



**ORIGINAL RESEARCH PAPER**

**Ophthalmology**

**PREVALENCE OF PRIMARY HEADACHE DISORDERS IN SCHOOL GOING CHILDREN IN TERTIARY EYE CARE IN SOUTHERN INDIA**

**KEY WORDS:** Children, headache, India, Tamil Nadu, prevalence.

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**ABSTRACT**

**Objective:** A prospective prevalence study of primary headache disorders in school going children (8–18 years) in Sree Balaji medical college and hospital, Chennai, Tamil Nadu was conducted.

**Materials and Methods:** The study population comprised of a randomized sample of 200 school going children in the age group of 8–18 years from various educational institutions of Chennai city. A self-administered pretested questionnaire was filled by the participants and the diagnosis was affirmed by ophthalmologists by doing relevant examinations.

**Results:** The overall prevalence of primary headache disorders was found to be 66.4/1000. The prevalence of tension-type headache and migraine was found to be 50.99% and 26.98%, respectively. The prevalence revealed an upward trend with increasing age with preponderance for female sex.

**INTRODUCTION**

Headache is one of the most frequent complaints evaluated by ophthalmologists in their practice. Because of the inextricable link between eyes and headaches, ophthalmologists are often the first physicians to evaluate patients with headaches, eye pain and headache associated visual disturbance [1].

Sensory innervation to the eye and periocular area arises from ophthalmic branch of the trigeminal nerve. The ocular, orbital and systemic disorders may produce head pain with ocular signs and symptoms.[2].

Primary headaches are unaccompanied by any structural, metabolic or any other lesion in the body in general and brain in particular, whereas secondary headaches are caused by exogenous disorders.[3]. Common forms of primary headache disorders as per population prevalence include tension-type headache(TTH) (69%) and migraine (16%).[4].

Migraine is a ubiquitous familial disorder characterized by periodic, often unilateral, pulsatile headache, which begins childhood, adolescence or early adult life and recurs with diminishing frequency during advancing years. Photophobia and phonophobia accompany both types of migraine.[3]

**MATERIALS AND METHODS**

Eligible subjects included students between 8 and 18 years of age from various schools who visited ophthalmology OPD in Sree Balaji Medical College and Hospital. A randomized sample of 200 school going students were screened and asked to answer the questionnaire prepared only after getting consent for participation to the study.

The questionnaire included questions pertaining to issues such as duration, onset , type ,severity ,frequency and associated features like nausea ,vomiting ,tinnitus ,paraesthesia's plus visual obscuration's and any aggravating or relieving factors including any type of treatment taken.

**EXCLUSION CRITERIA:**

- Participants who reported less than three episodes of headache in lifetime.
- Participants of headache of less than 2 hours duration.
- Participants who did not remember the description of their headache.
- Participants with headache secondary to sinusitis , brain tumors or due to any other systemic disorders were excluded from the study.

- Participants with refractive error were excluded from the study.

The students were examined by a resident doctor and the diagnosis was affirmed by ophthalmologist after detailed history and relevant examination was done.

**RESULTS:**

For data analysis, Student's t-test, Chi-square test and Fishers exact test were used, with a P value of <0.05 being considered to be statistically significant.

The student population consisted of 200 subjects, which included 54.54% females and 45.46% males. The students fulfilling IHS criteria numbered 66.4% [Table 1].

**Table 1: prevalence of primary headache disorders in school children.**

Number of students screened	Headache present(n)	Percentage	Prevalence/100
200	133	66.4%	664

The prevalence of primary headache disorders was more common in female sex (65.15%) as compared with male gender (35.85%), which was statistically significant (P value <0.05)[Table 2].

**Table 2: gender-specific prevalence of primary headache disorders in school children**

GENDER	POSITIVE CASES NO:	%	P VALUE
Male	46	34.85%	<0.05
Female	87	65.15%	
Total	133	100%	

The study revealed an increasing trend in prevalence of primary headache disorders with an increase in age [Table 3].

**Table 3: Age-specific prevalence of primary headache disorders in school children**

AGE	POSITIVE CASES NO:	%	P VALUE
8-11	32	24.30	< 0.05
12-15	42	31.41	<0.05
16-18	59	44.27	<0.05
Total	133	100%	

**Table 4: Prevalence of headache subtypes in school children**

Headache type	Positive cases	Percentage	P value
Tension type headache	68	50.99%	<0.05
Migraine	36	26.98%	
chronic persistent headache	11	8.07%	
Others	18	13.94%	
<b>Total</b>	<b>133</b>	<b>100%</b>	

**DISCUSSION**

Headache in the pediatric population underdiagnosed and undertreated, despite a high prevalence of headache disorders in children and adolescents.[5] . Prevalence of primary headache disorders in school going children in the literature varies from 27.2% to 72.90% in males and 76% to 98% in females.[6]. Our study revealed a prevalence of primary headache disorders in female sex to the tune of 65.15% and that in males as 34.85%. This finding is statistically significant.

An upward trend in the prevalence of primary headache disorders with increase in age was observed.

Our study revealed TTH as the most common primary headache disorder (50.99%), followed by migranous headache. TTH was the most common headache type observed by other researchers as well.[7,8,9,10,11]

Nausea was the most common associated feature (46.32%), followed by phonophobia (23.11%) and vomiting (23.10%), respectively, and, again, the results are comparable with other researchers.[12,13,14,15]

Average duration of primary headache disorders was 6.3 h and mean age of onset and number of episodes/month was 9.2 years and 2.6 episodes/month, respectively. The results are in conformity with the available literature.[6,7,16].

A positive family history of headache disorders was obtained in 66.18% of the migraneurs as compared with 35% in the TTH group, which was consistent with other studies.[8,9,16]

Stress (73.40%) was the most common factor, followed by fasting/missed meals and sleep deprivation. Menstruation as a trigger factor was reported by 32.27% of the cases.

Majority of what we have observed are comparable to the available literature.( 7,9,16,17,18). 77.5% of the children with headache used analgesics followed by sleep, rest, scalp massage and application of cold substances to the scalp to relieve their headache with mixed results.

**CONCLUSION**

The study revealed an overall prevalence of primary headache disorders among school going children to the tune of 66.4/1000 population with an upward trend with increase in age. Gender-specific prevalence rates revealed a statistically significant higher prevalence of primary headache disorders in the female sex. Among all the primary headache disorders, TTH was the most common headache disorder, followed by migrainous headache, and stress was the most common trigger for all headache disorders.

To conclude studies should be done in future to find out precipitating factors for primary headache disorders to avoid its adverse effects on the quality of life as well as unnecessary use of medications to alleviate headache.

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