

## Review Article

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# MEDICAL AND KNOWLEDGE ASSESSMENT OF HEADACHE AMONG PARAMEDICAL STUDENTS

## ABSTRACT

Headaches are one of the most commonly experienced neurological disorders, yet they remain underdiagnosed and undertreated, even among healthcare professionals. This study assesses the knowledge, attitudes, and understanding of headache symptoms, treatment, and diagnosis among paramedical students. Utilizing a cross-sectional survey, data were collected from 115 paramedical students across various institutions, including SS Institute of Pharmacy, SRM University, and others. The results highlighted significant gaps in knowledge, with a majority of students relying on traditional remedies and over-the-counter medications for headache relief. The findings underscore the need for enhanced educational efforts on headache management within paramedical curricula. This paper suggests improvements in diagnostic training and offers recommendations for curriculum development to better equip students with the necessary skills to manage headache disorders effectively.

## Keywords

*Headache, Paramedical students, Knowledge assessment,  
Headache management, Traditional remedies*

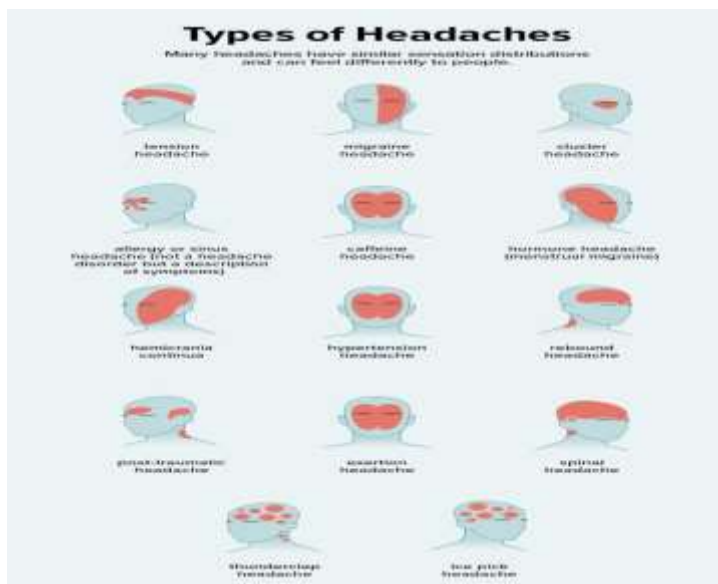
## INTRODUCTION



### Prevalence and Impact of Headaches

Headaches are among the most frequent neurological complaints worldwide, affecting millions of people daily. They can be classified into primary headaches (such as migraines, tension-type headaches, and cluster headaches) and secondary headaches, which are symptomatic of other conditions. According to the World Health Organization (WHO), nearly half of adults worldwide have experienced at least one headache in the past year, and migraine headaches are considered the second leading cause of disability globally. The burden of headache disorders is not only felt at the individual level but also imposes a significant social and economic toll due to loss of productivity and healthcare costs.

### Types of Headaches and Their Global Burden



Headaches can range from mild, infrequent episodes to chronic and debilitating disorders. Tension-type headaches are the most common, affecting up to 70% of people, while migraines affect around 15%. Cluster headaches are less common but extremely painful, often described as the most severe type of headache. The global burden of these conditions, especially migraines, has prompted the medical community to prioritize understanding and management. Despite the high prevalence, knowledge about headaches, their causes, and treatment options remains limited, even within healthcare professions.

### Importance of Studying Headaches in Healthcare Students

Paramedical students, as future healthcare providers, play a crucial role in diagnosing and managing common disorders like headaches. However, the training they receive often focuses on more severe or life-threatening conditions, leaving common, yet disabling conditions like headaches underemphasized. By assessing the knowledge and understanding of headaches among paramedical students, this study aims to identify gaps in education and training that could be addressed to improve headache management in clinical settings.

### Previous Studies on Headache Awareness



Several studies have been conducted to assess headache awareness among various groups, including medical students, general practitioners, and the public. These studies have revealed that while general knowledge of headaches is widespread, there are significant gaps in understanding the underlying causes, effective treatments, and long-term management strategies. In particular, healthcare students often rely on personal experiences or cultural practices rather than evidence-based medical knowledge when it comes to treating headaches. This study seeks to build on this research by specifically examining paramedical students and their approach to headache management.

## AIM AND OBJECTIVES

The aim of this study is to evaluate the knowledge and understanding of headache disorders among paramedical students.

The objectives are:

1. To assess paramedical students' awareness of the symptoms, causes, and treatment options for headaches.
2. To analyze the common misconceptions and cultural beliefs regarding headache treatment, particularly the reliance on traditional remedies.
3. To evaluate the extent to which paramedical students are familiar with evidence-based headache management and diagnosis.
4. To use the results to recommend changes to paramedical curriculums that could improve training on headache disorders.

## LITERATURE REVIEW

### Historical Overview of Headache Understanding

The understanding of headaches has evolved significantly over centuries. Historically, headaches were often attributed to supernatural or divine forces. Ancient civilizations used a range of treatments, from herbal remedies to trepanation (drilling holes into the skull) in an attempt to alleviate pain. The

term "cephalalgia," meaning head pain, originated from Greek medicine. Over time, as medical science advanced, headaches began to be understood as a symptom of various physical or psychological conditions.

### Medical and Cultural Approaches to Headache Treatment

Cultural beliefs have greatly influenced headache treatment throughout history. In India, for example, Ayurvedic practices such as applying Thailam (medicated oils) to the head are commonly believed to alleviate headache symptoms. While some traditional remedies may offer relief, modern medicine emphasizes the importance of diagnosing the underlying cause of headaches and prescribing appropriate treatments, such as nonsteroidal anti-inflammatory drugs (NSAIDs), triptans for migraines, and lifestyle changes for tension-type headaches.

### Paramedical Student Training in Neurological Disorders

Paramedical students, including those studying pharmacy, nursing, and physiotherapy, receive training on a wide range of medical conditions. However, neurological disorders, particularly headaches, are often overlooked in favor of more acute medical conditions. A comprehensive understanding of headache types, causes, and treatments is essential for these students as they may encounter patients with headache disorders in clinical practice.

### Recent Studies on Healthcare Students' Awareness of Headache Disorders

A recent study conducted in the United States revealed that 75% of medical students were able to identify common headache symptoms, but only 40% knew the appropriate first-line treatments for migraines. In India, similar studies have found that healthcare students often rely on traditional remedies and over-the-counter medications, with limited understanding of the long-term management of chronic headaches. This study will investigate whether paramedical students exhibit similar trends.

## METHODOLOGY

### Study Design and Ethical Considerations

This cross-sectional study was conducted using an online survey distributed to paramedical students. Ethical approval was obtained from the institutional review board, and all participants provided informed consent before completing the questionnaire.

### Sampling Techniques and Population Demographics

A total of 115 students participated in the study, drawn from various paramedical institutions, including SS Institute of Pharmacy, SRM University, and others. The sample included students from different academic years and fields of study (pharmacy, nursing, physiotherapy), providing a comprehensive overview of headache knowledge among the paramedical population.

### Development and Validation of the Questionnaire

The questionnaire was developed based on previous studies but was modified to suit the specific demographic of paramedical students. It consisted of 10 questions covering various aspects of headache symptoms, causes, treatments, and students' attitudes toward self-medication and traditional remedies. The questionnaire was validated by faculty members specializing in neurology and public health.

### Statistical Tools and Data Analysis

The responses were analyzed using descriptive statistics to calculate the percentages of students who answered each question correctly. A chi-square test was used to identify significant associations between demographic factors (such as age, academic year, and field of study) and students' knowledge of headaches. The results were then compared with existing literature to highlight gaps in knowledge and areas for improvement.

## RESULTS AND DISCUSSION

### Survey Question Breakdown

1. Do you believe medicine like Thailam cures headaches? (Yes: 87%, No: 13%)

A high percentage of students believe that traditional remedies like Thailam can cure headaches, reflecting the influence of cultural practices on their treatment choices. This finding highlights the need for more education on evidence-based treatments for headaches.

2. Does dehydration cause headaches? (Yes: 59%, No: 41%)

Only 59% of students recognized dehydration as a cause of headaches, suggesting a lack of awareness about common triggers. This gap in knowledge is concerning, as dehydration is one of the most easily preventable causes of headaches.

3. Do you prefer using over-the-counter drugs for headaches rather than visiting a doctor? (Yes: 84%, No: 16%)

The majority of students preferred self-medication, which may lead to improper treatment and the risk of medication-overuse headaches. This emphasizes the importance of educating students about the risks of self-medication and the benefits of consulting a healthcare provider.

4. Can coffee or tea cure a headache? (Yes: 63%, No: 37%)

The belief that coffee or tea can cure headaches is common, particularly in cases of caffeine withdrawal headaches. However, this approach is not effective for all types of headaches, and students need to be aware of the limited efficacy of caffeine in headache management.

5. Does applying head oil daily help in preventing headaches? (Yes: 74%, No: 26%)

A large proportion of students believed that applying head oil daily could prevent headaches, which may be influenced by traditional practices. While such remedies may provide comfort, there is little

scientific evidence to support their effectiveness in preventing headaches.

### **Correlation Between Education and Awareness**

A statistical analysis of the data revealed that senior students were more knowledgeable about headache causes and treatments compared to their junior counterparts. This suggests that as students progress in their education, their understanding of headache management improves, but there are still significant gaps that need to be addressed.

### **Knowledge Gaps and Misconceptions**

The survey identified several common misconceptions, such as the belief in traditional remedies like Thailam and the use of over-the-counter drugs without medical consultation. These findings indicate that paramedical students may not be fully prepared to manage headaches in a clinical setting, and additional training is needed.

## **SUMMARY AND CONCLUSION**

The results of this study highlight a significant gap in headache knowledge among paramedical students, particularly regarding evidence-based treatments and the risks of self-medication. While traditional remedies and over-the-counter medications are popular, students lack the necessary understanding to differentiate between effective treatments.

Moreover, the findings from our study highlight the importance of integrating headache management education into the curriculum for paramedical students. This would ensure that future healthcare professionals are not only well-informed about common conditions like headaches but also equipped to provide evidence-based care and advice to patients. By enhancing their understanding of the various types of headaches, including tension headaches, migraines, and cluster headaches, students can more effectively differentiate between these conditions and recommend appropriate treatments or interventions.

It is also crucial to emphasize the role of self-medication practices, which are widespread among students, as demonstrated by the high percentage of

participants who preferred using over-the-counter (OTC) medications for headaches. This underscores the need for greater awareness regarding the risks associated with OTC drugs and the importance of consulting healthcare professionals when dealing with recurrent or severe headaches.

Further, the survey results pointed out a knowledge gap regarding the identification of specific headache types, with only 19% of respondents feeling confident in recognizing the type of headache they experience. This gap could be addressed by incorporating targeted educational modules focused on the diagnosis and management of headaches in the healthcare training programs.

The connection between dehydration and headaches, another frequently misunderstood aspect, should also be explored further in academic settings. With 59% of respondents acknowledging dehydration as a cause of headaches, future training should stress preventive measures, such as maintaining adequate hydration, to reduce the incidence of headaches in the population.

In summary, this study has identified several areas where medical and paramedical students need improved education and understanding of headache management. By addressing these gaps, educational institutions can play a pivotal role in shaping healthcare professionals who are better prepared to manage headaches, thereby enhancing patient care outcomes and reducing the overall burden of headache disorders on society.

### **Future Implications**

Future research should focus on assessing the long-term impact of headache education programs in medical curricula, and their effect on patient outcomes. Additionally, larger-scale studies across multiple healthcare institutions can provide more robust data to validate the results of this research. This would further help in refining educational strategies and developing comprehensive headache management protocols tailored for the healthcare sector.

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