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To Assess Migraine Headache in Children: A Clinical Study

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Abstract
Background: *Migraine is a primary headache disorder characterized by recurrent headaches. It is quite common in adults with prevalence rate of 20%. Migrainous headache is prevalent in 4% of children in the age group 7 to 15 years. The present study was conducted to determine the profile of migraine in children and to assess EEG changes in children suffering from migraine.*
Materials & Methods: *This study was conducted in the department of Paediatrics in year 2014. It included 225 children. Out of 225 children, 42 children fulfilled Prenky's criteria and were included in the study. Patients case history was recorded in case sheet and other information such as name, age, gender, type of house, mother's education, duration of illness, site of headache, frequency of headache were recorded. Symptoms such as visual disturbances, vomiting, abdominal pain, sweating, vertigo, cold and clammy skin, psychological stress and physical strain were questioned from parents. Their performance in school such as poor, average, above average etc was recorded. Physical examination was done in all children and EEG was also obtained.*
Results: *Out of 42 children, boys were 20 and girls were 22. The difference was non – significant (P- 1). Common symptoms recorded were visual disturbances (20), nausea/ vomiting (32), vertigo (24) and more than 1 of above (30). The difference was significant ($P < 0.05$). Associated symptoms were psychological stress (14), physical strain (20), watching TV (9), sunlight (8), hunger (2) and more than 1 of above (26). The difference was significant ($P < 0.05$). Type of discharge was asymmetrical sharp wave discharges alone (9), symmetrical sharp wave discharges alone (4), asymmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes (14) and symmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes (2). The difference was significant ($P < 0.05$).*
Conclusion: *Migraine headache is a disease of adults. However, it is not uncommon in children. Careful evaluation of case and physical examination are required in diagnosis the migraine.*
Keywords: *Migraine headache, Nausea, Vomiting.*

Introduction

Migraine is a primary headache disorder characterized by recurrent headaches. It includes nausea, vomiting, and sensitivity to light, sound, or smell. It involves headaches that affect one half of the head, are pulsating in nature, and last from

two to 72 hours. The pain is generally made worse by physical activity. Up to one-third of people have an aura: typically a short period of visual disturbance which signals that the headache will soon occur. Occasionally, an aura can occur with little or no headache following it.[1]

It is quite common in adults with prevalence rate of 20%. Migrainous headache is prevalent in 4% of children in the age group 7 to 15 years. Migraine in children interferes with the school performance and the school attendance.[2] For diagnosis of migraine, the headache must be recurrent and separated by symptom free intervals and be accompanied by atleast 3 of the following 6 symptoms: abdominal pain, throbbing quality to the pain; nausea or vomiting; localized unilateral headaches or hemicrania; complete relief after a brief period of sleep; an aura which may be visual, sensory, motor; and a family history of migraine as suggested by Prensky's criteria.[3]

So migraine headache in childhood is a serious matter. Migraines may be induced by triggers, with some reporting it as an influence in a minority of cases and others the majority. Many things such as fatigue, certain foods, and weather have been labeled as triggers; however, the strength and significance of these relationships are uncertain.[4]

The present study was conducted to determine the profile of migraine in children and to assess EEG changes in children suffering from migraine.

Materials & Methods

This study was conducted in the department of Paediatrics in year 2014. It included 225 children. All were informed regarding the study and written consent was taken from their parents. All were examined for hypertension, chronic renal illness, neurological disorders and sinusitis etc.

Out of 225 children, 42 children fulfilled Prenky's criteria and were included in the study.

Patients case history was recorded in case sheet and other information such as name, age, gender, type of house, mother's education, duration of illness, site of headache, frequency of headache were recorded. Symptoms such as visual disturbances, vomiting, abdominal pain, sweating, vertigo, cold and clammy skin, psychological stress and physical strain were questioned from parents.

Their performance in school such as poor, average, above average etc was recorded. Physical examination was done in all children and EEG was also obtained.

Results thus obtained were subjected to statistical analysis using chi- square test. P value < 0.05 was considered significant.

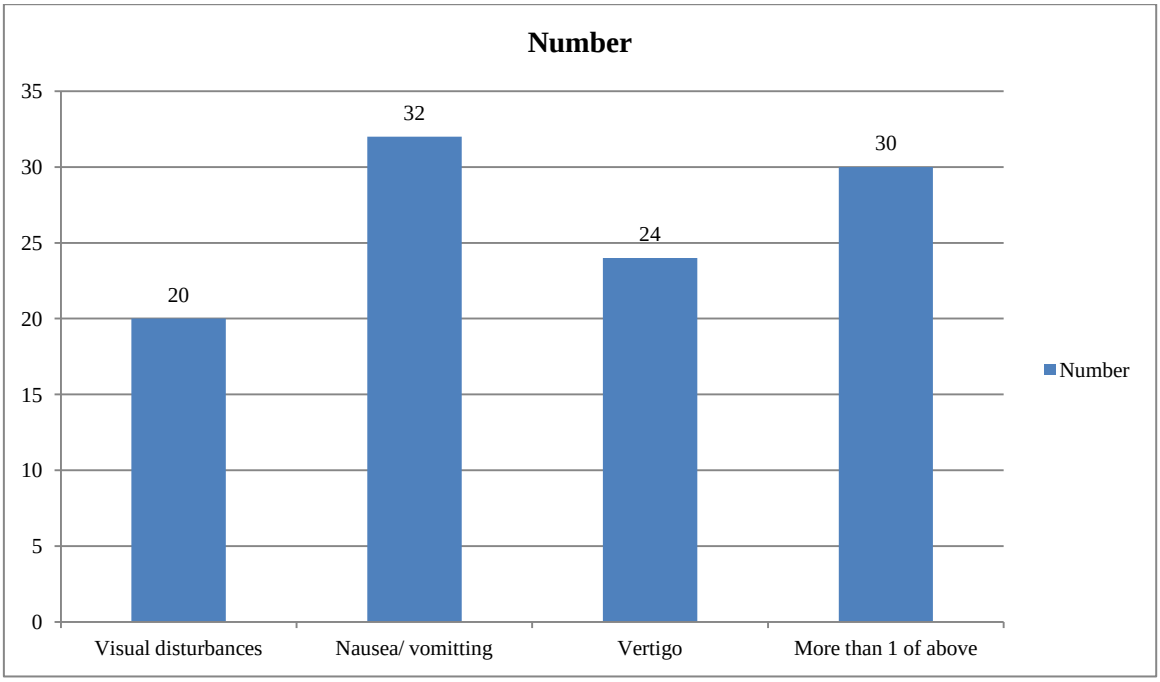
Results

Table I shows that, out of 42 children, boys were 20 and girls were 22. The difference was non – significant (P- 1). Graph I shows that common symptoms recorded were visual disturbances (20), nausea/ vomiting (32), vertigo (24) and more than 1 of above (30). The difference was significant (P < 0.05). Graph II shows that associated symptoms were psychological stress (14), physical strain (20), watching TV (9), sunlight (8), hunger (2) and more than 1 of above (26). The difference was significant (P < 0.05). Table II shows that type of discharge was asymmetrical sharp wave discharges alone (9), symmetrical sharp wave discharges alone (4), asymmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes (14) and symmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes (2). The difference was significant (P < 0.05).

Table I Distribution of children

Total - 42		
Boy	Girl	P value
20	22	1

Graph I Symptoms associated with migraine



Graph II Precipitating factors

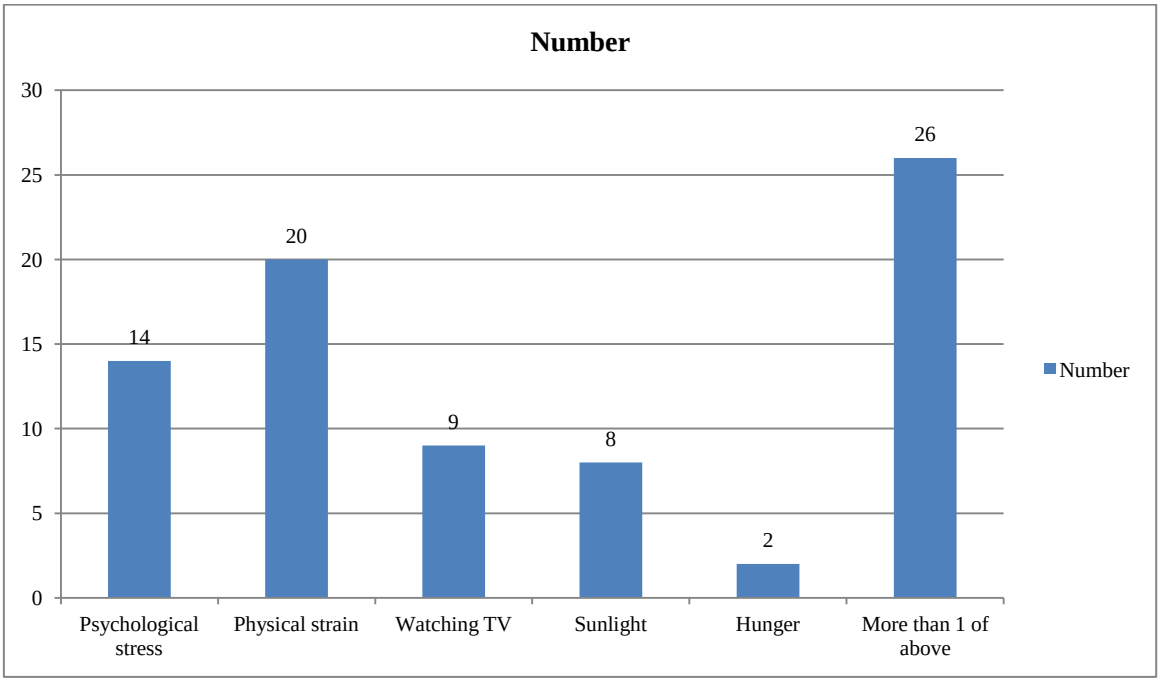
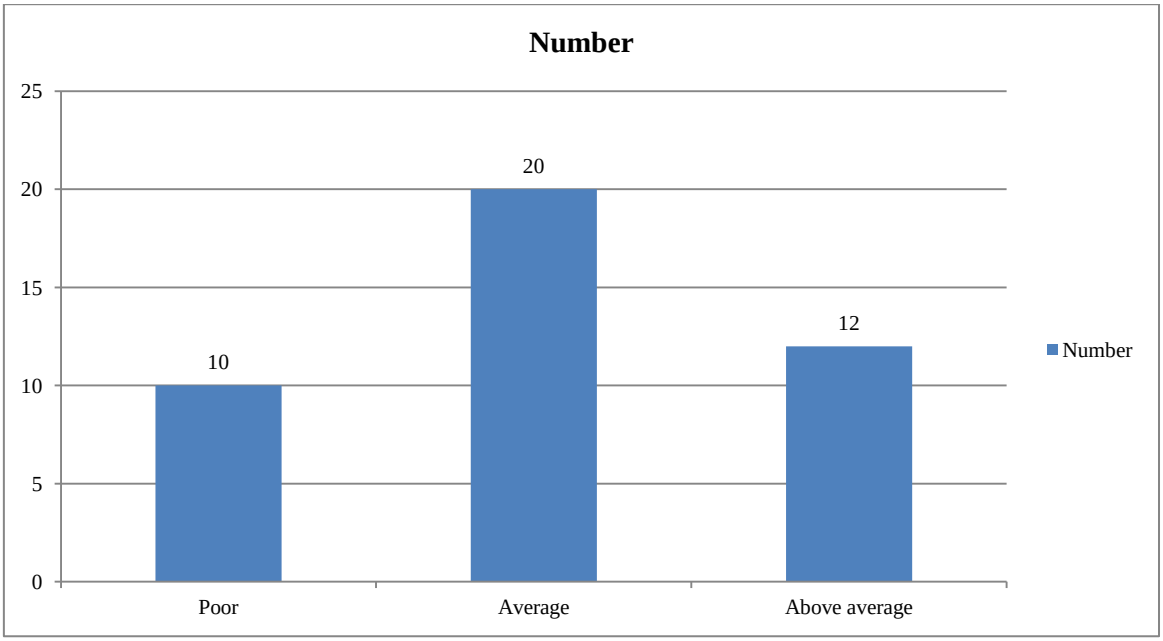


Table II EEG abnormalities recorded in children

Type of discharge	Number	P value
Asymmetrical sharp wave discharges alone	9	0.01
Symmetrical sharp wave discharges alone	4	
Asymmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes	14	
Symmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes	2	

Graph III School performance



Discussion

Migraines have self-limited, recurrent severe headache associated with autonomic symptoms. About 15–30% of people with migraines experience migraines with an aura and those who have migraines with aura also frequently have migraines without aura. The severity of the pain, duration of the headache, and frequency of attacks are variable.[5]

There are four possible phases to a migraine- 1. the prodrome, which occurs hours or days before the headache, 2. the aura, which immediately precedes the headache, 3. the pain phase, also known as headache phase, 3. the postdrome, the effects experienced following the end of a migraine attack.[6]

The present study was conducted to determine the profile of migraine in children and to assess EEG changes in children suffering from migraine.

In our study, out of 42 children, boys were 20 and girls were 22. We found that common symptoms recorded were visual disturbances, nausea/ vomiting, vertigo and combination of above. This is similar to Mortimer et al.[7]

We found that associated symptoms were psychological stress, physical strain, watching TV, sunlight, hunger and combination of all. This is in agreement to Rossy LN.[8]

In this study all children were subjected to EEG and we found that EEG changes were asymmetrical sharp wave discharges alone, symmetrical sharp wave discharges alone, asymmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes and symmetrical discharge of spike & slow wave complexes and/or sharp wave and slow wave complexes. This is in agreement to Chu ML et al. [9]

We found that children had school performance as average (12), above average (12) and poor (10). Similar results were obtained in study by Hockaday et al.[10]

Preventive treatments of migraines include medications, nutritional supplements, lifestyle alterations, and surgery. Prevention is recommended in those who have headaches more than two days a week, cannot tolerate the medications used to treat acute attacks, or those with severe attacks that are not easily controlled.

Conclusion

Migraine headache is a disease of adults. However, it is not uncommon in children. Careful evaluation of case and physical examination are required in diagnosis the migraine.

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