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# To Decide the Management Plan of Underlying Etiology of Headache in Children

**Dr. Neha Kakani[1], Dr. Devendra Nargawe[2*]**
[1]Asst. Prof Dept. of Paediatrics, Amaltas Institute of Medical Sciences, Dewas, Madhya Pradesh, India
[2]Asst. Prof Dept. of Paediatrics, Govt. Medical College, Ratlam, Madhya Pradesh, India

**Original Research Article**

***Corresponding author**
*Dr. DevendraNargawe*

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**Abstract:** Headache is a common reason why pediatric patients seek medical care as it has a significant impact on the lives of children and adolescents, resulting in school absence, decreased extracurricular activities and poor academic achievement. We studied the management plan for underlying Etiology of Headache in Children. The present study entitled "Determination of Prevalence and Etiology of Headache in Children in a Tertiary Care Centre in Rural Areas of Dewas" was conducted in the Department of Paediatrics Medicine, Amaltas Institute of Medical Sciences, Dewas (M.P) during the period of June 2017 to Aug 2018. This is a Prospective Cross Sectional study performed on All Children (Age 5-15 Years) Presenting to Out Patient Department. The gender and age wise distribution of headache causes. Out of 150 patients, 89(58.9%) were females and 61(40.10%) were males. There were 71 patients (47%) in 10-12 years group, 38(26%) patients in 7-9 years age group, 33 (25%) patients between 13-15 years of age. Chi-Square Test revealed a P value of (<0.05) which is significant. 5 patients in which 3 males (4.92%) and 2 females (2.25%) had cluster headache.Chi square test ($p<0.05$) showed statistical difference for gender wise distribution of cluster headache. Headache is a common and an emerging problem in late childhood, and adolescence. Headache ranks 3rd among the illness which are related to school absenteeism and decrease in daily activities. Out of all the causes of headache, primary headache is most common one with maximum prevalence of Tension Type Headache followed by Migraine.
**Keywords:** Etiology, Headache, Children & Management Plan.
**Study Designed:** Observational Study.

## INTRODUCTION

Headache is a common and an emerging problem in late childhood and adolescent which results in increased school absenteeism. Headache or Cephalalgia is pain anywhere in the region of head or neck. It is common during childhood and become more common and increase in frequency during adolescence. Headaches can result from any number of causes such as ophthalmic, genetic predisposition, trauma, an intracranial mass, a metabolic or vascular disease or sinusitis to name a few. Headache is a common reason why pediatric patients seek medical care as it has a significant impact on the lives of children and adolescents, resulting in school absence, decreased extracurricular activities and poor academic achievement [1, 2].

Most of the children get an occasional headache and they are usually benign. On the other hand, headache is a symptom of numerous conditions ranging from common cold, flu, or a hangover to very severe conditions such as meningitis, stroke, or a brain tumor. Because of the range of possible causes, correct diagnosis is very important [3].

There is a lack of definite data about the prevalence of various headache type and their etiology in our hospital which is a major tertiary care centre in Dewas. The present study is designed to study the prevalence of headache and determine the various etiology of headache [4].

## MATERIALS& METHODS

The present study entitled "Determination of Prevalence and Etiology of Headache in Children in a Tertiary Care Centre in Rural Areas of Dewas" was conducted in the Department of Paediatrics Medicine, Amaltas Institute of Medical Sciences, Dewas(M.P) during the period of June 2017 to Aug 2018. This is a Prospective Cross Sectional study performed on All Children (Age 5-15 Years) Presenting to Out Patient Department.

### Sample size

A total 150 cases presenting with complain of Headache were recruited in this study and all the cases were investigated for various headache etiology.

After thorough history, clinical examination and appropriate investigation, final diagnosis was made.

**Inclusion criteria**

Patients above 5 years of age and below 15 years of age of either sex presenting with chief complaint of headache.

**Exclusion criteria**

Patients below 5 years of age and above 15 years of age

**Methodology**

- All patients presenting to Pediatric outpatient department and Inpatient department with chief complaints of headache will be included.
- Detailed history will be taken and necessary clinical examination will be carried out in all patients.
- Relevant investigations including a hemogram, cerebrospinal fluid analysis, Brain imaging (CT scan, MRI), and Ophthalmic and ENT examination will be done wherever indicated.
- After thorough history, clinical examination and appropriate investigations, final diagnosis will be made.

**Procedure planned**

Written and informed consent will be taken from the guardian.

- The patient's clinical history and examination findings will be recorded prospectively in a case record form.
- Relevant investigations including hemogram, cerebrospinal fluid analysis, brain imaging (CT SCAN, MRI), ophthalmic and ENT examination will be done wherever indicated.

**INVESTIGATION DETAILS**

Complete Hemogram

- CSF analysis (wherever indicated)
- Brain imaging i.e. CT SCAN/MRI SCAN (wherever indicated)
- Test for refraction and fundus examination
- ENT workup

**DISCUSSION**

Present study "Prevalence and etiology of headache in children in Tertiary Care Centre in rural population" near Dewas was conducted in Department of Pediatrics, Amaltas Institute of Medical Sciences, Dewasduring the period of 15 months from June 2017 & Aug 2018.

A total 150 cases presenting with complain of Headache were recruited in this study and all the cases were investigated for various headache etiologies. After thorough history, clinical examination and appropriate investigation, final diagnosis was made.

**Age wise distribution [5-7]**

In the present study, the most common age group affected was 10-12 years. With 71 out of 150 cases (47.33%) followed by 7-9 years 38 out of 150 cases (25.33%). Collectively 33 out of 150 cases (22%) between 13-15 years of age. This is probable because level of study increases by this age group which also increases stress, other reasons could be pre-adolescent problems.

These findings are in concordance with the study conducted by Brna*et al*. [48] who reported that occurrence of headache was high in age of 11 yrs.

Another studies conducted at different locations, all showed similar results:

- Study by Staler *et al*. who reported headache was high in age group 11.7± 3.6 years.
- Anteonna*et al*. reported age group was 11 years.
- Arruda*et al*. reported age group was 9-12 years.
- Guidetti*et al*. [32] reported age group was 12-26 years.
- Virtanem*et al*. reported age group was 6-13 years.
- But another studies conducted by
- Hernandez-Latorre*et al*. reported some findings which are not in concordance with the result in present study regarding the occurrence of headache which was high in age group more than 6 years.
- Lampele*et al*. reported age was 7 years and
- Bulontel*et al*. reported age was 6 years which are not in concordance with the result in present study and study conducted by Bille*et al.* in which he studied headache prevalence according to age and found distribution 5.9-37.7% at preschool age, 39% at 6 years and 70% at 15 years reported but few findings which aren't in concordance with the result of present study.

**RESULTS**

**Table-1: Distribution of Cases according to their Gender and Age**

| Age Group (Years) | Male | | Female | | p value |
|---|---|---|---|---|---|
| | No. | % | No. | % | |
| < 7 | 5 | 3 | 3 | 2 | 0.000 |
| 7-9 | 13 | 9 | 25 | 17 | |
| 10-12 | 29 | 19 | 42 | 28 | |

| | | | | | |
|---|---|---|---|---|---|
| 13-15 | 14 | 9 | 19 | 13 | |
| Total | 61 | 41 | 89 | 59 | |

Table 01 and Fig. 01 show the gender and age wise distribution of headache causes. Out of 150 patients, 89(58.9%) were females and 61(40.10%) were males. There were 71 patients (47%) in 10-12 years group, 38(26%) patients in 7-9 years age group, and 33 (25%) patients between 13-15 years of age. Chi-Square Test revealed a P value of (<0.05) which is significant.

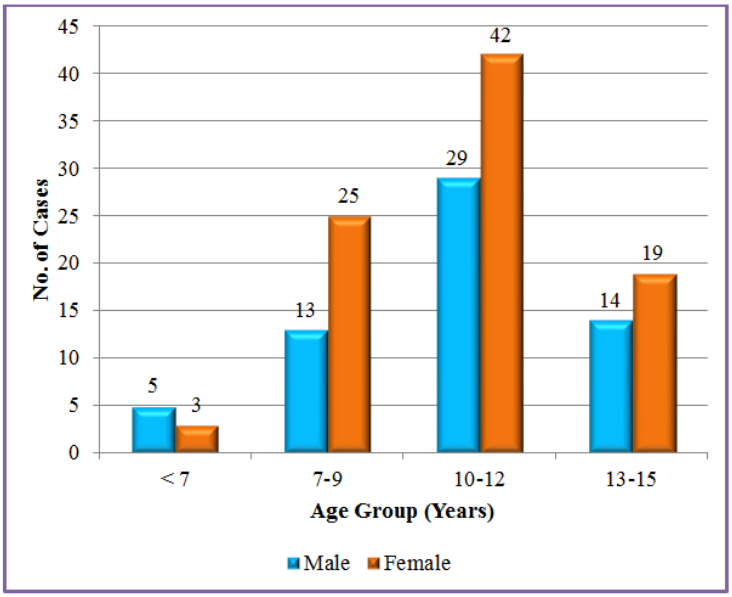


**Fig-1: Distribution of Cases according to their Gender and Age**

**Table-02: Distribution of Different headache type**

| Different Headache Types | Male | | Female | | P value |
|---|---|---|---|---|---|
| | No. | % | No. | % | |
| Migraine | 6 | 9.84 | 9 | 10.11 | 0.000 |
| Tension Type Headache | 16 | 26.23 | 11 | 12.36 | 0.008 |
| Cluster Headache | 3 | 4.92 | 2 | 2.25 | 0.000 |
| Trigeminal Neuroglia | 1 | 1.64 | 2 | 2.25 | 0.000 |
| Psychogenic Headache | 0 | 0.00 | 8 | 8.99 | 0.000 |
| Secondary Headache | 6 | 9.84 | 9 | 10.11 | 0.000 |
| SOL | 4 | 6.56 | 2 | 2.25 | 0.000 |
| Glucoma | 1 | 1.64 | 1 | 1.12 | 0.000 |
| Head Trauma | 2 | 3.28 | 0 | 0.00 | 0.000 |

Table 02 and Fig. 02 show the gender wise distribution of different headache types. Tension type headache was most common with 27 cases in which 16 (26.23%) were males and 11 (12.36%) were females followed by migraine 15 cases in which 6 males (9.84%) and 9 females (10.11%).

3 Patients having trigeminal neuralgia in which 1 (1.64%) male and 2 (2.25%) females. 8 (8.99%) females' patients has psychogenic headache. Chi square test (p<0.05) showed statistical difference for gender wise distribution of psychogenic headache.

5 patients in which 3 males (4.92%) and 2 females (2.25%) had cluster headache .Chi square test (p<0.05) showed statistical difference for gender wise distribution of cluster headache.

1 male and 1 female patient had glaucoma. Chi square test (p<0.05) showed statistical difference for gender wise distribution of glaucoma.

6 patients had SOL in which 4 males (6.56%) and 2 females (2.25%). 2 males (3.28%) patient had headache due to head trauma. Chi square test revealed a p value of (0.000) which is significant.

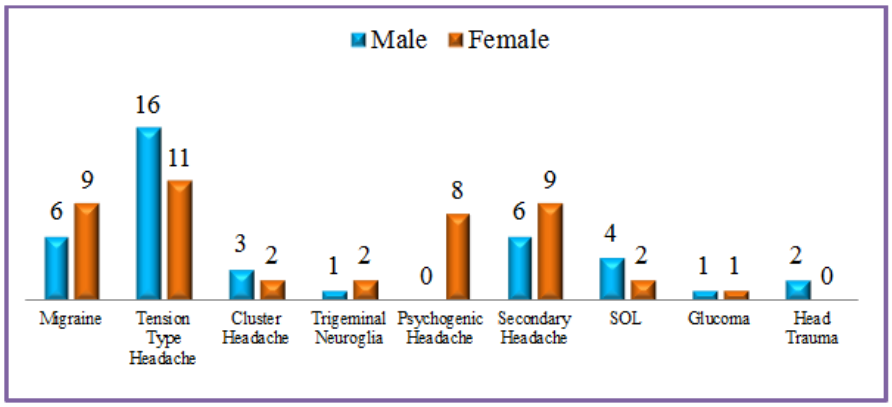


**Fig-02: Distribution of Different headache type**

## CONCLUSION

Headache is a common and an emerging problem in late childhood, and adolescence. Headache ranks 3rd among the illness which are related to school absenteeism and decrease in daily activities.

This is the study on prevalence rate and various causes of headache in children in rural population near Dewas. On the basis of our study we conclude that headache is most prevalent in females than males, and the age group being 10-12 yrs to be the most common.

Out of all the causes of headache, primary headache is most common one with maximum prevalence of Tension Type Headache followed by Migraine.

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