

**ASSESS THE PROPORTION AND CONTRIBUTING FACTORS OF MIGRAINE AMONG
NURSING STUDENTS**

¹Soumya S., ²Alfiya A. H., Adhithya P. S.^{3*}, Amanajasmi S.⁴, Aparna S. S.⁵, Mohammed Adil⁶, Mythili Raj⁷,
Praseetha B. R.⁸

¹Associate Professor, Department of Adult Health Nursing, NS Memorial College of Nursing, Kollam.

²Assistant Professor, Medical Surgical Nursing, N. S. Memorial College of Nursing, Kollam.

^{3,4,5,6,7,8}th Semester B.S.C. Nursing Students, N. S. Memorial College of Nursing, Kollam.



***Corresponding Author: Adhithya P. S.**

7th Semester B.S.C. Nursing Students, N. S. Memorial College of Nursing, Kollam.

DOI: <https://doi.org/10.5281/zenodo.23032235>

How to cite this Article: ¹Soumya S., ²Alfiya A. H., Adhithya P. S.^{3*}, Amanajasmi S.⁴, Aparna S. S.⁵, Mohammed Adil⁶, Mythili Raj⁷, Praseetha B.R.⁸ (2026). Assess The Proportion And Contributing Factors Of Migraine Among Nursing Students. European Journal of Pharmaceutical and Medical Research, 13(10), 209–214.

This work is licensed under Creative Commons Attribution 4.0 International license.



Article Received on 22/08/2026

Article Revised on 12/09/2026

Article Published on 01/10/2026

ABSTRACT

The Present Study Was Conducted To Assess The Proportion And Contributing Factors Of Migraine Among Nursing Students In Selected Colleges Of Kollam District. A Quantitative Descriptive Research Design Was Adopted. A Total Of 400 Nursing Students Were Selected Using Convenience Sampling Technique. Data Were Collected Using A Socio Demographic Questionnaire, A Standardized Migraine Screening Tool, And A Self-Structured Questionnaire To Identify Contributing Factors. The Majority Of Participants Were Females (83.8%) And Belonged To The Age Group Of 20–22 Years (57.3%). The Findings Revealed That 16.8% Of Nursing Students Screened Positive For Migraine, While 83.3% Screened Negative. Among Students With Migraine, 67.2% Had Intermediate Contributing Factors, 19.4% Had Major Factors, And 13.4% Had Minor Factors. Major Contributing Factors Identified Were Lack Of Sleep, Exposure To Bright Light, And Loud Noise, While Factors Such As Prolonged Study Hours, Academic Stress, And Screen Usage Showed Moderate Influence. Caffeinated Drinks And Weather Changes Were Found To Have Minimal Impact. A Statistically Significant Association Was Found Between Migraine And Gender, Year Of Study, And Family History Of Migraine ($P < 0.05$). However, No Significant Association Was Observed Between Contributing Factors And Most Socio Demographic Variables, Except History Of Chronic Illness. The Study Concludes That Migraine Among Nursing Students Is Influenced By Both Biological And Lifestyle Factors, Particularly Sleep Disturbances And Academic-Related Stress. Early Identification, Effective Stress Management, And Promotion Of Healthy Lifestyle Practices Are Essential To Reduce The Burden Of Migraine. The Findings Highlight The Need For Awareness Programs And Supportive Interventions Within Educational Institutions To Improve The Overall Well-Being And Academic Performance Of Nursing Students.

KEYWORDS: Migraine, Proportion, Contributing Factors, Nursing Students.

INTRODUCTION

Migraine is a chronic episodic neurological problem seen in people of different age groups, especially among adults. Migraine can disturb daily routine and also affect concentration and the quality of life. Nursing student faces many physical and mental stresses during their study. They have long study hours, clinical postings, night duties and sequel examination. Irregular sleep, continuous use of mobile phones and laptops, and academic pressure may increase the chances of

developing migraine. Food habit, dehydration and inadequate rest can also act as triggering factors.

The proportion of the migraine among college students has been increasing in recent years, especially in health professional courses. Studies have shown that female students are most commonly affected than males, possibly due to hormonal influences and stress level. The clinical manifestation of the migraine can vary from person to person, making it difficult to identify and manage effectively without proper awareness. Moreover,

frequent migraine attack can lead to absenteeism, reduce academic performance, decreased clinical efficiency among nursing students. This not only affect their personal health but also their professional development.

Nursing students are particularly vulnerable to migraine due to their demanding academic curriculum, clinical posting, irregular sleep pattern, and psychological stresses. They often face long hours of study night, clinical duties and examination pressure which can act as triggering factors of migraine attack. Also, lifestyle factors such as skipping meals, excessive use of mobile phone, caffeine intake and lack of physical activity may contribute to the occurrence of the migraine. In many cases, students ignore early symptoms due to busy schedule, which may worsen the condition over time. Therefore, migraine among nursing students is an important health issue that needs attention.

STATEMENT OF THE PROBLEM

A study to assess the proportion and contributing factors of migraine among nursing students.

OBJECTIVES

- To assess the proportion of migraine among nursing students in selected colleges
- To assess the contributing factors of migraine among nursing students in selected college.
- To find out the association between proportion of migraine and sociodemographic variables among nursing students in selected college.
- To find out the association between contributing factors of migraine and socio demographic variables among nursing students in selected college.

HYPOTHESIS

- H1 :- There is a significant association between proportion of migraine and socio-demographic variables among nursing students in selected colleges of Kollam district
- H2 :- There is a significant association between contributing factors of migraine and socio-demographic variables among nursing students in selected colleges of Kollam district.

OPERATIONAL DEFINITION

Migraine

Migraine refers to a recurring type of headache that causes throbbing pain, usually on one side of the head, and may be associated with nausea, vomiting, or sensitivity to light and sound, as experienced by the nursing students.

Proportion

Proportion is the part of a total population that has a specific characteristic, expressed as a fraction or percentage.

Contributing Factors

Contributing factors refer to the conditions or situations that may trigger or worsen migraine, such as academic stress, lack of sleep, skipping meals, prolonged study hours, light, noise and use of electronic devices.

Nursing Students

Nursing students refer to students who are enrolled in the B.Sc. Nursing programming the selected nursing college and who are available and willing to participate in the study.

ASSUMPTIONS

- Nursing students may get migraine due to stress, lack of sleep, or long study hours.
- Migraine may affect concentration, class attendance and clinical performance.

DELIMITATION

- The study is limited to BSc Nursing students in selected college.

Only students who are available and willing to participate are included in the study.

RESEARCH APPROACH

This study uses quantitative approach to assess the proportion and contributing factors of migraine among nursing students in selected colleges.

RESEARCH DESIGN

Research design is a systematic plan for obtaining answers to research questions. The research design selected for the present study was non experimental descriptive research design.

VARIABLES

Variables are characteristics or factors that can change or vary and can be measured or observed in a study.

In this study research variables are the proportion and contributing factors of migraine among nursing students and demographic variables are age, gender, year of study, type of family, place of permanent residence, present place of stay during study, monthly family income, family history of migraine, history of any chronic medical illness.

SETTING OF THE STUDY

Setting is the physical location and condition in which the data collection take place in the study. The present study was conducted in Bishop Benziger college of Nursing and VNSS College of Nursing in Kollam district.

POPULATION

Population is the entire set of individuals or elements to which the findings of a study are intended to apply. In this study the population is B.sc nursing students of selected colleges in Kollam district.

SAMPLE

Sample may be defined as the representative unit of target population, which is to be worked up on by researchers during their study. In this study sample include 400 B.sc nursing students from selected colleges in Kollam.

SAMPLE SIZE

In this study the sample size is 400 B.sc nursing students from selected colleges in Kollam.

SAMPLING TECHNIQUE

It is the method used to select a small group from a large population for study. In this study, samples are selected by using convenience sampling technique.

CRITERIA FOR SAMPLE SELECTION INCLUSION CRITERIA

- B.sc Nursing students in selected colleges
- Students present at the time of data collection.
- Students who are willing to participate in the study.

EXCLUSION CRITERIA

Nursing students with known chronic neurological disorders other than migraine.

TOOL OR INSTRUMENT

Tool consists of three sections

SECTION A: Sociodemographic Performa

SECTION B: Standardized tool to assess the proportion of migraine

SECTION C: Self structured questionnaire to assess the contributing factors

DESCRIPTION OF TOOL

SECTION A: Sociodemographic Performa This section includes self-structured questionnaire to assess the demographic data such as age, year of study, gender, type of family, place of permanent residence, present place of stay during study, monthly family income, family history of migraine, history of any chronic medical illness.

SECTION B: Standardized tool to assess the proportion of migraine This section consists of a standardized migraine screening questionnaire named Balkan Migraine Screening Questionnaire to assess the proportion of migraine among nursing students.

The questionnaire includes 5 multiple-choice questions with appropriate response options. Each appropriate response is given 1 score and inappropriate response is given a score of 0. Score interpretation: ≥ 4 Presence of migraine. < 4 Absence of migraine.

SECTION C: Self structured questionnaire to assess the contributing factors This section consists of self-structured questionnaire to assess the contributing factors of migraine among nursing students such as academic stress, lack of adequate sleep, skipping meals, prolonged study hours, exposure to bright light, loud noise, strong

smells, prolonged screen usage, weather changes, consumption of caffeinated drinks.

Scoring pattern: Never – 0 mark Sometimes – 1 mark Often – 2 marks Always – 3 marks Maximum score – 30
Score Interpretation: 0 – 10 Minor 11 – 20 Intermediate 21 – 30 Major.

DATA COLLECTION PROCESS

Data collection is the systematic gathering of information or facts to answer a research question. After obtaining approval from the institutional ethical committee, formal permission was also secured from the respective colleges and obtained institutional consent prior to data collection. The study was conducted on the permitted days in the selected colleges. Data were collected from Bishop Benziger College of Nursing on 21/01/2026 and from VNSS College of Nursing on 01/03/2026. A total of 400 participants were selected using a convenience sampling method. Data were collected using a self structured questionnaire along with the Balkan Migraine Screening Questionnaire.

DATA ANALYSIS

Data analysis is the process of examining and interpreting collected data to find useful information and draw conclusion.

ANALYSIS AND INTERPRETATION STATEMENT OF THE PROBLEM

A study to assess the proportion and contributing factors of migraine among nursing students.

OBJECTIVES

To assess the proportion of migraine among nursing students in→ selected colleges.

To assess the contributing factors of migraine among nursing→ students in selected colleges.

To find out the association between proportion of migraine and socio→ demographic variables among nursing students in selected colleges.

To find out the association between contributing factors of migraine→ and socio demographic variables among nursing students in selected colleges.

HYPOTHESIS

□ H1 :- There is a significant association between proportion of migraine and socio-demographic variables among nursing students in selected colleges of Kollam district.

□ H2 :- There is a significant association between contributing factors of migraine and socio-demographic variables among nursing students in selected colleges of Kollam district.

RESULTS

This chapter presents the analysis and findings of the study conducted to assess the proportion and contributing factors of migraine among nursing students in selected colleges of Kollam district. The data collected from 400

students were analyzed using descriptive and inferential statistics and are Description of Sample Characteristics.

- The study included 400 nursing students.
 - Majority of students 57.3% were in the age group of 20–22 years.
 - Most participants were female (83.8%), while males constituted 16.3%.
 - Regarding year of study, the highest proportion 29% were second-year students.
 - A large majority 90% belonged to nuclear families.
 - Most students 65.5% were from rural areas.
 - More than half 57% were staying at home during their study period.
 - Nearly 48% had a monthly family income between ₹20,000–₹50,000.
 - Majority 96.3% belonged to middle socio-economic status.
 - Only 15.5% reported a family history of migraine.
 - Most students 96.5% had no history of chronic illness.
- 60 Proportion of Migraine Among Nursing Students
- The proportion of migraine was assessed using a structured migraine screening questionnaire.
 - Out of 400 students, 67 (16.8%) were found to have migraine.
 - The majority 333 (83.3%) did not have migraine.
 - This indicates that a notable proportion of nursing students are affected by migraine. Contributing Factors of Migraine Contributing factors were assessed among the students who had migraine using response categories: never, sometimes, often, and always. Individual Contributing Factors Academic stress: Majority (60%) reported sometimes, indicating a moderate and intermittent influence. Lack of sleep: Most participants reported often (28.4%) and always (32.8%), indicating a major contributing factor. Skipping meals: Responses were distributed, with 34.3% reporting sometimes and 20.9% each reporting often and always, showing a moderate influence. Prolonged study hours: Majority reported sometimes (40.3%) and often (32.8%), indicating a moderate contributing factor. Exposure to bright light: Nearly half (49%) reported always, indicating a strong triggering factor. Loud noise: A considerable proportion reported always (44.8%) and often (25.4%), indicating a strong contributing factor. 61 Strong smells: Majority (43.3%) reported always, indicating a significant trigger. Prolonged screen usage: Most reported often (33%) and sometimes (31%), indicating a moderately high influence. Weather changes: Majority (40%) reported never, indicating a less significant factor. Caffeinated drinks: Majority (87%) reported never, indicating minimal contribution. Contributing factors were assessed among the 67 students who had migraine using categories as minor, intermediate and major levels.
 - 13.4% had minor contributing factors
 - 67.2% had intermediate contributing factors
 - 19.4% had major contributing factors
 - The findings show that the majority of students experienced an intermediate level of contributing factors.

Association Between Migraine and Socio-Demographic Variables

- The association between migraine and selected demographic variables was analyzed using the chi-square test.

Significant associations were found with:

- Gender ($p = 0.001$)
 - Year of study ($p = 0.034$)
 - Family history of migraine ($p = 0.000$)
 - No significant association was found with:
 - Age
 - Type of family
 - Place of residence
 - Place of stay
 - Monthly family income
 - Socio-economic status
 - History of chronic illness
- Association Between Contributing Factors and Socio-Demographic Variables
- Only history of chronic illness ($p = 0.042$) showed a statistically significant association.
 - All other variables did not show significant association.

Testing of Hypothesis

- The hypotheses of the study were tested using the chi-square test.

Hypothesis 1 (H_1)—

- There is a significant association between proportion of migraine and sociodemographic variables among nursing students.
- The analysis revealed that gender, year of study, and family history of migraine had statistically significant associations with migraine ($p < 0.05$). Other variables did not show significant association. Hence, H_1 is partially accepted.

Hypothesis 2 (H_2)—

- There is a significant association between contributing factors of migraine and socio-demographic variables among nursing students.
- The analysis showed that only history of chronic illness had a statistically significant association, while all other variables were not significant. Hence, H_2 is partially accepted.

RESULTS

A total of 400 B.Sc. Nursing students participated in the study. The majority were female (83.8%), aged 20–22 years (57.3%), and belonged to nuclear families (90%). Most participants were from rural areas (65.5%), stayed at home during their studies (57.0%), and had a monthly family income of ₹20,000–50,000 (48.0%). A positive family history of migraine was reported by 15.5%, while 3.5% had a history of chronic illness. The prevalence of migraine among nursing students was 16.8% (67/400), whereas 83.3% (333/400) screened negative for migraine using the Balkan Migraine Screening Questionnaire.

Among students who screened positive for migraine, 67.2% had intermediate contributing factors, 19.4% had major contributing factors, and 13.4% had minor contributing factors. The most frequently reported migraine triggers were lack of sleep, exposure to bright light, and loud noise. Academic stress, prolonged study hours, and prolonged screen use showed a moderate contribution, whereas skipping meals, weather changes,

caffeinated drinks, and strong smells had comparatively lower influence. Chi-square analysis demonstrated a statistically significant association between migraine and gender, year of study, and family history of migraine ($p < 0.05$). No significant association was observed with age, type of family, place of residence, place of stay, monthly family income, or history of chronic illness. Regarding contributing factors, a statistically significant association was identified only between the level of contributing factors and history of chronic illness ($p < 0.05$). No significant association was found between contributing factors and other socio-demographic variables.

DISCUSSION

The present study was conducted to assess the proportion and contributing factors of migraine among nursing students in selected colleges of Kollam district. Proportion of migraine among nursing students: The findings of the present study revealed that 16.8% of nursing students had migraine, while the majority (83.3%) did not have migraine. This indicates that migraine is present among a notable proportion of students, though not affecting the majority. The findings of the present study were supported by another descriptive study was conducted to determine the Prevalence of Migraine Among 172 Nursing Students in Tertiary Care Center, South India 2021. The result shows that a total of 20% of nursing students in the study had headache of which 85% had migraine. Contributing factors of migraine among nursing students : The present study shows that contributing factors among students with migraine showed that lifestyle and environmental triggers play a significant role. Lack of sleep emerged as a major contributing factor, with 32.8% reporting always and 28.4% often experiencing migraine due to sleep deprivation. Similarly, exposure to bright light (49% always), loud noise (44.8% always, 25.4% often), and strong smells (43.3% always) were identified as strong triggering factors. The findings of the present study were supported by another cross-sectional study was conducted to determine the Prevalence of Migraine Among 491 College Students in Ernakulam, Kerala, 2019. The result shows that the prevalence of probable migraine was 37.5% ($n=184$; 95% CI: 33.2-41.8). The prevalence was higher among women ($n = 119$, 46.5%) compared to men ($n=65$, 27.7%). On multivariable analysis, higher perceived stress, female gender, inadequate sleep (<8 hours/day), and prolonged screen time (>6 hours/day) were independently associated with probable migraine.

Demographic associations: The findings of the present study were supported by another cross-sectional study was conducted to determine the Prevalence of Migraine Among 491 College Students in Ernakulam, Kerala, 2019. The result shows that the prevalence of probable migraine was 37.5% ($n = 184$; 95% CI: 33.2-41.8). The prevalence was higher among women ($n = 119$, 46.5%) compared to men ($n = 65$, 27.7%) On multivariable analysis, higher perceived stress, female gender,

inadequate sleep (<8 hours/day), and prolonged screen time (>6 hours/day) were independently associated with probable migraine.

CONCLUSION

The present study aimed to “Assess the proportion and contributing factors of migraine among nursing students”. The present study concludes that migraine is a notable health problem among nursing students, affecting 16.8% of the study population. The use of a frequency-based assessment (never, sometimes, often, always) provided a clearer understanding of contributing factors. The study identified that Lack of sleep and environmental factors (light, noise, smell) are frequent and strong triggers of migraine. Academic stress and study-related factors are moderate and intermittent triggers. Caffeinated drinks and weather changes have minimal influence. The majority of students experienced moderate levels of contributing factors, indicating that migraine is influenced by a combination of multiple triggers rather than a single dominant factor. Significant associations with gender, year of study, and family history highlight the role of both biological and environmental influences. Therefore, early identification of triggers, improvement in sleep habits, reduction of environmental stressors, and promotion of healthy lifestyle practices are essential to reduce the occurrence of migraine among nursing students. The study emphasizes the importance of awareness, preventive strategies, and supportive academic environments to improve students' overall health and academic performance.

ACKNOWLEDGEMENT

“Bless the lord, oh my soul, and forget none of his benefits” First of all, we thank the God Almighty for being with us and sustaining us in all hardships, for the blessings in all endeavours to complete the dissertation to our optimal satisfaction. Without his grace this task would not have been possible. We are thankful to our parent institution N.S Memorial College of Nursing for providing us an opportunity to conduct this study as a part of our seventh semester BSc Nursing curriculum. We wish to express our sincere thanks to Ms.Soumya.S, Associate Professor Department of Adult Health Nursing, N.S Memorial College of Nursing, Palathara, Kollam for her priceless support, scholarly guidance and advice, valuable suggestions and supervisions, needed encouragement and above all for being there throughout the study. We also owe gratitude to Ms. Alfiya.A.H. Assistant professor, Department of Medical Surgical Nursing N. S. Memorial College of Nursing, Palathara, Kollam for his priceless support, expertise. Guidance and advice, valuable suggestion and supervisions laid the foundation stone for the present study. We extend our earnest gratitude to Prof. Dr. Suresh K.N, Principal, N.S Memorial College of Nursing, Palathara, Kollam for his valuable suggestions and guidance right from the selection of the research topic. We extend our gratitude to Mrs. Sabitha, Department of Statistics for her critical

comments and valuable suggestions. The investigators express their deepest appreciation with thanks to all the experts who contributed their valuable suggestions in validating the tool. The investigators also extend their thanks to all the B.sc nursing students who participated in the study. The Investigators are pleased to acknowledge Prof Dr. Beroj Steena.T vii Vice Principal, Professor Amal James HOD Of Mental Health Nursing and all faculty & staff for their immense support and valuable suggestions. The Investigators are thankful to Mrs. Sasilekha. S Librarian N.S. Memorial College of Nursing, Palathara, Kollam, for the support and timely help to carry out the study. Researchers also extend special thanks to all the teaching and nonteaching staff of the institution. The investigators express their gratitude to the Management of N. S Memorial College of Nursing, Palathara, Kollam, for giving us the opportunity to undertake a graduate course in this esteemed institution. The Investigators extend their heartfelt thanks to all their loving friends for their reassurance and constant motivation which energized to finish this work successfully. Last but not the least the researchers sincerely extend their profound gratitude to their parents for their tremendous support and care to overcome the stress and pain for completing the study.

REFERENCE

1. Binalu Menon & Nikethana Remadevi N. Migraine in Nursing Students-A Study from a Tertiary Care Center in South India. *Journal of Neuroscience Rural Pract*, 2021 Jan; 12(1): 129-132. doi:
2. Mrs Anjima, Mr Sreehari, Fphamin Philipson, conducted across sectional study to assess the migraine triggering factors among students, Thiruvalla Kerala, 2026; *IMJSCR* 5(4): 978-983.
3. Xiao gu, Yaojie xie Migraine attacks among medical students in Soochow University, Southeast China: a cross-sectional study. *Journal of Pain Research*, 2018 Apr 12; 11: 771-781. 10.2147/JPR.S156227. PMID: 29695929; PMCID: PMC5905467. doi:
4. Mohammad Aboeleda et al conducted a cross-sectional study to assess the migraine among King Khaled University students; prevalence, determinants, and impact on academic life. *Journal of Clinical Neuroscience*, 2025 Mar; 133: 111030. 10.1016/j.jocn.2025.111030. Epub 2025 Jan 16. PMID: 39823910 Doi:
5. Majeed et al conducted a cross-sectional study to assess the prevalence and impact of migraine among undergraduate nursing students *Bioinformation*, 2025 Aug 31; 21(8): 2922-2926. doi: 10.6026/973206300212922. PMC12697497.