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Original Article

Ear, Nose and Throat Section

Aetiology of Headache: A Prospective Observational Study from Southern India

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ABSTRACT

Introduction: Headache is a widely prevalent symptom that greatly affects the quality of life. Yet, the disability caused by headache disorders does not receive the attention it deserves. Identifying the exact aetiology and classifying headaches helps focus on appropriate treatments that can reduce their burden on individuals and society.

Aim: To examine the common aetiologies of headaches and estimate the prevalence of rhinologic and non rhinologic headaches.

Materials and Methods: The present prospective observational study was carried out in the Otorhinolaryngology Outpatient Department (OPD), Yashoda Hospital, Hyderabad, Telangana, India, between December 2016 and December 2018. The study included 140 patients aged 16-55 years who presented with complaints of headache. These patients underwent a complete general and clinical examination and were subsequently investigated to classify the cause of their headaches as either rhinologic or non rhinologic, as well as, acute or chronic. Those classified under rhinologic headaches who required surgery were subjected to surgical intervention. The other causes of headache were treated accordingly. The treatment response of chronic headache cases was followed-up for a period of six months to observe for complete remission of symptoms. Statistical analysis was performed using International Business Machines (IBM) Statistical Package for the Social Sciences (SPSS) software version 27.0, statistics for Windows, (IBM Corporation, New York, United States, 2021).

Results: Out of total 140 participants included in the study, 80 (57.14%) were males and 60 (42.85%) were females. The overall mean±Standard Deviation (SD) age of the study population was 34±9.66 years. Of the 140 patients included in the study, 44 (31.42%) had acute headaches and 96 (68.57%) had chronic headaches. Among the acute cases, 22 (50%) were due to acute sinusitis. Among the chronic headaches, 33 (34.37%) were cases of chronic migraine.

Conclusion: Headache is a common clinical symptom with different aetiopathogeneses, mandating proper evaluation, which helps in the precise diagnosis of the disease and appropriate management. The study results showed acute sinusitis as the most common cause of acute headache and chronic migraine as the most common cause of chronic headache.

Keywords: Facial pain, Migraine, Neuralgia, Sinusitis, Tension-type headache

INTRODUCTION

Headache is nearly a universal human experience, as it affects around 90% of people throughout their lifetime. Headache can be classified as a primary or secondary headache disorder and it requires proper evaluation since urgent medical conditions need immediate attention [1]. When no clear pathological condition can be identified, headache is considered a manifestation of a primary headache syndrome. The common primary headache disorders, as defined by the International Headache Society (IHS), are migraine, probable migraine, tension-type headache and cluster headache [2].

When the cause of a headache is a definable underlying pathological process, the headache is diagnosed as a secondary headache. The causes of secondary headaches include metabolic, infectious, inflammatory, traumatic, neoplastic, immunologic, endocrinologic and vascular entities. The craniofacial region is the most common location where pain drives patients to seek medical attention [3].

Nociceptors serve as sense organs and noxious stimuli create a response that excites afferent nerve fibers, which provide the brain with information about the location, intensity, quality and duration of the response [4]. One of the most difficult problems in dealing with patients with headaches is defining the primary cause of the pain [5]. This is because multiple mechanisms resulting in the excitation of nociceptive neurons (i.e., generating the perception of pain) are only partially understood.

The Headache Classification Committee of the IHS (2013) states that, as with many areas of medicine, the key to a correct diagnosis in patients with facial pain is taking an accurate history. This is helpful in making a diagnosis and classifying facial pain into broad categories, namely rhinologic pain, dental pain, vascular pain, neuralgias, pain caused by tumours, mid-facial segment pain and atypical pain. This classification, which includes diagnostic criteria for headaches, cranial neuralgias and facial pain, was created in 1988 and has facilitated the diagnostic approach and management of craniofacial pain across many medical fields [6].

Due to the high burden created in the community by non communicable diseases such as diabetes mellitus and systemic hypertension, efforts are directed toward their prevention. However, a common worldwide problem, such as headache, has been neglected. This has been made evident by the lack of literature on this issue. Only by recognising the burden can early diagnosis and improved preventive strategies be undertaken [7]. Although various causes of headaches have been studied separately, literature searches reveal that the prevalence of both acute and chronic headache causes among the population has not been studied in detail. The present study was carried out to estimate the various causes of acute and chronic headaches, identify the most common types among them and also to estimate the prevalence of rhinologic and non rhinologic causes of headaches.

MATERIALS AND METHODS

The present prospective observational study was conducted in the Otorhinolaryngology OPD, Yashoda Hospital, Hyderabad, Telangana, India, between December 2016 and December 2018. The study was conducted upon Ethical Committee approval (ECR/49/Inst/

AP/2013/RR-16), focused on patients presenting with headache as the main complaint.

Inclusion criteria: Patients aged 16-55 years who had complaints of headache were included in the study.

Exclusion criteria: Paediatric and elderly patients, as well as, those diagnosed with benign or malignant tumours, were excluded from the study.

Sample size calculation: The study was carried out on 140 patients, with the sample size calculated using the formula $Z^2p^*(1-p)/d^2$ where Z=1.96, p=0.1, d=0.05, p was taken as 10% as per previous study [8].

Study Procedure

The patients underwent a complete general and clinical examination and were investigated to classify the cause of headache as either rhinologic or non rhinologic and as acute or chronic. Those classified under the rhinologic headache category underwent Computed Tomography of the Paranasal Sinuses (CT-PNS) and diagnostic nasal endoscopy and they were further subjected to surgical intervention if needed. Patients categorised as non rhinologic were treated by the appropriate specialists. All treated patients were followed-up for six months and the status of remission was documented.

STATISTICAL ANALYSIS

Statistical analysis was performed using IBM SPSS software version 27.0, statistics for Windows, (IBM Corporation, New York, United States, 2021). Quantitative variables were expressed in terms of percentages and proportions. The prevalence of acute and chronic headaches, various causes of acute and chronic headaches, common causes of acute and chronic headaches, as well as, the distribution of rhinologic and non rhinologic headaches and treatment response, were expressed in percentage. Percentage estimation, along with 95% confidence intervals, was also conducted.

RESULTS

In the study population, headache as a primary symptom was observed to affect both genders almost equally, with a mild male preponderance. Of the total 140 participants included in the study, 80 were males (57.14%) and 60 were females (42.85%) [Table/Fig-1]. The mean age of males was 34.6±9.11 years, while the mean age of females was 33.3±10.37 years. The overall mean age of the study population was 34±9.66 years. Most participants (53, 37.85%) were in the age group of 26-35 years [Table/Fig-2]. Among the 140 patients, 44 (31.42%), presented with acute headache and 96 (68.57%) presented with chronic headache lasting more than three months [Table/Fig-3].

Gender	n (%)
Male	80 (57.14)
Female	60 (42.86)
Total	140 (100)

[Table/Fig-1]: Gender distribution.

Age group (years)	n (%)
16-25	29 (20.71)
26-35	53 (37.85)
36-45	38 (27.14)
46-55	20 (14.28)
Total	140 (100)

[Table/Fig-2]: Age distribution.

Presentation	n (%)
Acute headache	44 (31.42)
Chronic headache	96 (68.57)
Total	140 (100)

[Table/Fig-3]: Prevalence of acute and chronic headaches in the study population.

Of the 44 patients who presented with acute headache, it was found that 22 (50.00%) were diagnosed with acute sinusitis, with frontal sinus involvement being more common. The other causes of acute headache included migraine in 12 (27.27%) patients, dental disorders in 6 (13.63%) patients, neuralgic pain diagnosed as trigeminal neuralgia in 3 (6.81%) patients and accelerated hypertension in 1 (2.27%) patient who had uncontrolled hypertensive disorder [Table/Fig-4].

Diagnosis of acute headaches	n (%)
Acute migraine	12 (27.27)
Acute sinusitis	22 (50)
Neuralgia	3 (6.81)
Dental disorder	6 (13.63)
Accelerated hypertension	1 (2.27)
Total	44 (100)

[Table/Fig-4]: Prevalence of various causes of acute headaches in study population.

Among the 96 patients presenting with chronic headache, it was found that 33 (34.37%) had migraine, which was identified as the most common cause of chronic headache in the study. Tension headache was seen in 16 (16.66%) patients, who did not have an aura and presented as the second most common cause of chronic headache. Dental disorders were noted in 5 (5.20%) patients, temporomandibular joint disorders in 7 (7.29%) patients, obstructive sleep apnoea in 6 (6.25%) patients, trigeminal neuralgia in 2 (2.08%) patients, Deviated Nasal Septum (DNS) in 9 (9.40%) patients, chronic sinusitis in 6 (6.25%) patients, Allergic Fungal Rhinosinusitis (AFRS) in 8 (8.33%) patients and allergic rhinitis with inferior turbinate hypertrophy in 4 (4.16%) patients [Table/Fig-5].

Diagnosis of chronic headaches	n (%)
Chronic migraine	33 (34.37)
Chronic sinusitis	6 (6.25)
Tension headache	16 (16.66)
Dental disorders	5 (5.20)
Temporomandibular disorders	7 (7.29)
Obstructive sleep apnoea	6 (6.25)
Trigeminal neuralgia	2 (2.08)
Allergic Fungal Rhinosinusitis (AFRS)	8 (8.33)
ARS with bilateral ITH	4 (4.16)
Deviated Nasal Septum (DNS)	9 (9.40)
Total	96 (100)

[Table/Fig-5]: Prevalence of various causes of chronic headaches in study population.
*ARS: Allergic rhinosinusitis; ITH: Inferior turbinate hypertrophy

When studying the causes of acute and chronic headaches, it was found that sinusitis, migraine, dental disorders and neuralgic causes of headaches were common in both groups, affecting around 89 (63.57%) patients [Table/Fig-6].

Diagnosis	Acute n (%)	Chronic n (%)	Total study population n (%)
Migraine	12 (26.66)	33 (73.33)	45 (32.14)
Sinusitis	22 (78.57)	6 (21.42)	28 (20.00)
Trigeminal neuralgia	3 (60.00)	2 (40.00)	5 (3.57)
Dental disorders	6 (54.54)	5 (45.45)	11 (7.86)
Total	43	46	89 (63.57)

[Table/Fig-6]: Prevalence of common causes of acute and chronic headaches.

Among the 44 (31.42%) patients who presented with acute headache, 22 (15.71%) patients had non rhinologic causes and 22 (15.71%) patients had rhinologic causes. Among the 96 (68.57%) patients who presented with chronic headache, 69 (49.28%) patients had non rhinologic causes and 27 (19.28%) patients had rhinologic

causes. The study indicated that non rhinologic headaches were more prevalent than rhinologic headaches. The distribution of rhinologic and non rhinologic causes among acute and chronic headaches is shown in [Table/Fig-7].

Types	Acute n (%)	Chronic n (%)	Tota (%)
Non rhinologic headaches	22 (15.71)	69 (49.28)	91 (64.99)
Rhinologic headaches	22 (15.71)	27 (19.28)	49 (34.99)
Total	44 (31.42)	96 (68.56)	140 (99.98)

[Table/Fig-7]: Rhinologic and non rhinologic headache distribution in study population.

All patients were treated according to their diagnoses and they were followed-up for six months. Patients with DNS, AFRS with sinonasal polyposis and inferior turbinate hypertrophy underwent surgical treatment (Functional Endoscopic Sinus Surgery (FESS) and showed complete remission within three months. Two patients with chronic sinusitis experienced only partial remission even after FESS. These patients were subsequently treated with T. flunarizine 5 mg twice daily for three months and achieved complete remission by the end of six months.

One patient with Obstructive Sleep Apnoea Syndrome (OSAS) required Continuous Positive Airway Pressure (CPAP) for complete remission. Additionally, three patients with migraine and tension headaches were treated with a steroid nasal spray and ultimately achieved complete remission. Patients with dental disorders, temporomandibular joint disorders and trigeminal neuralgia also showed complete remission following conservative treatment [Table/Fig-8].

Diagnosis	Treatment	NR (n)	PR (n)	CR (n)	Alternative management (after 3 months of treatment)	NR (n)	PR (n)	CR (n)
Migraine, Tension headaches	Tablet flunarizine 5 mg BD×3 months/ NSAIDS	3	-	46	Steroid nasal sprays (fluticasone)	-	-	49
DNS	Septoplasty +/- SMD under GA	-	-	9	NIL	-	-	9
Chronic sinusitis	FESS with/ without septoplasty	-	2	4	Tab. flunarizine 5 mg BD×3 months	-	-	6
AFRS with sinonasal polyposis	FESS under GA	-	-	8	NIL	-	-	8
Inferior turbinate hypertrophy	SMD under LA	-	-	4	NIL	-	-	4
OSAS	Weight reduction, diet and lifestyle modifications	-	1	5	CPAP	-	-	6
Dental disorders	Analgesics, dental extraction or root canal treatment, when needed.	-	-	5	NIL	-	-	5
Temporomandibular joint disorders	Analgesics, occlusal devices, physiotherapy	-	-	7	NIL	-	-	7
Trigeminal neuralgia	Tablet carbamazepine 200 mg BD	-	-	2	NIL	-	-	2

[Table/Fig-8]: Treatment response at the end of 6 months follow-up in chronic headache.
N: Number of patients; NR: No remission; PR: Partial remission; CR: Complete remission; AFRS: Allergic fungal rhinosinusitis; OSAS: Obstructive sleep apnoea syndrome; FESS: Functional endoscopic sinus surgery; GA: General anaesthesia; LA: Local anaesthesia; CPAP: Continuous positive airway pressure; NSAIDs: Non steroidal anti-inflammatory drug; SMD: Submucosal diathermy

DISCUSSION

Of the 140 patients included in the study, 44 (31.42%) presented with acute headache, while 96 (68.57%) presented with chronic headache lasting more than three months. Among the 44 patients with acute headache, it was found that 22 (50.00%) had acute sinusitis, with frontal sinus involvement being more common. Thus, the most common cause of acute headache in the present study population was identified as acute sinusitis. These patients were treated with appropriate antibiotics, antihistamines and decongestants and all 22 patients responded well to treatment, achieving complete remission of symptoms within one week. Among the 96 patients who presented with chronic headache, it was found that 33 (34.37%) had migraine, which was identified as the most common cause of chronic headache in the study.

The most common complaint that leads patients to the otorhinolaryngology OPD is facial pain. This facial pain is almost always believed to have a rhinogenic origin and is treated accordingly. Consequently, many experts feel that the magnitude and frequency of headaches attributed to sinuses are exaggerated to the public [9]. Over 90% of self-diagnosed and doctor-diagnosed sinus headaches meet the IHS criteria for migraine and those migraines misdiagnosed as sinus headaches respond well to Tablet sumatriptan. Sinus headaches are often severely disabling migraines that are misdiagnosed and mistreated, with 61% of patients receiving antibiotic prescriptions for non infectious causes [10]. Making an accurate diagnosis has been impeded by inadequately assessed headache histories [11].

In the present study, after a complete clinical examination, the patients were subjected to investigations to classify the cause of headache as either rhinologic or non rhinologic and as acute or chronic. Those classified under rhinologic headache underwent CT-PNS and diagnostic nasal endoscopy for confirmation of the diagnosis.

From the perspective of the otolaryngologist, there are multiple causes for the frequent symptom of facial pain. Common causes include pain due to ear disease, pain radiating to the ear (with special regard to 'referred otalgia' involving cranial nerves V, IX and X), facial pain due to temporomandibular dysfunction, rhinologic causes of facial pain and headache, post-traumatic trigeminal neuralgia and 'facial sympathalgies', including the syndrome of the elongated styloid process [12]. The IHS has attempted to define conditions that lead to headaches of rhinogenic origin [6].

Experienced physicians who are accustomed to treating patients with headaches are adept at making accurate diagnoses. Occasionally, however, a patient may present with an unusual form of headache or facial pain [13], which can pose a challenge in arriving at a diagnosis. Therefore, evaluating the PNS and nasal cavity in patients with headache and/or facial pain always requires a thorough physical examination, including nasal endoscopy and imaging studies such as Computed Tomography (CT) scans and magnetic resonance imaging [14].

Chow JM, stated that rhinologic headaches, other than those caused by sinusitis, are due to nasal anatomical abnormalities, including septal deviations or spurs, hypertrophic turbinates and even occasional large maxillary retention cysts [15]. Behin F et al., described contact point headache caused by contact between the nasal septum and the lateral wall through a mechanism of referred pain involving the trigeminal nerve. A retrospective chart review was performed on patients who underwent septoplasty and sinus surgery for headache. The total number of patients who opted for surgery was 23. These patients underwent surgical intervention in order to relieve the contact points. Postoperatively, 83% no longer complained of headaches, while 8% experienced significant relief [16]. As described in the studies above, in the present study, 27

patients were considered to have chronic headaches due to rhinologic aetiology. Of these, nine patients showed gross DNS with spur, crowded osteomeatal complex, concha bullosa and pus in the middle meatus upon nasal examination. These patients underwent CT-PNS and then septoplasty under general anaesthesia. Four patients with bilateral inferior turbinate hypertrophy, who experienced episodic sneezing and rhinorrhoea, underwent Submucosal Diathermy (SMD) under local anaesthesia.

Rice DH states that FESS is the treatment of choice for the majority of chronic inflammatory diseases of the PNS [17]. In the present study, six patients with chronic sinusitis and eight patients with sinonasal polyposis due to allergic fungal aetiology underwent FESS. Among the 27 patients who underwent surgery, only two experienced a recurrence of headache during the follow-up period. They were treated with T. Flunarizine 5 mg once daily and showed improvement in symptoms by the end of the fourth month. These two patients were then categorised under non rhinologic aetiology.

The other causes of acute headache in the present study included migraine in 12 (27.27%) patients, dental disorders in 6 (13.63%) patients, neuralgic pain diagnosed as trigeminal neuralgia in 3 (6.81%) patients and accelerated hypertension in 1 (2.27%) patient with uncontrolled hypertensive disorder. Patients diagnosed with migraine were started on T. Flunarizine 10 mg twice daily for one week, followed by a prophylactic dose of 5 mg twice daily for three months. All 12 patients responded well to treatment, achieving complete remission of symptoms. Preventive therapy for migraine can help reduce the severity and frequency of headaches and can also prevent progression to chronic migraine when combined with dietary and environmental trigger modifications [18].

Three cases of trigeminal neuralgia and six cases of dental disorders were treated by neurologists and dentists, respectively. These patients were followed-up regularly and experienced complete remission of symptoms at the end of their treatments. One case of accelerated hypertension was managed by a cardiologist. The patient, upon follow-up, had no complaints of headache once blood pressure was controlled, showing complete remission of headache.

Migraine was found to be the most common cause of chronic headache in the study, diagnosed in 33 (34.37%) patients. Migraine is a severely disabling condition and has been identified as the second major cause of disability after back pain [19]. Tension-type headache was diagnosed in 16 (16.7%) patients and was noted as the second most common cause of chronic headache in the study. Characterised by recurrent headaches, tension-type headache is considered to be the most prevalent disorder worldwide. Despite its widespread prevalence, not much progress has been made in the management of tension-type headache [20].

Dental disorders were observed in 5 (5.20%) patients, temporomandibular joint disorders in 7 (7.29%) patients, obstructive sleep apnoea in 6 (6.25%) patients, trigeminal neuralgia in 2 (2.08%) patients, DNS in 9 (9.37%) patients, chronic sinusitis in 6 (6.27%) patients, AFRS in 8 (8.33%) patients and allergic rhinitis with inferior turbinate hypertrophy in 4 (4.16%) patients.

Upon analysing the causes of acute and chronic headaches in the present study, it was noted that sinusitis, migraine, dental disorders and neuralgic causes of headaches were common in both groups, affecting a total of about 89 patients, which accounted for 63.57%. In a study by Perry BF et al., migraine was identified as the common cause of headache in those with normal CT-PNS results [21]. Surgical correction of rhinologic abnormalities has been shown to have a beneficial effect on headache symptoms [22]. However, diagnostic and clinical management protocols have not been used efficiently, leading to errors in management [23]. Furthermore, migraine and tension-type headache were found to be more prevalent among doctors compared to the general population [24]. Sinusitis is most commonly associated with migraine and can lead to delays in diagnosis and treatment [25]. The results mentioned above are compared and tabulated in [Table/Fig-9] [21-25].

The results of the present study reveal that sinusitis and migraine are not the only causes of headache; numerous other conditions present with headache, necessitating a multimodal approach to the evaluation of this symptom [26]. Literature shows that 4% of outpatient cases seen by general practitioners have headache as the chief complaint and 20-30% of referrals to neurologists are due to headaches. Although the majority of patients with

S. No.	Author's name and year	Place of study	Sample size	Objective	Parameters assessed	Conclusion
1	Perry BF et al., 2004 [21]	Augusta, GA, USA	100	To determine the aetiology of headache	CT-PNS , endoscopic examination and 20-item Sinonasal Outcomes Test (SNOT-20) scores.	Migraine was the most common type of headache in patients with normal sinus CT treated for presumed rhinosinusitis as the cause of the headache.
2	Yazici ZM et al., 2010 [22]	Istanbul, Turkey	109	To evaluate the benefits of a rhinologic perspective in primary headache subjects	Migraine disability assessment scale, Visual Analogue Scale (VAS), Rigid nasal endoscopy, sinus CT and mucosal contact point test.	Surgical treatment of the underlying rhinologic pathologic abnormalities had a beneficial effect on headache.
3	Liu H et al., 2023 [23]	China	2868	To assess fibromyalgia's prevalence and clinical features in hospital patients with primary headache disorders.	Clinical history and questionnaire based study.	Primary headache disorders are frequently misdiagnosed and inadequately treated, pointing to insufficient use of ICHD guidelines and other diagnostic and clinical management protocols.
4	Xie W et al., 2020 [24]	South China	645	To update prior prevalence estimates and to identify other factors relevant to headache disorders among medical staff.	Demographic data, occupational factors and headache characteristics collected by using a structured questionnaire.	The prevalence of primary headache disorders (including migraine and TTH) in both nurses and doctors is higher than that of the general population. Female doctors are more susceptible than female nurses to migraine.
5	Al-Hashel JY et al., 2013 [25]	Kuwait	130	To estimate the frequency of misdiagnosis of sinusitis among patients with migraine headache.	Clinical history and Questionnaire based study.	Symptoms suggestive of sinusitis are frequently seen in migraine patients and may lead to delayed diagnosis and treatment of migraine.
6	Present study 2025	Hyderabad, India	140	To study the common aetiologies of headache and the prevalence of rhinologic and non rhinologic headaches.	History, clinical examination, CT-PNS, nasal endoscopy, MRI-brain and superspecialist consultations as and when required.	1. Overall commonest cause of headache- Migraine. 2. Acute sinusitis- most common cause of acute headache. 3. Chronic migraine- most common cause of chronic headache. 4. Non rhinologic headaches more prevalent than rhinologic headaches

[Table/Fig-9]: Comparison of present study with other studies on headache [21-25].
ICHD: International classification of headache disorders; TTH: Tension-type headache

headaches consult a general physician for their complaint, only 20% approach a neurologist [27]. The remaining patients with chronic headaches often overuse analgesics and studies indicate that antidepressant medications can provide significant improvement in headache [28].

Moreover, studies show that patients have received inadequate treatment due to ineffective pharmacological or non pharmacological approaches [29-32]. These factors hinder the identification of the exact cause of the headache, thus delaying accurate diagnosis and appropriate treatment. In some instances, this leads to unnecessary interventions. Hansen AG et al., demonstrated in a case series of 52 migraine patients with concomitant rhinosinusitis that medical and surgical treatments for rhinosinusitis were insufficient and the patients required triptans [33]. Neurologists have reported literature data indicating that 21-23% of cluster headache cases were initially mistaken for sinusitis and 3-12% of those patients underwent surgery [34].

It has also been noted that many work-related problems are attributed to headaches [35]. These studies emphasise the importance of initiating a multidisciplinary approach to headache evaluation at an early stage.

Limitation(s)

The limitations of the study included the fact that the response to treatment was assessed only at the end of six months; thus, the exact time taken for symptomatic relief after the initiation of treatment could not be recorded. Patients with a similar aetiology for headache, although treated similarly, exhibited varying time intervals for treatment response. The factors responsible for such variations were not studied.

CONCLUSION(S)

Headache is one of the most common complaints in the general population. Its psychological, social and financial impact on individuals and society is significant. In the present study, migraine was found to be the most common cause of headache in patients visiting the Ear, Nose and Throat (ENT) OPD. Upon classifying headaches, non rhinologic headaches were more prevalent than rhinologic headaches. Such aetiological classification of headache facilitates prompt treatment, thereby eliminating mismanagement. Acute sinusitis and chronic migraine were identified as the most common causes of acute and chronic headaches, respectively, in the study. Identifying the cause during the acute phase and implementing timely interventions, such as risk factor modification and preventive therapy, can help prevent progression to the chronic stage. Prioritising the categorisation of headaches before initiating treatment is thus crucial, as it can aid in implementing appropriate treatment strategies from the outset, identify concomitant pathologies and provide comprehensive care that addresses all aspects of the disease, ultimately restoring a good quality of life.

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