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A Clinical Study Of Primary Headache In Children and Its Risk Factors

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Abstract

Background: Headache is "a terrible tactile and profound involvement in genuine or potential tissue obliteration. Thus, torment can be brought about by genuine or early tissue obliteration, a pathology of the aggravation pathways or social sickness, and in all cases, is a strong relational correspondence.

Aim of the work: Studying of the possible risk factors associated with primary childhood headaches.

Patients and Methods: This prospective study was carried out on 100 outpatient clinics and inpatients of the neurology department at Al-Azhar University, faculty of Medicine of Assiut and Sohag Teaching Hospital. Children who suffer from primary headaches are between 3 and 18 years old, according to WHO and UNICEF classifications of childhood age.

Results: Primary headache in females (58%) is more than in males (42%). Migraine headaches are more prevalent (60%) than Tension-type headaches (40%). Stress is a common risk factor in TTH, while sleep disturbance and caffeine ingestion are significant risk factors in migraine. A total of 42% of our patients were affected by headaches; 13% of children left school early, 10% of children missed school days, and 19% of children missed entertainment activities. A severe type of migraine with a positive family history has a manifest impact on the life of our patients regardless of gender, age, or chronicity of headache.

Conclusion: The most well-known kinds of essential migraine according to two age bunches, including design, recurrence, seriousness of cerebral pain, family ancestry affiliation and conceivable gamble factors, additionally incorporate the most widely recognized irritating and remembering variables of cerebral pain.

Keywords: Primary headache ; Children ; Risk Factors

1. Introduction

Headache is the most common neurological symptom in children and adolescents. Epidemiological studies show that frequent primary headaches in children are increasing in prevalence and decreasing in age of onset.¹ In this manner, torment can be brought about by genuine or nascent tissue injury, a problem of the aggravation pathways or social sickness, and in all cases, is a strong relational communication.² The pervasiveness of cerebral pain goes from 37 to 51% in seven-year-old kids, continuously expanding to 57-82% by age 15. Prior to pubescence, young men are impacted more much of the time than young ladies; however, after adolescence, migraines happen all the more now and again in girls.³ Cerebral pains can be partitioned into various transient examples, which can assist with restricting the differential determination. Cerebral pains that grow intensely, with

practically no set of experiences of earlier migraine, can be disturbing for an optional migraine issue like intense contamination (i.e., upper respiratory diseases, sinusitis, pharyngitis, or meningitis). These cerebral pain types can become ongoing when they happen at least 15 days out of every month for no less than 3 months.⁴ Three of the most common cerebral pain issues influencing kids and youths are headache, pressure type migraine, and new day-to-day constant migraine (NDPH). Headaches, which influence 7.7% of the pediatric populace, can be either a lengthy or ongoing condition. Alternately, TTH, which influences 10-15% of the pediatric population, can be either a lengthy or persistent condition.⁵ Migraine issue in kids influences school accomplishment and social exercises as well, and the guardians feel it is an unfavourable effect.⁵

Therefore, this paper aims to study the possible risk factors associated with primary childhood headaches.

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2. Patients and methods

This prospective study was carried out on 100 outpatient clinics and inpatients of the neurology department at Al-Azhar University, Faculty of Medicine of Assiut and Sohag Teaching Hospital. Children who suffer from primary headaches between 3 and 18 years old, according to WHO and UNICEF classification of childhood age, were included. While children had abnormal brain image, children had abnormal lab investigation; children had low IQ test results, children above age 18 and below age 3, children with abnormal results of visual acuity test and fundus examination, children with abnormal results of EEG, children with abnormal arterial blood pressure measurement, children with ENT disorders associated with headache and children with psychiatric disorders were excluded.

All patients were exposed to full clinical, Physical, Neurological history and assessment: Full history of cerebral pain, type and degree, One-sided or reciprocal site, worldly or front facing or limited to the eyes, compacting or throbbing or cutting, durable for quite a long time or short going on for minutes and related side effects, verbose or constant (ongoing migraine characterized as migraine happening over 15 days out of each month for quite a long time). Remembering factors and irritating variables related to expanded intracranial strain side effects or not Level of aggravation of life quality (as per day-to-day information got by patients and their licenses.). General assessment: Important bodily functions, skin tone, head and neck evaluation, chest, heart, and stomach assessment helped by a paediatrician to keep away from cerebral pain brought about by broad sicknesses like hypertension. Neurological assessment: mental state assessment, discourse, cranial nerves, engine framework reflexes, tactile framework, cerebellum, skeletal disfigurements, stride, stretch signs. Standard and specific labs, for example, complete blood count (CBC) to bar migraine because of iron deficiency, arbitrary glucose to bar hypo or hyperglycemia, and erythrocytic sedimentation rate (ESR) to avoid cerebral pain prompted by fever and disease. Radiological examinations as per clinical information as Mind, Neurophysiological examinations as electroencephalogram (EEG) if necessary to prevent cerebral pain because of epilepsy. Level of intelligence test for all patients to reject mental impeded patients and helped by the analyst. Visual keenness and fundus assessment for all patients helped ophthalmologists stay away from ophthalmological reasons for cerebral pain.

Data were collected, revised, coded and entered into the statistical package for social science (IBM SPSS) version 25. The quantitative data were presented as mean, standard deviations and ranges when parametric and median range when data was found to be non-parametric. Qualitative variables were presented as numbers and percentages. So, the p-value was considered significant at the Level of <0.05.

3. Results

Statistically significant relation between earlier age of headache onset and migraine with p value <0.0002, Primary headache is common in females (58%) than males (42%) (Table 1). Comparison between migraine and TTH according to age groups and migraine is more common specifically in young age group, and this table also shows that TTH increases with age (Table 2). Frequency of headache regarded to total number of patients and show that (1-3 \month) headache attacks is the most common, Episodic pattern of primary headache (94%) is more common than chronic pattern (6% (Table 4). Moderate form of headache is the most common form among our patients also there is statistically important relation between moderate form of headache and primary headache in children (p value <0.003) (Table 5). Significant statistical relation between +ve family history of headache and incidence primary headache in siblings (p value 0.04) (Table 6). Stress is the commonest risk factor in TTH while sleep disturbance , regular caffeine ingestion are statistically important risk factors in migraine (p value <0.05) (Table 7). Statistically significant relation between Effort , playing video games , exposure to sunlight ,specific food as aggravating factors with migraine (p value <0.05), also there is significant statistical relation between stress , anxiety and TTH as aggravating factors (Table 8). Significant statistical relation between rest and analgesics as relieving factors of migraine (p value <0.05) (Table 9). Manifest effect of primary headache especially migraine on quality of life and school achievement p value 0.014 (Table 10). Sever type of migraine with positive family history has a manifest impact on life of our patients regardless gender, age, or chronicity of headache and probability that migraine results in major impact on life 7 times more than TTH (Table 11).

Table 1. Comparison between the studied groups as regard Age and Gender, n=100

AGE	MIGRAINE N= 60			TENSION HEADACHE N= 40			P VALUE
	Mean	±	SD	Mean	±	SD	
	11.5	±	3.76	14.17	±	2.99	<0.0002
GENDER	No.						%
FEMALE	58						58.0%
MALE	42						42.0%

Table 2. Comparison between migraine and TTH according to age and frequency group:

TYPE OF HEADACHE	(3-10)YEARS		(11-18) YEARS OLD		P-VALUE
	No	%	No	%	
MIGRAINE	23	77%	37	53%	0.02
TTH	7	23%	33	47%	
FREQUENCY OF HEADACHE	MIGRAINE		TTH		P VALUE
1-3 \MONTH	31		18		0.5
1-3 \WEEK	14		12		0.4
>3 \ WEEK	9		5		0.7
DAILY	3		2		1
>15DAYS FOR 3 MONTHS	3		3		0.6

Table 3. Pattern of headache among studied population, n=100

PATTERN OF HEADACHE	NO.	%
EPISODIC	94	94.0%
CHRONIC	6	6.0%

Table 4. Comparison between the studied groups as regard the degree of severity

SEVERITY SCORE	MIGRAINE N= 60	TENSION HEADACHE N= 40	P VALUE
MILD	No. 0 % 0.0%	No. 18 % 45.0%	<0.003
MODERATE	No. 35 % 58.3%	No. 22 % 55.0%	
SEVER	No. 25 % 41.7%	No. 0 % 0.0%	

Table 5. Relation of family history with headache, No:100

FAMILY HISTORY	MIGRAINE N= 36		TENSION HEADACHE N= 6		TOTAL N= 42	P VALUE	
	No.	%	No.	%			
NEGATIVE	33	55.0%	30	75.0%	63	63.0%	0.04
POSITIVE	27	45.0%	10	25.0%	37	37.0%	

Table 6. Comparison between studied groups as regard risk factors

RISK FACTORS	MIGRAINE N= 60		TENSION HEADACHE N= 40		TOTAL N= 100	P VALUE	
	No.	%	No.	%			
CAFFEINE INGESTION	12	20.0%	2	5.0%	14	14.0%	0.03
SLEEP DISTURBANCE	16	26.7%	4	10.0%	20	20.0%	0.04
STRESS	8	13.3%	20	50.0%	28	28.0%	<0.009
SMOKING	10	16.7%	6	15.0%	16	16.0%	0.8
OBESITY	4	6.7%	7	17.5%	11	11.0%	0.09
MISSED MEAL	7	11.7%	1	2.5%	8	8.0%	0.09
FOOD (CHOCOLATE/ BEANS)	3	5.0%	0	0.0%	3	3.0%	0.1

Table 7. Comparison between the studied groups as regard the relieving factors, n=100

	MIGRAINE N= 60		TENSION HEADACHE N= 40		P VALUE
	No.	%	No.	%	
REST	29	48.3%	9	22.5%	0.009
SLEEP	19	31.7%	10	25.0%	0.4
ANALGESICS/DRUGS	25	41.7%	8	20.0%	0.02

Table 8. Effect of headache on quality of life and school achievement

IMPACT	MIGRAINE N= 36		TENSION HEADACHE N= 6		TOTAL N= 42	P VALUE	
	No.	%	No.	%			
MISSED ENTERTAINMENT ACTIVITY	13	36.1%	6	100.0%	19	45.2%	0 . 0 1 4
LEFT SCHOOL EARLY	13	36.1%	0	0.0%	13	31.0%	
MISSED SCHOOL DAY	10	27.8%	0	0.0%	10	23.8%	

Table 9. Impact of among different studied groups, n=100

	MINOR/NO IMPACT ON LIFE N=58		INTERFERE WITH LIFE N=42		P VALUE	
	No.	%	No.	%		
GENDER	Female	31	53.4%	27	64.3%	0.2
	Male	27	46.6%	15	35.7%	
TYPE OF HEADACHE	Migraine	24	41.4%	36	85.7%	<0.008
	TTH	34	58.6%	6	14.3%	
EPISODIC/CHRONIC	Episodic	55	94.8%	39	92.9%	0.6
	Chronic	3	5.2%	3	7.1%	
SEVERITY SCORE	Mild	18	31.0%	0	0.0%	0.01
	Moderate	40	69.0%	17	40.5%	
	Sever	0	0.0%	25	59.5%	
AGE (YEARS)	3 to <10	12	20.7%	18	42.9%	0.01
	>10 to 18	46	79.3%	24	57.1%	
FAMILY HISTORY	Negative	49	84.5%	14	33.3%	<0.001
	Positive	9	15.5%	28	66.7%	

Table 10. Binary logistic regression of factors predicting major impact of primary headache on life

	B	S.E.	WALD	SIG.	EXP(B)	95% C.I. FOR EXP(B)	
						Lower	Upper
GENDER (FEMALE)	.334	.472	.500	.480	1.397	.553	3.525
MIGRAINE	2.046	.530	14.89	.000	7.739	2.738	21.88
EPISODIC HEADACHE	-1.001	.969	1.067	.302	.367	.055	2.45
FROM 3 TO <10 YR	.827	.507	2.664	.103	2.287	.847	6.18
CONSTANT	-1.190	.981	1.473	.225	.304		

4. Discussion

Headache in children is common and causes significant distress and disability in children and their families. Prevalence of headaches increases throughout childhood, with a peak at 11-13 years old in both sexes. Migraine and Tension Headache are the most predominant type of headache.⁶

There is a genuine critical connection between the time the migraine began and the headache with p esteem >0.0002 . In concurrence with our review, Jeong et al.³ The mean period of cerebral pain beginning was 8.5 years, with headache detailed at the earliest beginning (7.5 years) and TTH at the most recent (8.5 years). Al Hashel et al.⁶ concurred with us. They showed that essential cerebral pain was fundamentally higher in females (64%) contrasted with guys (36%) in spite of the fact that headache was the most well-known sort of migraine, followed by TTH and persistent cerebral pain. Additionally, in Shuaibi et al.⁷ the greater part of understudies (59.44%) marked their migraines as "very terrible," while 17.38% of understudies experienced "extremely awful" cerebral pains. Mehta did one more review.⁸ headache (60.6%) was the most widely recognized type in their review, followed by TTH (19.7%). Likewise, the Malik et al.⁹ review uncovered TTH as the most commonly recognized essential cerebral pain issue (50.99%), trailed by migranous migraine.

In our review, the recurrence of cerebral pain episodes ranges between 1-3 episodes/month. Poyrazoglu et al.¹⁰ concurred with our review and revealed that a portion of his cerebral pain patients (50.97%) detailed 1-3 episodes each month. Laurell et al.¹¹ concurred with our outcomes and detailed that (1-3) episodes each month are the most well-known recurrence in his concentrate in both TTH and headache cerebral pain cases.

In our review, moderate migraine (57%) is more normal than extreme structure (25%). Al Bashtawy et al.¹² concurred with us and revealed that moderate seriousness of migraine is more normal (51.9%), followed by extreme kind (24.9%).

In our review, there is a critical connection between family ancestry and essential migraine in youngsters (+ve cases address 37%), particularly in headaches (p esteem 0.04). This can be made sense of as the hereditary job of

headache is notable and assumes a significant part of TTH. Cavestro et al.¹³ and another review revealed that more than 90% of kids with cerebral pain matured from three to five years, and 80% matured from six to eleven, had a positive family ancestry for migraine. Family background of essential cerebral pain favours headache more than TTH, Tavasoli et al.¹⁴ results concur with us and exhibited that when a parent showed joined cerebral pain, the gamble of creating headache in their youngster is more prominent when contrasted with the strain-type migraine.

In our review, stress is the most common risk factor uncommonly in TTH, while rest aggravation and caffeine ingestion are more critical gamble elements of headache. Milde-Busch et al.¹⁵ likewise concurred with us and detailed that there might exist a measurably huge relationship between a portion of the dietary and migraine. The pervasiveness of migraine was expanded in subjects who were truly less dynamic and the people who answered to drink espresso. Talebian et al.¹⁶ additionally concurred with us, expressing that there was a solid relationship between headache cerebral pains and a sleeping disorder in his review (chances ratio=3.45).

In our review, the element of cerebral pain is Exertion (45%), trailed by pressure (29%) and uneasiness (17%). In concurrence with our review, Bhardwaj et al.¹⁷ revealed that 65% of headache patients detailed exertional movement as an irritating variable for their cerebral pain. Likewise, we found that playing video games has a critical connection with headaches as an exasperating element (p -esteem 0.016).

In our review, rest (38%) was followed by analgesics (33%) and rest (29%). Da Silva et al.¹⁸ concurred with us and revealed that the majority of our patients in the migraine groups benefited from ending exercises by resting and dozing.

In our review, headache (77%) is more normal in a youthful age (3-10 years of age) than TTH (23%). Essential cerebral pain commonly expands with age yet is more critical in TTH, which becomes in the more established age bunch (11-18 years) 47% of Zewde et al.¹⁹ concurred with us and revealed that Pressure type cerebral pain likewise increment with age than headache from 25% in more youthful age group(6-11years) to 30.5% in more seasoned age bunch (12-17 years) dissimilar to headache which drops from 58.5% in more youthful age gathering to 49.5% in more established one. A large number of our cases

experience pressure and nervousness, which are risk factors for TTH.

In our review Totally 42% of our patients were impacted by migraine, 13% of Youngsters left school early, 10% of Kids missed school days (somewhere around one day), and 19% of Youngsters missed diversion action. Philipp et al.²⁰ concurred with us and detailed that cerebral pain unfavourably affected instructive participation. At the same time, > 40% lost at least 1 day of a movement they jumped at the chance to do, 16% lost no less than 1 day of school and 12% needed to leave school right on time somewhere around once.

In our review, positive family ancestry, particularly headache and effect of essential migraine on patients' life (p esteem < 0.001), Pelzer et al.²¹ concurred with us. It detailed that a more grounded family background of headaches is related to a lower age at the beginning and a bigger number of intense migraine drug days.

4. Conclusion

Primary headache is a very common complaint in pediatric patients, causing many difficulties and affecting their school achievement and quality of life. Although diagnosis is clinical, we also need other diagnostic tools like brain imaging and laboratory assessment to exclude dangerous secondary causes of headaches and guarantee the right diagnosis as possible, and this was included in our study.

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