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Research Article

**KNOWLEDGE REGARDING DETERMINANTS AND
FREQUENCY OF MIGRAINE AMONG 3RD YAER AND 4TH
YEAR MEDICAL STUDENTS OF ALLAMA IQBAL MEDICAL
COLLEGE, LAHORE**

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Article Received: March 2020**Accepted:** April 2020**Published:** May 2020**Abstract:**

Background: Migraine is a neurovascular disorder that is one of the most debilitating human diseases worldwide. Many people including medical students suffer from migraine without being properly diagnosed that highly affect their academic performance and routine activities. This may be due to the inadequate knowledge of people about migraine.

Objective: To assess the knowledge regarding determinants of migraine and its frequency among 3rd and 4th year medical students of Allama Iqbal Medical College, Lahore.

Methodology: This cross-sectional study was conducted in Allama Iqbal Medical College, Lahore during 2018-2019 academic year. After taking consent from the students of 3rd and 4th year MBBS, they were provided with a questionnaire designed for the assessment of their knowledge regarding determinants of migraine and its frequency. The data was analyzed on SPSS 21.0 for descriptive study.

Result: Total of 300 students participated in our study including 201 female and 99 male students, 143 students from 3rd year and 157 from 4th year MBBS. The results showed that the frequency of migraine in these students was 19% with female predominance. The knowledge of these students regarding migraine was satisfactory.

Conclusion: The frequency observed in our study is near to the values found in other studies done in Pakistan but it varies from studies conducted in other countries. Knowledge of the students is satisfactory but still more awareness is required about migraine for better quality of their lives.

Keywords: Migraine, frequency, determinants.

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INTRODUCTION:

Migraine is one of the common neurological ailments prevalent worldwide. Migraine is a complex neurovascular, genetically transmitted disorder characterized by brain sensory hyper excitability. [1] It involves recurrent attacks lasting 4-72 hours, of a pulsating quality, mild or severe in intensity. [2] World Health Organization (WHO) ranked migraine among one of the most debilitating disease with disability score of 0.7. [3] According to study done by Gooriah R. et al. (2015) it is considered as the seventh disabling condition due to its remarkable effect on the quality of life of the sufferer. [4] Migraine is of two types, one is with aura and other is without aura. Migraine with aura is preceded by sensory warning symptoms like flashes of light and tingling in arms and legs. [5] Migraine without aura includes throbbing unilateral pain associated with nausea, vomiting, photophobia and phonophobia. [6] As, Brett R. researched in 2015 that women had 18% risk of migraine as compare to 6% risk in man. It typically begins at puberty or between the ages of 35-45 years. [7] In a study conducted on students of dental education in India, the incidence of migraine was reported as 13.4% and 87.5% of it was associated with majority of women taking self-medication. [8] Likewise, results of the study of Ghorbani A, Abtahi S-M, showed that incidence of migraine in medical students in Iran (2012) was 14.2%. [9] Mollaoglu M, 2012, conducted study that showed the most common triggering factors include emotional stress (79%), sleep disturbance (64%) and dietary factors (44%). [10] According to Bigal ME, Lipton RB. 2016 the non-modifiable risk factors of migraine include age, sexual orientation and socio-economic status; and modifiable risk factors incorporate weight, drug and caffeine abuse, stressful life occasions and sleep disorders. [11] The prevalence of migraine has been

studied in many countries along with its impact on the life and academic performance of medical students. [12] In Pakistan, some studies have been conducted before but still now there is lack of knowledge about migraine and its determinants in most of the people and especially in medical students.

MATERIAL AND METHODS:

Study design: Cross sectional study

Study setting: Allama Iqbal Medical College, Lahore.

Duration of study: 4 months.

Sample size: Sample size estimated from epi-info to estimate a proportion
Confidence level = 95%
Acceptable difference = 0.05%
Assumed proportion = 0.05%
Required Sample Size = 300

Sampling Technique: Non probability / purposive sampling

Sample Selection: All male and female students of 3rd and 4th year MBBS.

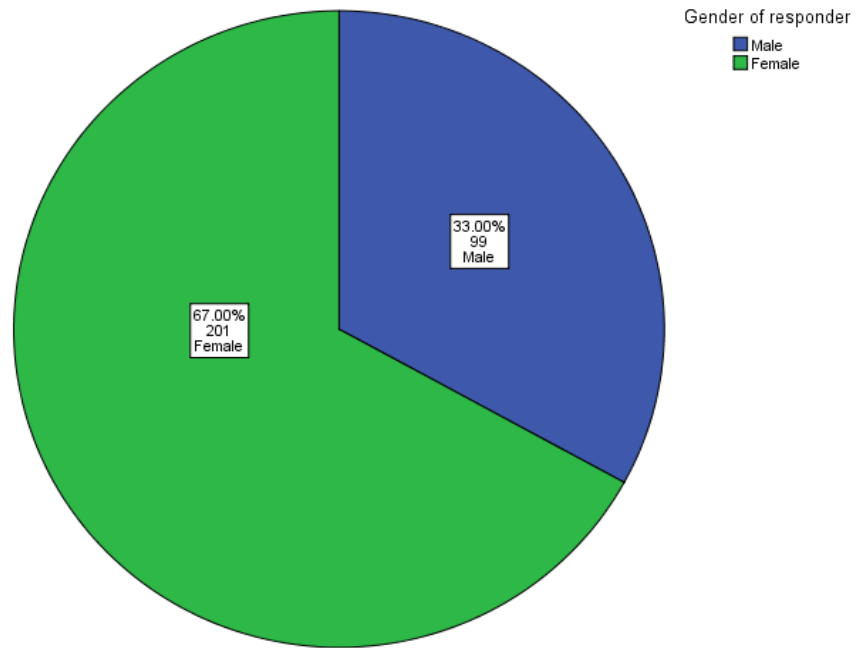
Data collection procedure: 300 subjects those fulfilling the inclusion criteria were recruited for the study. After an informed consent a Performa was given and all information was entered in that Performa.

Data analysis procedure: Data was entered and analyzed in SPSS version 21. Frequency tables and percentages are generated for variables.

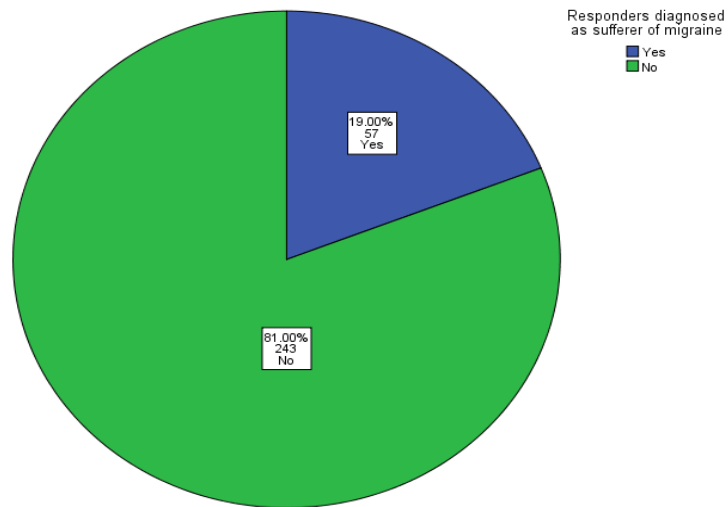
RESULTS AND STATISTICS:

Table No.: 1 Age Statistics

Age of responder		
N	Valid	300
	Missing	0
Mean		21.2200
Std. Deviation		.90978
Minimum		19.00
Maximum		25.00



Graph No.: 1



Graph No.: 2

Table NO.: 2 Knowledge of All Responders Regarding Migraine.

Migraine and its determinants.	Yes		No		Don't Know	
	Count	Row N %	Count	Row N %	Count	Row N %
Is migraine neurological disorder	249	83.0%	35	11.7%	16	5.3%
Is migraine hereditary disorder	117	39.0%	122	40.7%	61	20.3%
Is it characterized by recurrent attacks of episodic headache lasting 4 to 7 hours	255	85.0%	32	10.7%	13	4.3%
Is it more common in females than males due to hormonal changes	192	64.0%	56	18.7%	52	17.3%
Is migraine related to stress	272	90.7%	13	4.3%	15	5.0%
Is migraine related to fatigue	199	66.3%	69	23.0%	32	10.7%
Is migraine associated with sleep disturbances	246	82.0%	26	8.7%	28	9.3%
Can loud noise aggravate migraine	265	88.3%	15	5.0%	20	6.7%
Is migraine associated with sunlight	148	49.3%	92	30.7%	60	20.0%
Is physical exertion related to migraine	150	50.0%	87	29.0%	63	21.0%
Can intense smell like perfume trigger migraine	197	65.7%	58	19.3%	45	15.0%
Are missed meals or poor dietary habits related to migraine	159	53.0%	71	23.7%	70	23.3%
Is migraine related to any specific food like chocolate, cheese etc.	129	43.0%	103	34.3%	68	22.7%
Is smoking related to migraine	136	45.3%	79	26.3%	85	28.3%
Can seasonal changes cause migraine	131	43.7%	82	27.3%	87	29.0%
Is there any prophylactic drug for migraine	179	59.7%	80	26.7%	41	13.7%
Is analgesics only way to relieve migraine	118	39.3%	149	49.7%	33	11.0%
Responders experience two or three headaches in last three months	149	49.7%	145	48.3%	6	2.0%
Responders having family history of migraine	103	34.3%	183	61.0%	14	4.7%

Table No.: 3 Knowledge According to Class of Responders

Migraine and its determinants.	Class of responder					
	3rd year			4th year		
	Yes	No	Don't know	Yes	No	Don't know
	Row N %	Row N %	Row N %	Row N %	Row N %	Row N %
Is migraine neurological disorder	82.5%	14.0%	3.5%	83.4%	9.6%	7.0%
Is migraine hereditary disorder	44.1%	37.1%	18.9%	34.4%	43.9%	21.7%
Is it characterized by recurrent attacks of episodic headache lasting 4 to 7 hours	83.9%	14.0%	2.1%	86.0%	7.6%	6.4%
Is it more common in females than males due to hormonal changes	67.1%	16.1%	16.8%	61.1%	21.0%	17.8%
Is migraine related to stress	88.8%	4.9%	6.3%	92.4%	3.8%	3.8%
Is migraine related to fatigue	61.5%	26.6%	11.9%	70.7%	19.7%	9.6%
Is migraine associated with sleep disturbances	83.9%	9.8%	6.3%	80.3%	7.6%	12.1%
Can loud noise aggravate migraine	88.8%	5.6%	5.6%	87.9%	4.5%	7.6%
Is migraine associated with sunlight	56.6%	28.0%	15.4%	42.7%	33.1%	24.2%
Is physical exertion related to migraine	54.5%	25.9%	19.6%	45.9%	31.8%	22.3%
Can intense smell like perfume trigger migraine	69.2%	16.8%	14.0%	62.4%	21.7%	15.9%
Are missed meals or poor dietary habits related to migraine	55.2%	19.6%	25.2%	51.0%	27.4%	21.7%
Is migraine related to any specific food like chocolate, cheese etc.	59.4%	25.2%	15.4%	28.0%	42.7%	29.3%
Is smoking related to migraine	53.1%	20.3%	26.6%	38.2%	31.8%	29.9%
Can seasonal changes cause migraine	44.8%	24.5%	30.8%	42.7%	29.9%	27.4%
Is there any prophylactic drug for migraine	48.3%	35.0%	16.8%	70.1%	19.1%	10.8%
Is analgesics only way to relieve migraine	41.3%	46.2%	12.6%	37.6%	52.9%	9.6%
Responders experience two or three headaches in last three months	54.5%	45.5%	.0%	45.2%	51.0%	3.8%

Table No.: 4 Knowledge according to Gender of Responders

Migraine and its determinants.	Gender of responder					
	Male			Female		
	Yes	No	Don't Know	Yes	No	Don't Know
	Row N %	Row N %	Row N %	Row N %	Row N %	Row N %
Is migraine neurological disorder	82.8%	9.1%	8.1%	83.1%	12.9%	4.0%
Is migraine hereditary disorder	35.4%	45.5%	19.2%	40.8%	38.3%	20.9%
Is it characterized by recurrent attacks of episodic headache lasting 4 to 7 hours	81.8%	11.1%	7.1%	86.6%	10.4%	3.0%
Is it more common in females than males due to hormonal changes	47.5%	26.3%	26.3%	72.1%	14.9%	12.9%
Is migraine related to stress	86.9%	5.1%	8.1%	92.5%	4.0%	3.5%
Is migraine related to fatigue	56.6%	33.3%	10.1%	71.1%	17.9%	10.9%
Is migraine associated with sleep disturbances	78.8%	13.1%	8.1%	83.6%	6.5%	10.0%
Can loud noise aggravate migraine	76.8%	11.1%	12.1%	94.0%	2.0%	4.0%
Is migraine associated with sunlight	32.3%	38.4%	29.3%	57.7%	26.9%	15.4%
Is physical exertion related to migraine	39.4%	32.3%	28.3%	55.2%	27.4%	17.4%
Can intense smell like perfume trigger migraine	57.6%	24.2%	18.2%	69.7%	16.9%	13.4%
Are missed meals or poor dietary habits related to migraine	47.5%	30.3%	22.2%	55.7%	20.4%	23.9%
Is migraine related to any specific food like chocolate, cheese etc.	36.4%	41.4%	22.2%	46.3%	30.8%	22.9%
Is smoking related to migraine	37.4%	30.3%	32.3%	49.3%	24.4%	26.4%
Can seasonal changes cause migraine	45.5%	28.3%	26.3%	42.8%	26.9%	30.3%
Is there any prophylactic drug for migraine	46.5%	34.3%	19.2%	66.2%	22.9%	10.9%
Is analgesics only way to relieve migraine	39.4%	44.4%	16.2%	39.3%	52.2%	8.5%
Responders experience two or three headaches in last three months	43.4%	54.5%	2.0%	52.7%	45.3%	2.0%

Table No. 5: Responders diagnosed as sufferer of migraine * class of responder, Cross tabulation Crosstab

	Class of responder		Total
	3rd year	4th year	
Yes	32	25	57

Responders diagnosed as sufferer of migraine	No	111	132	243
Total		143	157	300

Chi - Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.026 ^a	1	.155		
Continuity Correction ^b	1.628	1	.202		
Likelihood Ratio	2.025	1	.155		
Fisher's Exact Test				.185	.101
Linear-by-Linear Association	2.019	1			
N of Valid Cases	300				

Table No. 6: Responders diagnosed as sufferer of migraine * Gender of Responder

Crosstab

		Gender of responder		Total
		Male	Female	
Responders diagnosed as sufferer of migraine	Yes	15	42	57
	No	84	159	243
Total		99	201	300

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.422 ^a	1	.233		
Continuity Correction ^b	1.073	1	.300		
Likelihood Ratio	1.466	1	.226		
Fisher's Exact Test				.275	.150
Linear-by-Linear Association	1.417	1	.234		
N of Valid Cases	300				

RESULTS:

The total responders to our questionnaire were 300. Out of these 143 (47.67%) were 3rd year MBBS students and 157 (52.23%) were from 4th year MBBS. These responders included 201(67%) female students and 99 (33%) male students.

The results of our research showed that 57 (male:16, female: 41) from the total of 300 students were diagnosed as sufferer of migraine. So the frequency of migraine among 3rd and 4th year medical students of Allama Iqbal Medical College was found to be 19%. According to the results, male to female ratio of students diagnosed with migraine was 1:2.6 (0.4). According to our results shown in table no. 3 the knowledge regarding determinants of migraine in 3rd year was as follows:

Good: Q1, Q3, Q5, Q7 and Q8

Fair: Q2, Q4, Q6, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16 and Q17.

The knowledge of 4th year was as follows:

Good: Q1, Q3, Q5, Q6, Q7 and Q8.

Fair: Q4, Q9, Q10, Q11, Q12, Q15 and Q16.

Poor: Q2, Q13, Q14 and Q17.

DISCUSSION:

The prevalence of migraine among 3rd and 4th year MBBS students of Allama Iqbal Medical College, Lahore was found to be 19% in our study. This prevalence is quite similar to the study conducted on students of University of Lahore in December 2017 by Fareeha Amjad, Ashfaq Ahmed, Fahad Tanveer and Syed Amir Gilani.^[13] A study done on dental students in Northern India by Ruchika Nandha and Mahinder K. Chhabra in 2012 showed the prevalence of 13.44% which is less than prevalence of our study.^[8] Another investigation done by Al Hashish et. Al on medical students of Kuwait University in 2014 found the prevalence of 27.9% which is higher than our value of prevalence.^[14] The difference of prevalence between these studies and our study is attributed to racial, environmental, psychological, nutritional and social factors and seasonal changes in different countries contributing to migraine. Like most of the studies, our study also showed that migraine is more frequent in females than males.^[8, 9, 12] A study carried out by K. Zarea, M. Rahmani, F.Hassani in 2018 on Iranian medical students showed that there was no significant relation present between incidence of migraine and higher academic years.^[15] Similarly, our study also did not show any significant relation of migraine

incidence with higher academic years as there were more 3rd year students diagnosed with migraine than 4th year. We have developed a scale as Good, Fair and Poor which measures the knowledge of responders about determinants of migraine. If more than 70% responders answered the question as “YES” then we regard their knowledge as Good, if this value lies between 40- 70% the knowledge is Fair and below 40% the knowledge is Poor. We have evaluated the knowledge of 3rd year and 4th year. According to which 3rd year and 4th year had good knowledge about migraine as neurological disorder, recurrent attacks in migraine and its relation with stress, sleep and noise. In addition to this 4th year had good knowledge about relation of migraine with fatigue. Both classes had Fair knowledge for most of the determinants including female predominance, association with sunlight, physical exertion, intense smell, poor dietary habits, seasonal changes and availability of any prophylactic drug of migraine. 3rd year also had Fair knowledge about migraine as hereditary disorder and its relation with fatigue, specific food, smoking and analgesics as a reliever of migraine. 4th year had poor knowledge about migraine as a hereditary disorder, its relation with specific food and smoking and using analgesics to relieve migraine. Our study showed that 3rd year students had better knowledge about migraine and its determinants than 4th year students. The knowledge of medical students about any ailment must be sharp so there should be much work done in order to enhance the knowledge about migraine.

CONCLUSION:

From our study we concluded that

- The frequency of migraine in 3rd and 4th year medical students of Allama Iqbal Medical College, Lahore, with female predominance was quite close to the other studies done on medical students of Pakistan. However, it differed from the studies done in other countries.
- The overall knowledge of 3rd and 4th year MBBS students of Allama Iqbal medical College, Lahore regarding determinants of migraine was satisfactory. However, the knowledge of 3rd year was found to be better than 4th year.

RECOMMENDATIONS:

- Medical students must have good knowledge about migraine, so more lectures, seminars and workshops should be conducted regarding this issue.

- Medical students should interact with patients of migraine for better understanding of this condition.
- If any student experience frequent episodic headaches, he/she should consult doctor for proper diagnosis of migraine and its prompt treatment.
- Any student diagnosed with migraine should take medication at proper time so that his/her studies and daily activities shall not be affected.

REFERENCES:

1. Moloney MF, Johnson CJ. Migraine headaches: diagnosis and management. *J Midwifery Women's Health*. 2011; 56:282-292.
2. Gordon-smith K. et al. Rapid cycling as a feature of bipolar disorder and comorbid migraine. *J Affect Disord* [Internet]. Elsevier; 2015; 175: 320-4.
3. Gupta R, Bhatia MS, Dahiya D, et al. Recurrent Headache in Indian Adolescents. *Indian J Pediatr* 2009; 76:733-7.
4. Goorah R. et al. Evidence-based treatment for adults for migraine. *Pain Res Treat*. 2015; 2015.
5. Dr. Safila Naveed, Neelam Sharif, Asra Hameed. Awareness and prevalence of migraine, survey based study in Karachi. *International Journal of Biological Sciences and Applications*. 2014; 1(4); 157-161.
6. Headache Classification Committee of the International Headache Society. *The International Classification of Headache Disorders*, 3rd edition. *Cephalalgia*, 2013; 33(9) :629-808.
7. Brett R. et al. Dietary and Lifestyle Changes in the Treatment of 23-Year-Old Female Patient With Migraine. *J Chiropr Med* [Internet]. National University of Health Sciences, 2015; 14(3): 205-11.
8. Ruchika Nandha, Mahinder K. Chhabra. Prevalence and clinical characteristics of headache in dental students of a tertiary care teaching dental hospital in northern india. *IJBCP*. 2012; Vol 2(1) : 51-55.
9. Ghorbani A, Abtahi S-M, Feredian-Esfahani M, et al. Prevalence and clinical characteristics of headache among medical students, Isfahan, Iran. *J Res Med Sci*. 2013; 18:S24.
10. Mallaoglu M. Trigger factors in migraine patients. *J Health Psychol*, 2012; 18(7): 984-94.
11. Bigal ME, Lipton RB. Modifiable risk factors for migraine progression. *Headche. The J of Head and Face Pain*. 2016;46(9):1334-43.
12. Burton WN, Landy SH, Downs KE, Runken MC (2009). The impact of migraine and effect of migraine treatments on workplace productivity in the United States and suggestions for future research. *In Mayo Clinic Proceedings*, 29(4):472-7.
13. Fareeha Amjad, Ashfaq Ahmed, Fahad Tanveer, Syed Amir Gilani. Frequency of Migraine in Students of University of Lahore. *Isra Med J*. 2017; 9(6): 424-26.
14. Al-Hashel , et al. Migraine among medical students in Kuwait university. *The Journal of Headache and Pain*. 2014; 15(1):26.
15. Kourosh Zarea, Mahnaz Rahmani, Fatemeh Hassani, Ashrafalsadat Hakim. Epidemiology and associated factors of migraine headache among Iranian medical students. *Clinical Epidemiology and Global Health*. 2018; 6:109-114.

QUESTIONNAIRE**KNOWLEDGE REGARDING DETERMINANTS AND FREQUENCY OF MIGRAINE AMONG 3RD AND 4TH YEAR MBBS STUDENTS OF ALLAMA IQBAL MEDICAL COLLEGE, LAHORE.**

Serial No. _____ Name of Interviewer: _____

Name (optional): _____ Age: _____

Gender: M F

Class: _____

QUESTIONS	YES	NO	DON'T KNOW
1. Do you know migraine is a neurological disorder?			
2. Is migraine a hereditary disorder?			
3. Do you know it is characterized by recurrent attacks of episodic headache lasting for 4 to 7 hours?			
4. Do you think it is more common in females than males due to hormonal changes?			
5. Is migraine related to stress?			
6. Is migraine related to fatigue?			
7. Is migraine associated with sleep disturbances?			
8. Can loud noise aggravate migraine?			
9. Is migraine associated with sunlight?			
10. Do you think physical exertion is related to migraine?			
11. Can intense smell like perfume trigger migraine?			
12. Are missed meals or poor dietary habits related to migraine?			
13. Is migraine related to any specific food like chocolate, cheese etc.?			
14. Do you think smoking is related to migraine?			
15. Do you think seasonal changes can cause migraine?			
16. Do you know about the availability of any prophylactic drug for migraine?			
17. Do you think using analgesics is the only way to relieve migraine?			
18. Have you experienced two or three headaches in last three months?			
19. Have you ever been diagnosed as a sufferer of migraine?			
20. Has anyone of your family members ever been diagnosed as a sufferer of migraine?			

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“A single conversation across the table with wise man is better than ten years, mere study of books”

Long Fellow.

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