P. prophylaxis of menstrual migraine: effects on intracellular magnesium. Headache, 19 Nov, 31:298-301, 1991. (D.O.R 15-07-2017).
- [2] Burch RC,

- The prevalence and burden of migraine and severe headache in United States: updated statistics from government health studies, 23 January, 2015. (D.O.R 20-07-2017).
- [3] Ducharme J, Guidelines for the acute management of migraine headache. *J Emerg Med*, Jan-Feb, 17(1):137-44. (D.O.R 03-08-2017).
- [4] Buse D., Manack A., Serrano D., Reed M., Varon S., Turkel C, Headache impact of episodic and chronic migraine: results from the American Migraine Prevalence and Prevention study. *Headache* 52: 3–17, 2012. (D.O.R 15-08-2017).
- [5] <https://static1.squarespace.com/static/530d1c5be4b0e5f490d6eaeft/53334ce1e4b05b79d04b113c/1395870945113/triggers.pdf>. (D.O.R 18-08-2017).
- [6] Fabio Antonaci, Cezar Dumitrache, Ilaria De Cillis, Marta Allena. A review of current European treatment guidelines for migraine. *The Journal of Headache and Pain*, Feb 14, 11, 13–19, 2010. (D.O.R 20-08-2017).
- [7] Villalon CM, Centurion D, Valdivia LF, De Vries P, Saxena PR. An introduction . (D.O.R 15-07-2017). to migraine: from ancient treatment to functional pharmacology and antimigraine therapy. *Proc West Pharmacol Soc*; 45:199-210, 2002. (D.O.R 25-08-2017).
- [8] Lampl C, Voelker M, Diener HCJ. Efficacy and safety of 1,000 mg effervescent aspirin: individual patient data meta-analysis of three trials in migraine headache and migraine accompanying symptoms. *J Neurol* 254(6):705–712, 2007. (D.O.R 15-07-2017). (D.O.R 06-09-2017).
- [9] Goadsby PJ, Zanchin G, Geraud G et al. Early vs. non-early intervention in acute migraine- 'Act when Mild (AwM)'. A double-blind, placebo-controlled trial of almotriptan. *Cephalalgia* 28:383–391, 10.1111/j.1468-2982.2008.01546.2008. (D.O.R 21-09-2017).
- [10] Lipton RB, Stewart WF, Stone AM, et al. Stratified care vs step care strategies for migraine. *JAMA*; 284:2599–605, 2000. (D.O.R 23-09-2017).

## AUTHORS

**First Author** – Azka Yousaf, 5<sup>th</sup> Prof, Pharm-D, Institute of Pharmacy, Lahore College for Women University, [azkayousaf@yahoo.com](mailto:azkayousaf@yahoo.com)

**Second Author** – Arshia Najam, 5<sup>th</sup> Prof, Pharm-D, Institute of Pharmacy, Lahore College for Women University, [arshianajam123@gmail.com](mailto:arshianajam123@gmail.com).

**Third Author** – Bushra Ali Sherazi, Lecturer, Institute of Pharmacy, Lahore College for Women University, [bushra\\_alisherazi@yahoo.com](mailto:bushra_alisherazi@yahoo.com).