

A Cross Sectional Analysis for Prevalence of Migraine among Undergraduate Medical Students: An Institutional based Study

Shah Rajesh Krishnachandra*

Assistant Professor, Department of General Medicine,
MGM Medical College & Hospital, Aurangabad, Maharashtra, INDIA.

Article History

Received: 05 Oct 2015

Revised: 02 Nov 2015

Accepted: 18 Nov 2015

*Correspondence to:

Dr. Shah Rajesh K
Assistant Professor,
Department of General
Medicine,
MGM Medical College
& Hospital,
Aurangabad,
Maharashtra, India.

ABSTRACT

Background: One of the recurrent headache disorders affecting approximately fifteen percent of the population in the productive phase of their lives is Migraine. Medical undergraduate students are routinely subjected high stress and over work. Hence; under the light of above mentioned data, present study was planned to assess the prevalence of migraine among undergraduate medical students.

Materials & Methods: The present study included evaluation of prevalence of migraine among medical students. A total of 300 undergraduates student were included in the present study. A questionnaire was prepared and was given to students were asked to fill it. Questionnaire included knowledge about their demographic and clinical details along with evaluation of clinical signs and symptoms associated with Migraine. For the assessment of all the results, SPSS software was used.

Results: Out of 300 medical undergraduate students, migraine was present in 108 subjects (36 percent). Among males, 40.9 percent of the subjects had migraine while among females, 33.3 percent of the subjects had migraine. Sleep disturbance, climate factor, mental stress etc. were among the most common triggering factors present in the migraine patients in the present study.

Conclusion: Significant number of undergraduate medical students is affected by migraine; with disturbed sleep cycle is the most common cause of it.

KEYWORDS: Medical, Migraine, Undergraduate.

INTRODUCTION

One of the recurrent headache disorders affecting approximately fifteen percent of the population in the productive phase of their lives is Migraine. Young adults are among the most common population affected by this problem. Also, women are comparatively affected in higher proportion in comparison to females. Because of familial course of the diseases, it is usually categorized as a genetic disorder.¹⁻³ Commonly, no warning signs mark the beginning of the disease and sleep puts temporary end to it. In other cases, prodromal symptoms like fatigue, euphoria, depression mark the beginning of the disease.^{4,5} Medical undergraduate students are routinely subjected high stress and over work. Data from the precious studies show that stress, lack of sound sleep, anxiety and overwork are some of the associated triggering factors for migraine among these students.⁶⁻⁸ Hence; under the light of above mentioned data, present study was planned to assess the prevalence of migraine among undergraduate medical students.

MATERIALS & METHODS

The present study was conducted in the Department of General Medicine, MGM Medical College & Hospital, Aurangabad, Maharashtra (India) and it included evaluation of prevalence of migraine among undergraduate medical students.

A written consent was obtained from all the subjects after explaining in detail the entire research protocol. Ethical Approval was taken prior to study from institutional ethical committee. A total of 300 undergraduates student were included in the present study. A questionnaire was prepared and was given to students were asked to fill it. Questionnaire included knowledge about their demographic and clinical details along with evaluation of clinical signs and symptoms associated with Migraine.⁹ For the assessment of all the results, SPSS software was used. Chi-square test and univariate regression curve were used for evaluation of level of significance. P-value of less than 0.05 was taken as significant.

Table 1: Prevalence of migraine among undergraduates

Parameter	Number	Percentage
Undergraduates	108 out of 300	36
Males	45 out of 110	40.9
Females	63 out of 190	33.3

Table 2: Triggering factors in medical student associated with migraine

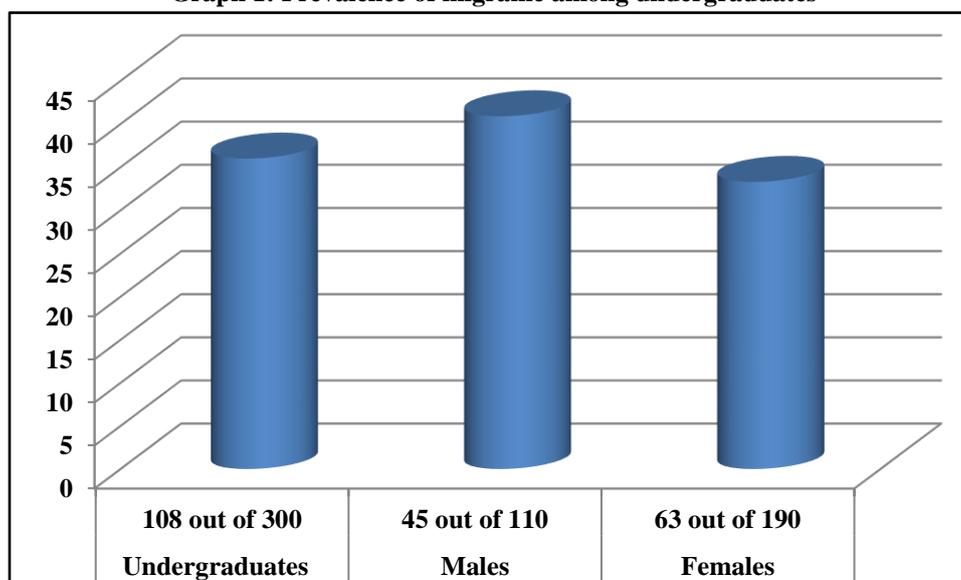
Parameter	Number
Climate factor	45
Head movements	40
Sleep disturbance	51
Mental stress	32
Physical exertion	30
Prolonged computer use	20
Others	10

RESULTS

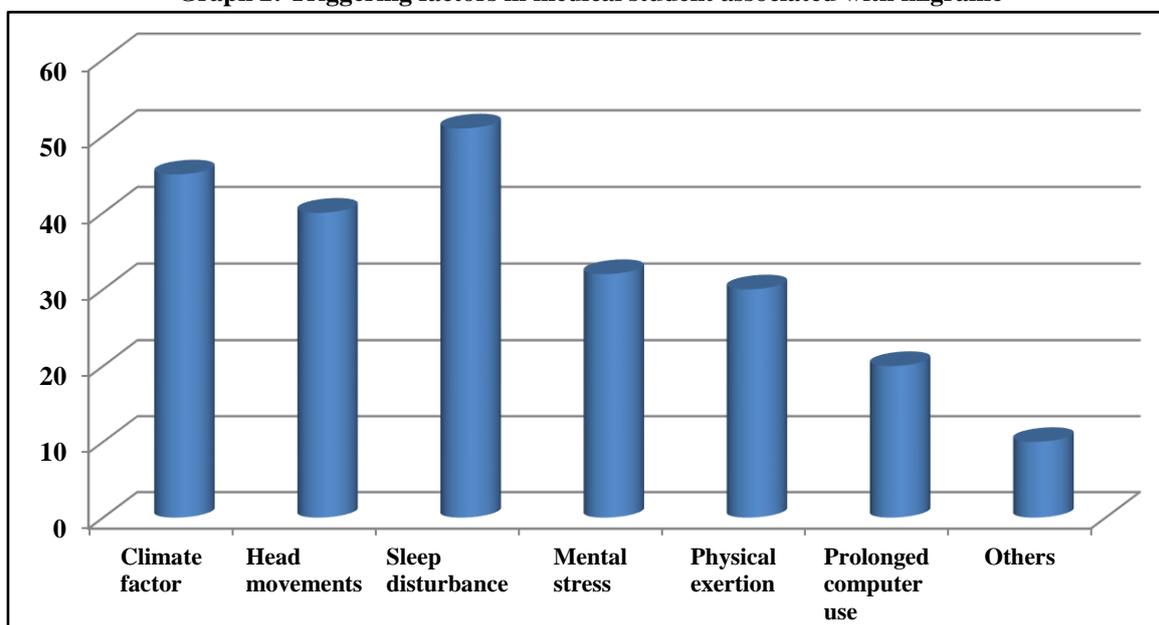
The present study was conducted in the Department of General Medicine, MGM Medical College & Hospital, Aurangabad, Maharashtra (India) and it included evaluation of prevalence of migraine among undergraduate medical students.

In the present study, we evaluated a total of 300 subjects, among which 110 were males while the remaining 190 were females. Mean age of the subjects of the present study was 19.5 years. Out of 300 medical undergraduate students, migraine was present in 108 subjects (36 percent). Among males, 40.9 percent of the subjects had migraine while among females, 33.3 percent of the subjects had migraine. Sleep disturbance, climate factor, mental stress etc. were among the most common triggering factors present in the migraine patients in the present study.

Graph 1: Prevalence of migraine among undergraduates



Graph 2: Triggering factors in medical student associated with migraine



DISCUSSION

Neurological disorder characterized by altered regulation and controls of afferents is Migraine. It is important to understand the pathophysiology of the disease so that accordingly treatment planned could be done. This is further based on the adequacy of knowledge of the clinical anatomy and physiology of the pain producing pathways and their association with central nervous system.

Even though migraine is a strangely common etiologic factor for temporary disability, most of the subjects with migraine (including disabling headache), do not usually consult medical practitioners and neurosurgeons.⁹⁻¹¹ In the present study, we observed that migraine was present in 36 percent of the medical undergraduate subjects.

In one of the previous studies, lifetime incidence of migraine among students was evaluated by Wahab KW et al. they also assessed the disability associated with it. Screening of undergraduate students was done with the International Headache Society (IHS) criteria. Assessment of candidates, who fulfilled the criteria for migraine, was done with Migraine Disability Assessment questionnaire for assessing the level of disability occurring from migraine. They also obtained knowledge in relation to the use of preventive and abortive treatment therapy. 145 candidates, out of total 1513 respondents, qualified for the criteria given by IHS. An overall prevalence rate of 9.6 percent was obtained by the authors, among which 10.3 percent occurred in females and 8.9 percent occurred in males. However; they didn't observe any significant difference while comparing the prevalence of lifetime migraine among males and females. From the results, they concluded that preventive medicine usage along with other abortive therapies was very poor, despite the high prevalence of disability index.¹² In another study conducted by Menon B et al, authors assessed the incidence of migraine among medical students. The aim of their study was to assess the effect of migraine on the quality of life of these students. They observed that one-fourth of the total medical students had migraine and migraine associated disability. However; among these one-fourth subjects, only six percent knew that they were suffering from migraine. From the results, they concluded that medical students significantly suffer from migraine problem.¹³

Demirkirkan MK et al evaluated the incidence of migraine and evaluated the disability and among students studying in the university of Afyon, a Turkish city. They conducted the study in two stages. In the first stage, they aimed to identify the prevalence of migraine among these students based on criteria of HIS using HIS questionnaire. In the second stage, they identified the effect of migraine on the quality of life of these students. In questionnaire, they asked the students about medical consultations and therapeutic treatment used during attacks. To a total of 1029 students, they applied the

standard questionnaire and observed that migraine was present in 12.4 percent of the students. From the above results, they concluded that there is an urgent need of utilization of global education programs for spreading the significance of effective migraine treatment.¹⁴

CONCLUSION

Under the light of above results, it can be concluded that significant number of undergraduate medical students are affected by migraine, with disturbed sleep cycle is the most common cause of it. Therefore; further research is advocated for controlling the incidence of migraine among medical students and general population.

REFERENCES

1. Goadsby PJ, Zanchin G, Geraud G, et al. Early versus non-early intervention in acute migraine – Act when mild (AwM). A double blind, placebo-controlled trial of almotriptan. *Cephalalgia* 2008; 28: 383–391.
2. Feindel W, Penfield W, McNaughton F. The tentorial nerves and localization of intracranial pain in man. *Neurology*. 1960;10:555–63. [PubMed]
3. Bolay H, Reuter U, Dunn AK, Huang Z, Boas DA, Moskowitz MA. Intrinsic brain activity triggers trigeminal meningeal afferents in a migraine model. *Nat Med*. 2002;8:136–42.
4. Moskowitz MA, Cutrer FM. SUMATRIPTAN: A receptor-targeted treatment for migraine. *Ann Rev Med*. 1993;44:145–54.
5. Dimitriadou V, Buzzi MG, Moskowitz MA, Theoharides TC. Trigeminal sensory fiber stimulation induces morphological changes reflecting secretion in rat dura mater mast cells. *Neuroscience*. 1991;44:97–112.
6. Wilkinson SM, Becker WJ, Heine JA. Opiate use to control bowel mobility may induce chronic daily headache in patients with migraine. *Headache* 2001; 41: 303–309.
7. McNaughton FL, Feindel WH. Innervation of intracranial structures: A reappraisal. In: Rose FC, editor. *Physiological aspects of Clinical Neurology*. Oxford: Blackwell Scientific Publications; 1977. pp. 279–93.
8. De Fusco M, Marconi R, Silvestri L, Atorino L, Rampoldi L, Morgante L, et al. Haploinsufficiency of ATP1A2 encoding the Na⁺/K⁺ pump α 2 subunit associated with familial hemiplegic migraine type 2. *Nat Genet*. 2003;33:192–6.
9. Tfelt-Hansen P, Pascual J, Ramadan N, Dahlof C, D'Amico D, Diener HC, Hansen JM, Lanteri Minet M, Loder E, McCrory D, Plancade S, Schwedt T. International Headache Society Clinical Trials Subcommittee. Guidelines for controlled trials of drugs in migraine: third edition. A guide for investigators. *Cephalalgia*. 2012;15:6–38
10. Katsarava Z, Fritsche G, Deiner HC, et al. Drug induced headache following the use of different triptans. *Cephalalgia* 2000; 20: 293.

11. Dichgans M, Freilinger T, Eckstein G, Babini E, Lorenz-Depiereux B, Biskup S, et al. Mutation in the neuronal voltage-gated sodium channel SCN1A causes familial hemiplegic migraine. *Lancet*. 2005;366:371–7.
12. Ophoff RA, Terwindt GM, Vergouwe MN, van Eijk R, Oefner PJ, Hoffman SM, et al. Familial hemiplegic migraine and episodic ataxia type-2 are caused by mutations in the Ca²⁺ channel gene CACNL1A4. *Cell*. 1996;87:543–52.
13. Wahab KW, Ugheoke AJ. Migraine: prevalence and associated disability among Nigerian undergraduates. *Can J Neurol Sci*. 2009;36(2):216-21.
14. Menon B, Kinnera N. Prevalence and characteristics of migraine in medical students and its impact on their daily activities. *Annals of Indian Academy of Neurology*. 2013;16(2):221-225.
15. Demirkirkan MK, Ellidokuz H, Boluk A. Prevalence and clinical characteristics of migraine in university students in Turkey. *Tohoku J Exp Med*. 2006 Jan;208(1):87-92.

Copyright: © the author(s) and publisher IJM RP. This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite the article: Shah Rajesh Krishnachandra. A Cross Sectional Analysis for Prevalence of Migraine among Undergraduate Medical Students: An Institutional based Study. *Int J Med Res Prof*. 2015; 1(3); 218-21.