Original Article

Clinico-Demographic Characteristics and Factors Associated with Migraine of Children: A Study in a Referral Neurologic Centre of Bangladesh

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Abstract

Background: *Migraine is one of the most common neurologic conditions in children .Migraine is the commonest cause of severe recurrent headache in children. Clinical presentations of migraine vary according to patient age.*

Objective: *To study demographic, clinical profile and factors associated with migraine of children in outpatient department of a referral neurologic hospital.*

Methodology: *This was a cross-sectional study carried out at the outpatient department of Paediatric Neurology, National Institute of Neurosciences & Hospital (NINS), Dhaka from January to July, 2018. Children of 5-15 years of migraine with / without aura of severe / moderate intensity were included to document demographic, clinical profile and factors influencing migraine.*

Result: *Most of the patients were in the age group of 10-14 years 57 (71.25%). Children of both sexes are almost equally suffered from migraine (M vs F, 51.25% vs 48.75%).Most of the children had ≥5 attacks/month. Unilateral headache (55%) was more common than bilateral (45%). Regarding quality of pain aching pain (53.75%) was more prevalent followed by tightening 18.75%, pulsating 17.5%. Aura was present in 27.5%. Nausea was present in 67.5% but vomiting was only in 32% patients. 65% patients had photophobia. Among patients 65% had family history of migraine. 86% patients took abortive drugs during attack. Bright sunshine was the most common precipitating factors for migraine attack followed by stress 37%. Most of the patients relieved from pain by taking rest (78%).*

Conclusion: *Migraine was more common in late childhood and early teen age. Boys and girls were almost equally affected. Most common clinical findings were unilateral aching pain, nausea and photophobia. Bright sunshine, stress are the most common aggravating factors for migraine.*

Key Words:
Migraine, Clinical profile,
Associated factors, Children

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Introduction:

Headache is a common presenting complaint to the pediatrician. The overall prevalence of any headache in children is 58%, with the prevalence of migraine being 8%.[1] Shorter duration of migraine headache, bilateral rather than unilateral location, presence of gastrointestinal symptoms, difficulty in expressing their symptoms such as photophobia, aura are more common in children with migraine compared to adult patients suffering from migraine.[2] Migraines in children cause huge burden to society but appropriate and timely intervention can relief children. Bangladesh is a densely populated area. About 31% populations is below 15 yrs (BBS-2014). Migraine headaches are common in children but often under recognized and misdiagnosed. The prevalence of migraine increases steadily through childhood. One study shows

that prevalence of migraine in schoolers is 55% in Bangladesh.[3]

Pediatric migraine increases school absenteeism, impairs school performance, and reduces social interactions with family and friends.[4,5] There is lack of data on migraine in children, especially in Bangladesh. Thus, this study was conducted on children in outpatient department at National Institute of Neurosciences, (NINS) Dhaka, to give an impression of the problem among children. This study aimed to highlight the characteristics of migraine in children who often seek medical advice for their problems.

Methodology:

This was a cross-sectional study done from January to July, 2018 in the OPD of Paediatric Neurology department, National Institute of Neurosciences (NINS), Dhaka. After taking approval from ethical review committee of NINS&H, 80 children aged 5 to 15 years diagnosed as Migraine with/without aura (ICHD-3 beta) with moderate/severe intensity based on Pediatric Migraine Disability Assessment Score (PedMIDAS) who have no other types of recurrent headache or any serious illness were enrolled.

PedMIDAS is scored by summing the answers across the 6 questions. The score range is little to none (0 to 10), mild (11 to 30), moderate (31 to 50), severe (Greater than 50).

Children were evaluated there after thorough detail history and clinical examination. History related to age at onset of headache, frequency/month, location, quality of pain, associated with aura /without aura, presence of nausea/ vomiting, photophobia/ phonophobia, intensity,

Aggravating/relieving factors, family history of migraine before being finally included into the study, parents were explained about the purpose of the study. Then statistical analysis was performed by SPSS.

Results:

Most of the patients were in the age group of 10-14 years 57 (71.25%). Male patients were more 51.25% followed by female 48.75%.

Table-I

Demographic Characteristics of Study Patients:

Age (Yrs)	Number	Percentage (%)
5 - <10	23	28.75%
10 - 14	57	71.25%
Total	80	100%
Gender		
Male	41	51.25%
Female	39	48.75%
Total	80	100%

≥5 attacks of headache/month were present in most of patients 72.5%. Unilateral headache (55%) was more common than bilateral (45%). Regarding quality of pain aching was more 53.75% followed by tightening 18.75%, pulsating 17.5%. Aura was present in 27.5%. Nausea was present in 67.5% but vomiting was only in 32% patients. 65% patients had photophobia. Among patients 65% had family history of migraine. 86% patients took abortive drugs during attack.

Table-II

Headache Characteristics among Study Patients

Clinical features	Number	Percentage
Frequency of headache/month		
<5 attacks	22	27.5%
≥5 attacks	58	72.5%
Location of headache		
Unilateral	44	55%
Bilateral	36	45%
Quality		
Pulsating	14	17.5%
Throbbing	8	10%
Aching	43	53.75%
Pressing/tightening	15	18.75%
Aura (present)	22	27.5%
Nausea	54	67.5%
Vomiting	26	32%
Photophobia	52	65%
Phonophobia	11	13.75%
Family history	41	51%
Usage of abortive drugs	69	86%

Bright sunshine was the most common precipitating factors for migraine attack followed by stress 37%. Weather change (5%) also aggravated migraine.

Table-III

Aggravating / Precipitating Factors of Migraine Among Patients

Aggravating / Precipitating factors	Number	Percentage
Stress	30	37%
Bright sunshine	34	42%
Missed meal	1	1.25%
Certain food (chocolate, caffine)	3	3.7%
Loud noise	1	1.25%
Certain smell/perfume	1	1.25%
Weather change	4	5%

Most of the patient's headache was relieved by taking rest (78%) followed by remaining in quiet and dark environment (20 %).

Table-IV

Releiving factors of migraine headache among patients

Releiving Factors	Number	Percentage
Rest	63	78%
Quiet environment& darkness	16	20%
Hot & cold compression	1	1.25%

Discussion:

Headache is one of the most common neurological problems in children, although it may be under- recognized. In children with signiûcant school absenteeism occur due to migraine which results in a decrease in academic performance, social interactions with peers and self-esteem. These factors also often aggravate pain perception. [6]

In this study common age group 10-14 yrs, 71.5%. This finding was similar to a study of India by Shivakumar.[7] the reason for late childhood onset could be the association of menarche in females and mental stress for both sexes related to academic burden or inherent thought process of adolescence.

Male preponderance (51.25%) was observed in the study. This finding differs from the study done by Donald Lewis, MD where female was more (71%).[8] The reason behind male predominance of present study may be acceptance of male child is more in the family as well as in the society in low socio-economic background.

≥5 attacks of headache/month were present in most of patients 72.5%. Unilateral headache (55%) was more common than bilateral (45%). This finding correlates with another study where unilateral headache was 55.84%.[7]

Regarding quality of pain aching was more 53.75% followed by tightening 18.75%, pulsating 17.5%. This study differs from another study where throbbing / pulsatile pain was present in > 50% patients.[7]

Nausea (54%) was present of this study which is approximate to the studies done by Shiva kumar and Hoque et al where the proportion of nausea was 46% and 47.2% respectively but those studies did not look for different intensities of migraine.[7.9]

Approximately 2/3 rds (65%) children of migraine patients had photophobia which correlates well with Tal- Eidlitz-Markus study on Migraine where photophobia was present 74.3% in male and 71.1% in female but more as compared to study done by Hoque et al where photophobia was present only 24.7%.[9.10]

Aura as premonitory symptoms of migraine was present (27.5%) in migraine patients. This observation was higher than Eidlitz study on Migraine, where 20% (male), 33% (female) of children had aura.[10]

In this study, half of children of had positive family history of migraine (55%) which was similar (46.5%) with another study done by Shivakumar.[7]

The present study found that bright sunshine (42%), stress (37%) were the most common precipitating factor which resembles to an Indian study that also showed similar picture in their clinical symptomatology like bright sunshine 64.10%, stress 53.84% .[7]

The study resembled that rest (78%) relieved pain in most of the patients which correlates with another study done by Hoque et al where Sound sleep reduced the pain in most cases (59.4%).[9]

Conclusion:

Migraine was more common in childhood and early teen age. Migraine almost equally affected in both sexes. Sometimes migraine among girls are in appropriately treated or ignored. What had been discussed here is just an observation. Further studies should be conducted to determine the prevalence, underlying cause and the measures to be taken to prevent migraine among children and adolescent in Bangladesh.

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