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Varied Clinical Presentations of Chronic Headache, an Experience from Tertiary Care Institute

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and patient quality of life.

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KEYWORDS	ABSTRACT:			
Associated factors,	Background: St	ress-type and migraine headaches, whic	h can be debilitating, affect millions of	
Chronic headaches,	people worldwi	de. Effective therapy requires a complete	e understanding of all clinical symptoms	
Clinical presentations,	and factors, reg	ardless of frequency. To enhance patient	outcomes, discover common symptoms	
Management,	and traits, this w	vill guide customized treatment.		
Retrospective study.	Method: 100 ch	00 chronic headache patients' medical records were evaluated at IGIMS PATNA for this		
	retrospective stu	dy. Statistics were used to determine chr	onic headache types, symptoms, and risk	
	factors. The stud	ly sought to illuminate chronic headaches	complexity to inform more personalised	
	pain manageme	nt.		
	Results: The stu	dy found 30% of participants had chronic	tension-type headaches and 45% chronic	
	migraines. The	most common complaints were modera	ate to severe headache intensity (80%),	
	nausea (60%), l	ight (75%), and noise (70%). Stress (559	%), sleep problems (45%), mental health	
	issues (30%), ar	nd drug usage (15%) were linked.		
	Conclusion: Du	e to its many symptoms and causes, c	hronic headaches require individualised	

Introduction

Background Information on Chronic Headache

Chronic headache is common, affecting a substantial percentage of the world's population. Chronic headaches more than 15 days per month for at least three months can substantially impact a person's quality of life and ability to perform daily duties [1]. In addition to physical discomfort, chronic headaches cause psychological distress, lower productivity, and higher healthcare expenditures. Migraines and tension headaches are the most frequent chronic headaches. Chronic migraines cause severe, pulsating pain, nausea, light and sound sensitivity, and other symptoms [2]. However, chronic tension headaches cause a constant tightness or pressure around the head on both sides. Chronic cluster headache, medication-overuse headache, and other chronic headaches have different origins and symptoms [3].

Chronic headaches are caused by genetic, environmental, and neurological factors. Hormonal fluctuations, poor diet, lack of sleep, and stress all worsen chronic headache symptoms. Despite advances in chronic headache research and treatment, misdiagnosis or inadequate treatment leave many individuals suffering [4]. Chronic headaches are difficult to diagnose and treat, requiring a multidisciplinary approach. Variable patient clinical presentations complicate headache disease diagnosis and management. Thus, further research on persistent headaches in different people and environments is critically needed.

Objective of the Study

treatment. Lifestyle variables and comorbidities must be addressed to improve treatment outcomes

- To find out how chronic headache patients present clinically in tertiary care.
- To recognise common and rare chronic headache symptoms.

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• To identify persistent headache symptoms' causes.

Overview of Research on Chronic Headache

Chronic headache affects people and healthcare systems worldwide, therefore research on it has increased dramatically in recent decades. The International Classification of Headache Disorders (ICHD) defines chronic headaches as 15 days a month for more than three months [5]. These headaches are a public health issue due to their prevalence and impact on individuals. Epidemiological studies show chronic headaches are common. Among the top 10 causes of disability worldwide, persistent migraines are extremely devastating, according to the Global Burden of Disease Study [6]. [7] show that 3-5% of the world's population has persistent headaches, mostly women. Both direct medical costs and indirect productivity losses affect the economy. Chronic migraines involve genetic sensitization, vulnerability, central and cortical hyperexcitability. Chronic tension-type headaches require the regulation of central and peripheral myofascial pain. Treating the illness is difficult because the pathophysiological processes are unknown.

Different Types and Classifications of Chronic Headaches

Chronic headaches encompass several distinct types, each with specific diagnostic criteria and clinical features: **Chronic Migraine (CM)**: Chronic migraines occur at least eight times a month for more than three months [8]. Common symptoms include moderate-to-severe unilateral pulsing pain. Other associates include nausea, vomiting, photophobia, and phonophobia.

Chronic Tension-Type Headache (CTTH): Chronic tension headaches are mild to moderate, press or tighten on both sides of the head, and can last from a few hours to several days or even be constant [9]. CTTH headaches can cause photophobia or phonophobia, but not nausea.

Medication-Overuse Headache (MOH): Overusing acute headache medicines such analgesics, triptans, or ergotamines might induce this headache [10]. Medication overuse headache (MOH) causes frequent headaches that decrease when medication is removed.

Chronic Cluster Headache: Chronic cluster headaches are strong, unilateral in clusters or cycles and less common than other headaches [11]. They induce intense, burning pain in the eye or temple and are often accompanied by autonomic signs such runny nose, puffy eyes, or profuse eyelid drainage.

New Daily Persistent Headache (NDPH): NDPH is a sudden, chronic headache that will not go away. Unlike tension headaches and migraines, it never goes away.



Figure 1 Types of Headaches (Source:[12])

Gaps in Current Knowledge

Chronic headaches are difficult to diagnose and treat due to their variability. Studying the genetic, environmental, and psychosocial causes of this variation is crucial. Neurobiological mechanisms in rare headaches like NDPH and chronic cluster headaches need further study.



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Chronic headache treatments are usually ineffective. More specific and effective pathophysiology-targeted therapies are needed. Further study is needed to assess lifestyle changes and integrative techniques. Chronic headaches often accompany worry, sadness, and sleep issues. Further research into the bidirectional link between these disorders and recurrent headaches is needed to provide complete treatment options. Clinical results overshadow patient-reported outcomes and quality of life. Research should prioritise patients' perspectives to understand chronic headache prevalence and treatment efficacy.

Methodology

Sample Size and Study Design

The study was conducted by IGIMS researchers in Patna, India. For this study, 100 persons were sufficient. A retrospective method was adopted in this investigation. Retrospective research is suitable for studying the link between exposure (here, chronic headache clinical symptoms) and long-term effects utilising medical records. This style allowed us to examine prior chronic headache instances, revealing the wide spectrum of symptoms individuals experience.

Participants: Inclusion and Exclusion Criteria

Inclusion Criteria

Patients were diagnosed with chronic headache according to the International Classification of Headache Disorders (ICHD). Participants must be 18 or older. IGIMS Patna headache clinic patients who completed their examinations and treatments.

Patients without complete medical records. We will only include patients with secondary headache disorders caused by infection, trauma, or other medical difficulties for statistical homogeneity. Patients who declined research.

Data Collection

We examined IGIMS Patna's headache clinic databases and computerised medical records to acquire clinical data on chronic headaches. We retrieved relevant data from each patient's medical history, diagnostic evaluations (including neuroimaging and laboratory tests), demographics, headache history (duration, frequency, intensity), related symptoms (nausea, photophobia, phonophobia), triggering factors, and past medical history Qualitative notes described clinical features and presenting patterns alongside formal data fields.

Data Analysis

The acquired data was analysed statistically using appropriate methods. Descriptive statistics showed the study population's demographics and clinical characteristics using means, standard deviations, frequencies, and percentages. Multivariate regression analysis can help identify clinical presentation risk variables. All statistical analyses were conducted using SPSS or R, with a significance level of p < 0.05. The data analysis and literature were used to draw conclusions about the different clinical manifestations of chronic headache in the research population.

Results

Demographic Information of Participants

Exclusion Criteria

Characteristic	Value
Total Sample	100
Age (Mean ± SD)	42.5 ± 12.3
Gender	
Male	40 (40%)
Female	60 (60%)



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This study included 100 chronic headache sufferers. Participants had a standard deviation of 12.3 years and a mean age of 42.5 years, making them middle-aged. The gender distribution showed more women than men. This **Frequency and Types of Chronic Headaches Observed** difference is consistent with epidemiological findings indicating women have more persistent headaches, especially migraines.

Type of Chronic Headache	Frequency (%)
Chronic Migraine	45 (45%)
Chronic Tension-Type Headache	30 (30%)
Medication-Overuse Headache	15 (15%)
Chronic Cluster Headache	5 (5%)
New Daily Persistent Headache	5 (5%)

Table 2 Types of chronic Headache and its Frequency

The distribution of participants' chronic headache types shows some noteworthy characteristics in headache disease frequency. Chronic migraine was the most common kind in the study (45%). This verifies earlier epidemiological studies that persistent migraine is a global health issue. Chronic tension-type headache accounts for 30% of chronic headache treatment requests. Medication overuse (15%), chronic cluster headache (5%), and new daily persistent headache (5%), are rarer. These rare headache illnesses are difficult to diagnose and treat due to their distinct clinical symptoms and mechanisms. Understanding the distribution of chronic headache categories helps customise treatment and improve patient outcomes. For the many chronic headache problems, it emphasises extensive diagnostic evaluations and personalised treatment programmes.

Detailed Descriptions of Varied Clinical Presentations

Table 3 Common Symptome	Acconintad Footars	and Triggors of	Chronia Hoodoohos
Table 5 Common Symptoms,	Associated Factors,		Chronic meauaches

Common Symptoms	Frequency (%)		
Headache Intensity	80%		
Duration	20 days/month		
Associated Symptoms			
Nausea	60%		
Photophobia	75%		
Phonophobia	70%		
Location			
Bilateral	60%		
Unilateral	40%		
Triggers			
Stress	55%		
Hormonal Fluctuations	40%		

Participants' high frequencies of shared symptoms show how persistent headaches affect daily life. Chronic headaches' high incidence of moderate to severe headache intensity, nausea, photophobia, and phonophobia make them incapacitating. Usually, both sides of the head wounded, indicating neurological involvement. The fact that stress and hormonal fluctuations commonly cause headaches highlights their

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complex nature. Understanding these common signs and triggers helps chronic headache sufferers create

personalised management programmes to reduce symptoms and enhance quality of life.

Table 4 Uncommon or Unique Presentations of Chronic Headaches

Uncommon or Unique Presentations	Frequency (%)
Aura Symptoms	20%
Hemiplegic Migraine	2%
Chronic Cluster Headache Variant	1%

Chronic headaches vary: 20% experience aura, 2% hemiplegic migraine, and 1% cluster headache variation. These findings suggest considering unusual traits during

diagnostic examinations and therapy changes. These abnormalities must be detected to provide complete care and improve chronic headache outcomes.

Associated Factors	Frequency (%)
Stress	55%
Sleep Disturbances	45%
Depression and Anxiety	30%
Medication Overuse	15%

Table 5 Frequency of Associated Factors in Chronic Headaches

Stress was the main cause, with 55% expressing high amounts. Half of study participants had trouble sleeping. Nearly 30% had anxiety and depression. One in five participants (typically analgesic or migraine users) overused medicines. Sleep interruptions, drug use, stress, depression, and concern all worsen persistent headaches, according to this research. Holistic care may help chronic headache sufferers manage and live better.

Discussion

Due to the prevalence of migraine and chronic tensiontype headaches, many patients seek medical help for

persistent headaches. As in prior chronic headache studies, participants reported moderate to severe headache severity, nausea, photophobia, and phonophobia, and usual reasons such stress and hormone cycles. Aura symptoms and hemiplegic migraine demonstrate the complexity of chronic migraines. These symptoms demonstrate the need for careful diagnosis and expert treatment of persistent headache illnesses. Chronic headaches are complicated by stress, sleep, depression, anxiety, and drug usage. Integrating these variables into holistic chronic headache therapy may improve outcomes and quality of life.

Table 6	Com	oarison	Table	compar	ing stu	dv with	3	existing study	
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Study Title	Study Type	Sample Size	Findings	Limitations
Current	Retrospective	100	Found significant rates of chronic migraine and tension-	Small sample size,
Study	Study		type headache. Moderate to severe headaches, nausea,	retrospective design,
			photophobia, and phonophobia were common. Stress,	single-center study.
			sleep difficulties, sadness, anxiety, and drug usage	



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			contributed. Rare appearances included aura and hemiplegic migraine.	
Study A [13]	Prospective Cohort	200	Found that persistent migraine affected women more than men. Common symptoms included throbbing headache, nausea, and sensitivity to light and sound. Sleep disturbances and psychiatric comorbidities were common.	Limited follow-up period, potential for selection bias.
Study B [14]	Cross- sectional	300	Reported high prevalence of chronic tension-type headache among middle-aged individuals. Associated factors included work-related stress, poor sleep quality, and depressive symptoms.	Reliedonself-reporteddata,potentialforrecallbias.
Study C [15]	Case-control	150	Identified significant association between medication overuse and chronic migraine. Found that depression and anxiety were common comorbidities among individuals with chronic headaches.	Selection bias due to case-control design, difficulty establishing causality.

The present retrospective cohort study of 100 patients indicated significant rates of chronic tension-type headache and migraine, consistent with earlier research. Participants reported moderate to severe headache severity, nausea, photophobia, and phonophobia, which are typical of chronic headache disorders. Chronic headaches have several causes therefore they need thorough management. These include stress, sleep issues, depression, anxiety, and substance abuse. Rare presentations including aura symptoms and hemiplegic migraine demonstrate the variety of headache illnesses and the need for individualised diagnosis. Study A, a 200-person prospective cohort study, examined gender differences in chronic migraine frequency and symptoms. Study A found pounding headaches and light/sound sensitivity, although gender differences are consistent with this study. However, a short follow-up period and selection bias may limit generalizability. Work-related stress, depressive symptoms, and persistent tension-type headache were linked in Study B, a 300person cross-sectional study. Recall bias is possible with self-reported data, but a bigger sample increases statistical power. Study C, a 150-patient case-control research, likewise identified strong links between persistent migraine and pharmaceutical usage. Selection bias from the case-control design and the difficulties of proving causation may limit the results' interpretation.

Potential Reasons for Varied Clinical Presentations

Multiple factors cause persistent headache symptoms to vary. The intricacy of headache pathophysiology may explain the large range of symptoms. Genetic predisposition, central sensitization, and cortical hyperexcitability are examples. Individual differences in pain perception and management may also alter headache symptoms. Lifestyle factors like stress, food, sleep, and medication can affect headache frequency and intensity. Thus, individuals may suffer many headache symptoms. Co-occurring anxiety, depression, and sleep issues can aggravate headache symptoms and clinical presentations. Chronic headaches' vast spectrum of symptoms may be attributed to a complicated interaction between heredity, environment, and psychological and social factors. Understanding these factors is essential to meeting the requirements of chronic headache sufferers.

Limitations of the Study

This study has several limitations, yet it provides illumination on persistent headache symptoms and causes. First, the study's retrospective design may introduce selection bias and limit generalizability. Medical records may contain inaccurate or missing data on subjective symptoms and patient-reported outcomes. The study may not have enough participants to determine if there are statistically significant differences or correlations between categories. Since only one tertiary care centre was involved, the results may not apply to other persistent headache sufferers. Future research with

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larger sample sizes, multicenter partnerships, longitudinal or prospective study designs can solve these constraints and improve chronic headache understanding.

Recommendations for Further Research

Future research on persistent headache syndromes must address several important issues, although this study provides some significant insights. To understand chronic headaches' natural history and development, longitudinal studies are needed. Larger epidemiological studies involving diverse populations are needed to understand chronic headaches' global impact and incidence. Prospective investigations of new pharmaceutical medicines, behavioural approaches, and neuromodulation techniques are needed to improve longterm headache care. Last but not least, discovering biomarkers that predict therapy response and investigating chronic headache pathophysiology can help patients receive more personalised treatment. Research is essential to understanding and treating chronic headaches.

Conclusion

This study illuminates the causes and symptoms of chronic headaches. Research shows chronic migraine and tension-type headache are frequent. Moderate to severe headaches, nausea, photophobia, and phonophobia are common. Headaches are often caused by stress and hormone changes. Rare headache presentations including aura symptoms and hemiplegic migraine demonstrate the intricacy of headache diseases. Lifestyle and comorbid factors such stress, sleep issues, depression, anxiety, and drug usage affected headache severity and frequency. This discovery has major therapeutic implications for long-term headache issues. Clarifying clinical presentations and relevant conditions helps doctors tailor diagnostic and treatment procedures to patients' requirements. Addressing lifestyle concerns like stress, sleep disruptions, and drug usage and providing focused pharmaceutical and nonpharmacological therapy may improve chronic headache treatment results and quality of life. Their study emphasises the importance of extensive diagnostic exams and professional treatment in diagnosing and treating rare headache symptoms.

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