

PREVALENCE OF MIGRAINE HEADACHE AND ITS BEHAVIORAL CHARACTERISTICS AMONG UNDERGRADUATE ALLIED HEALTH STUDENTS

Tooba Ramzan^{*1}, Munwar –us- Salam², Rubina Parveen³, Tayyaba Qureshi⁴, Iqra Arain⁵, Aatikah Riaz⁶

^{*1,4,5,6}BSN Student, Begum Bilquees Sultana Institute of Nursing, People's University of Medical and Health Sciences of Medical and Health Sciences SBA

²Associate Professor, Begum Bilquees Sultana Institute of Nursing, Peoples University of Medical & Health Sciences for Women Nawabshah, SBA.

³Assistant Professor, Begum Bilquees Sultana Institute of Nursing, Peoples University of Medical & Health Sciences for Women Nawabshah, SBA.

^{*1}toobaarain0786@gmail.com

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Corresponding Author: *

Tooba Ramzan

Abstract

Background: Migraine headache is a common neurological problem with significant impact on quality of life. Migraine headache among university students can affect academic performance and limit their daily activities.

Objectives: The study aimed to assess the prevalence of migraine headache using the ID Migraine screening tool among undergraduate allied sciences students and medical and behavioral characteristics of migraine students.

Methods: A cross-sectional study was conducted over a period of 2 months among 280 participants at Peoples University of Medical and Health Sciences in Nawabshah. Data were collected using structured, self-administered questionnaire and analyzed using SPSS version 25. The three-item ID-migraine screening tool was used to identify migraine status/Prevalence of migraine. A diagnosis of migraine required at least two positive responses. Frequencies, percentages were used for demographic characteristics while Chi-square tests were applied to determine the associations between Migraine status and Behavioral characteristics of migraine students.

Results: The mean age of the participants was 21.48 ± 1.639 years. The prevalence of migraine among medical students was 65.4%. Migraine status was also statistically associated with family migraine history, self-perceived migraine, seeking medical help, doctor diagnosed migraine, received a doctor prescribed treatment and using any medications like NSAIDS and Paracetamol without consulting a doctor. There was no significant association between migraine status and taking prescribed medications.

Conclusion: Our study found a high prevalence of migraine headache in allied students of PUMHSW. Associated with behavioral characteristics of medical students with migraine. Migraine among students is associated with impaired academic performance and limited daily activities.

INTRODUCTION

Medical students are accessible group to migraine, one of the most common type of headache worldwide. The International Classification of Headache Disorders (ICHD-III β) classifies headaches into two main types: primary and secondary; Primary headaches consists of migraine, tension-type headache, and cluster headache and secondary headaches are caused by an underlying medical condition, injury or structural issue. Migraine is identified as a serious health problem that affects quality of life and is a major cause of illness among young adults, especially students. Clinically, migraine is usually described as a unilateral headache, though the pain can sometimes shift to the other side. Migraine is a brain-related disorder in which a person experiences intermittent headaches that are usually throbbing and moderate-to-severe in intensity, these headaches are often linked with symptoms like sensitivity to light and sound, nausea, vomiting, and decrease mobility. Migraine headaches is more common in women than males. Medical students have a remarkably high prevalence of migraine compared to the general population. Medical students need extra care about their health and quality of life, because it directly affects their studies, academic performance, achievements, participation in social activities, and their future roles in different manner of life. Migraine can be trigger by many factors such as stress, sunlight, lack of sleep, eating habits, changes in weather and temperature, frequent travelling, food items, oral contraceptives, and physical activity. Various modifiable factors including lack of exercise, high screen time and symptoms of anxiety and depression are also related with migraines. Migraine treatment varies from country to country and can include acute, preventive, and non-drug therapies, personalized treatment is recommended, considering the patient's family history and other health problems while avoiding triggers and ensuring regular follow-up. Medicines like pain relievers (analgesics), non-steriodal anti-inflammatory drugs (NSAIDs), serotonin agonists, and anti-emetics are commonly used to treat migraine attacks while prevention of migraine

headache include medicines such as beta-blockers, anticonvulsants and antidepressants and non-pharmacological method are avoiding triggers such as lifestyle changes and adjusting medication. The three-item identification of migraine (ID Migraine) test, is a self-check screening tool that was developed and tested to help the diagnose migraine.

A cross-sectional study conducted among the medical students of Bangladesh revealed that the overall prevalence of migraine was 19%. Nausea was most commonly reported associated symptom (83.5%) followed by photophobia (72%) and vomiting (53%). In a medical center of Taiwan completed in-depth interviews to assess the frequency and perceived effectiveness of variety of pain management strategies. Results showed that most participants used prescription medications (56%) and over-the-counter medications (51%), which were rated as having good efficacy rates of 78% and 81%, respectively. Another cross-sectional study conducted in Karachi and the results concluded that migraine prevalence among students was 52.3% with the majority of migraines occurring in females, while family history was the most common predictors (32.1%).

Migraine headache is a neurovascular disorder, impairing the health and quality of life of many people. It is the leading cause of disability especially in students. It is under-diagnose and treated conditions in undergraduate students. This lead to the compromised academic performance of students. Based on my knowledge, there is limited literature available previously about the prevalence of migraine headache among PUMHSW allied health students. Therefore, this study is designed aimed to determine the prevalence of migraine headache and its behavioral characteristics among undergraduate allied health students of PUMHSW Nawabshah.

MATERIAL AND METHOD

A cross-sectional study was used to identify the prevalence of migraine headache and its behavioral characteristics among migraine students, this study was conducted at People's University of Medical Health and Sciences for women, new campus Nawabshah. The study was

carried out over a period of two months from 17 November to 17 January 2026 after approval of Institutional Review Board (IRB). Sample size was 280 calculated by using Rao soft calculator. The calculation was based on 95% confidence level, and margin of error 5%. A non-probability convenience sampling technique was used to select participants. This study was conducted on undergraduate allied science students. The inclusion criteria were: students who are enrolled in Pharm-d, DPT, Nursing and Public health at PUMHS Nawabshah, students aged 17 years and above, those willing to participate and provide informed consent, and the exclusion criteria included those students who were willing to participate, postgraduate students was not enrolled. The data was collected through structured questionnaire, it consists of section A: Demographic information, section B: ID-migraine

screening tool, section C: Behavioral characteristics of medical students with migraine. The ID-migraine screening tool was used to identify migraine status/Prevalence of migraine. This tool consists of 3 questions. A high likelihood of migraine was identified when a student answered “Yes” to at least two of these questions: During the last 3 months, 1. Did you feel nauseated or sick in your stomach with your headaches? 2. Did light bother you when you had a headache (a lot more than when you do not have headaches)? 3. Did your headache limit your ability to work, study or do what you needed to do for at least 1 day? Frequencies, percentages were used for demographic variables while Chi-square tests were applied to determine the associations between Migraine status and Behavioral characteristics of migraine students.

RESULTS

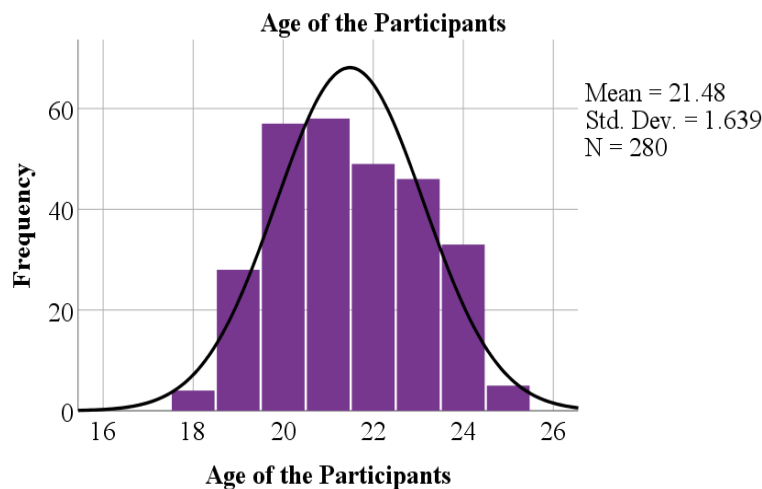


Figure 1: Age of the Participants

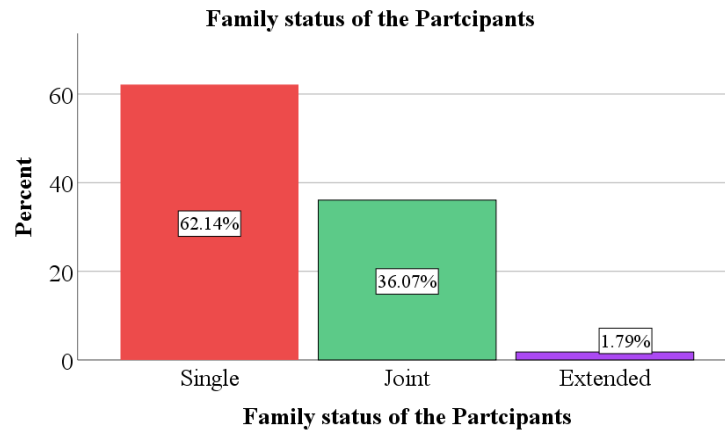


Figure 2: Family status of Participants

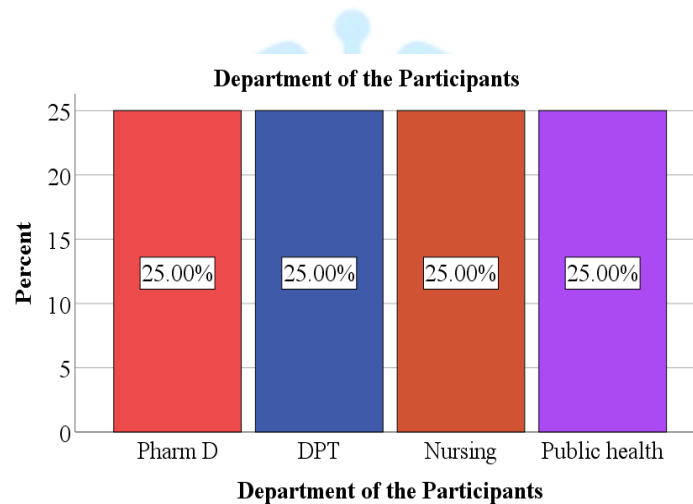


Figure 3: Department of the Participants

Table 1: Demographic Characteristics

Variable	Frequency	Percent %
Religion		
Islam	260	92.9%
Hindu	20	7.1%
Marital Status		
Single	272	97.1%
Married	8	2.9%
Economic Status		
Poor class	19	6.8%
Middle class	241	86.1%
Upper class	20	7.1%
Academic satisfaction of the Participants		
High	52	18.6%

Moderate	222	79.3%
Low	6	2.1%

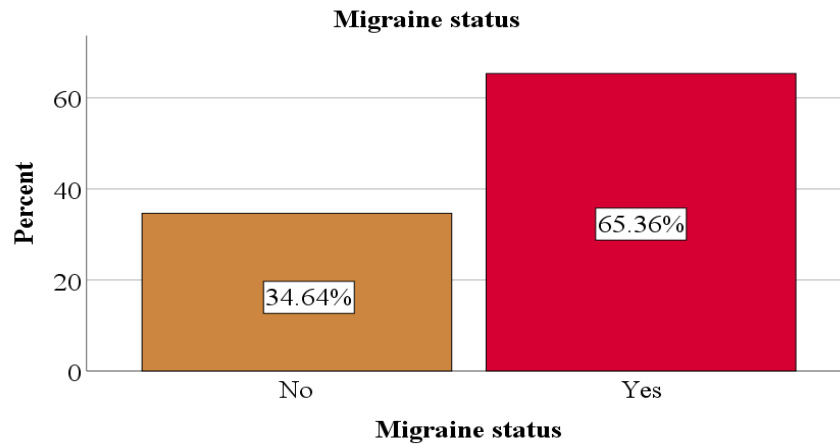


Figure 2: Migraine status/Prevalence of migraine headache

Table 2: Association of Behavioral Characteristics of medical students with migraine status:

Behavioral Characteristics	Migraine status			X ²	df	P value
Do any your family members suffer from migraine?						
	No	Yes	Total	9.729 ^a	1	.002
No	72(25.7%)	101(36.1%)	173(61.8%)			
Yes	25(8.9%)	82(29.3%)	107(38.2%)			
Do you think you have a migraine?						
	No	Yes	Total	20.470 ^a	1	.000
No	79(28.2%)	99(35.4%)	178(63.6%)			
Yes	18(6.4%)	84(30%)	102(36.6%)			
Did you seek medical help?						
	No	Yes	Total	7.883 ^a	1	.005
No	80(28.6%)	122(43.6%)	202(72.1%)			
Yes	17(6.0%)	61(21.8%)	78(27.9%)			
Did doctor diagnose you with migraine?						
	No	Yes	Total	10.099 ^a	1	.001
No	84(30%)	127(45.4%)	211(75.4%)			
Yes	13(4.6%)	56(20%)	69(24.6%)			
Did doctor prescribe you a treatment for migraine?						
	No	Yes	Total	9.789 ^a	1	.002
No	85(30.4%)	130(46.4%)	215(76.8%)			
Yes	12(4.3%)	53(18.9%)	65(23.2%)			
Do you take the prescribed medications?						
	No	Yes	Total	.893 ^a	1	.345
No	69(24.6%)	120(42.9%)	189((76.5%)			

Yes	28(10%)	63(22.5%)	91(33.5%)			
Do you take headache medications without referring them to the doctor?						
	No	Yes	Total	14.882 ^a	1	.000
No	60(21.4%)	69(24.6%)	129(46.1%)			
Yes	37(13.2%)	114(40.7%)	151(53.9%)			
Do you take paracetamol without referring to the doctor for your headache?						
	No	Yes	Total	8.862 ^a	1	.003
No	46(16.4%)	54(19.3%)	100(35.7%)			
Yes	51(18.2%)	129(46.1%)	180(64.3%)			
Do you take NSAIDs without referring to the doctor for your headache?						
	No	Yes	Total	6.000 ^a	1	.014
No	73(26.1%)	111(39.6%)	184(65.7%)			
Yes	24(8.6%)	72(25.7%)	96(34.3%)			

DISCUSSION

Regarding the demographic variables findings of this study, the mean age of this study participants (Figure-1) was shown 21.48 years $\pm$ 1.639. Figure -2 shows that the majority of participants 174(62.1%) were belonged to the single family, 101(36.1%) were joint family and 5(1.8%) were extended family. Figure - 3 shows that among the participants, 70(25%) participants were belongs to the pharm D department, 70(25%) participants were DPT department, 70(25%) participants were nursing department, and 70(25%) participants were public health department. Table -1 shows the demographic characteristics, in religion the majority of participants 26(92.9%) were muslims, and Hindu were 20(7.1%). 272(97.1%) participants were single and 8(2.9%) were married. The 19(6.8%) participants were belongs to poor class, 241(86.1%) were middle class and 20(7.1%) were upper class. In academic satisfaction, majority of the participants 222(79.3%) reported moderate academic satisfaction, while 52(18.6%) high satisfaction and 6(2.1%) low satisfaction, recent studies reported similar findings, shows that moderate academic satisfaction is common among students due to academic workload and stress, which are triggers for migraine.

Regarding the migraine status findings of this study, (Figure-4) shows that among the 280(100%) participants, 97(34.6%) participants having no migraine and 183(65.4%) participants suffered from migraine, as compared the cross-sectional

study in medical students in Punjab female reported a high prevalence 78.57% than males.

As regards the association of behavioral characteristics of medical students with migraine status, findings of this study, Table - 2 showed that family migraine history was significantly associated with migraine status; 25 (8.9%) participants with family history had migraine and 72(25.7%) without family history, this finding is consistent with a cross-sectional study conducted among university students in Bangladesh, which reported that students with a family history of migraine headache had significantly higher odds of experiencing migraine compared to those without such history. Self-perceived migraine was significantly associated with migraine status ,79(28.2%) participants who didn't think they had migraine reported having it, while 18(6.4%) who thought they had migraine actually did, it indicating poor awareness, showing that these findings are similar in recent studies among university students.

Among participants with having migraine 122(43.6%) did not seek medical help while 61(21.8%) did seek medical help and those participants without migraine, 80(28.6%) participants did not seek medical help and 17(6.0%) sought medical help and there is a significant association between seeking medical help and migraine status. Among students with no migraine 60(21.4%) did not take self-prescribed medication and 37(13.2%) did take and participants with migraine status 69(24.6%) did

not take medication without referral 114(40.7%) did there is a significant association between migraine status and using medications without consulting a doctor in agreement with the finding of a cross-sectional study where almost 41% migraine students had a family history of migraine, only 26.7% sought medical help and mostly students take headache medications without referring to their doctor.

Within the migraine group 127(45.4%) participants had not been diagnosed by doctor whereas 56(20%) had diagnosed and participants with no migraine 84(30%) not diagnosed by doctor, and 13(4.6%) were diagnosed with migraine and there is a significant association between doctor-diagnosed migraine and migraine status. A strong association between migraine status and receiving a doctor-prescribed treatment P -Value = .001, similar results were reported in a cross-sectional study, where students with migraine headache were less likely to seek medical treatment and more likely to self-management symptoms rather than receiving doctor-prescribed treatment plans.

There is a no statistically significant association between migraine status and taking prescribed medications P -Value = .345, showing consistent with previous findings. There is a significant association between migraine status and using paracetamol (P -Value = .003) and NSAIDs (P -Value = .000) without consulting a doctor which aligns with recent evidence of widespread self-medication among.

CONCLUSION

Headache is among the most prevalent, burdensome, and common health problems in the world which can be frequently seen among undergraduates. In conclusion, the prevalence of migraine headache was high in 20-21 age group among undergraduate students in allied health science students and is accompanied with different behavioral characteristics. Migraine among students is associated with impaired academic performance and limited daily activities. According to the drugs used for migraine headaches without medical consultation, paracetamol and NSAIDs was the most popular

drug. This systematic review quantifies the diagnostic accuracy of the ID Migraine as a brief, practical and easy to use diagnostic tool for migraine. Application of the ID Migraine as a diagnostic tool is likely to improve appropriate diagnosis and management of migraine sufferers. The finding highlight migraine as a significant yet under-recognize health concern in this participants, with potential adverse effects on academic performance and quality of life. Therefore, there is a need for targeted awareness programs, early screening, student-focused interventions aimed to promoting appropriate health-seeking behavior, safe medication use, and effective migraine management within academic institutions.

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