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Primary headaches in female high school students: Types, disability scores and analgesic consumption

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Abstract

Background and Objective: Headache in children and adolescents is among the most common complaints that can cause impairment in their function. The current study is designed to evaluate the frequency and type of headaches and use of analgesics in a sample of female high school students in Tehran.

Methods: Three hundred female high school students were included in the study during September 2011 to April 2012. All students were examined about headache. If students had positive history of headache, the second step of examination and physical exams were considered. Frequency and types of headaches and analgesic consumption were recorded. The effect of headache on daily function of students was evaluated by MIDAS scale. Data were analyzed using SPSS software version 14.

Results: Two hundred seventeen students (72.3%) had headaches. Among them, 86 (39.6%) people experienced tension type headaches and 68 (31.3%) migraine type headaches. Mean frequency of headache was 6.6 ± 4.8 episodes per month. Mean MIDAS score was 35.3±5.85 in migraine type headaches and 13.4% of cases had severe disability in daily activities due to headaches. One hundred seventy nine (82.5%) used analgesics for their headaches.

Conclusion: According to high prevalence of headache in female students of Tehran, disabilities in daily activities due to migraine headache and also large amount use of analgesic in them, a screening of female students for headache and appropriate management is recommended.

Keywords: Headache, Migraine, Adolescents

Introduction

Headache is a common health problem that often begins in childhood period and 74% of children have one episode of headache by fifteen years old. Headache in children is the most common complaint after musculoskeletal complaints and abdominal pain (1). According to international classification of headache disorders (ICHD-3 beta), headaches are categorized to two main subclasses including primary and secondary headaches (2). Main primary headaches are migraine and tension type headaches and less common, trigeminal autonomic cephalalgias. In secondary types, one or more underlying illnesses such as diseases in facial or cranial structures (cranium, neck, eyes, ears, nose, sinuses, teeth), trauma, vascular or homeostasis disorders, infections, substance abuse, psychiatric problems and increased intracranial pressure can result in headache (2,3). Presence of any abnormality in neurologic exam, seizure, loss of consciousness, recent severe headache, changing the type of headache warrants the physician to do more diagnostic studies including brain imaging, lumbar puncture, electroencephalography, blood pressure monitoring and laboratories investigations (4,5,6). However the major cause of recurrent headaches is primary and about 10% of children 5-15 year old and 28% adolescence over 15 year have had migraine type headaches (2). Some studies have shown increasing

prevalence of headache in children and adolescents in different countries (3). In one study by world health organization (WHO), the prevalence of headache in children had increased 5% during 4 years (7). In addition, patients that experience repeated headache, have more stress, anxiety and somatic complaints. It was determined that depression and anxiety disorders in teenage girls were related with headache (8,9). In recurrent headaches patients may use analgesics and it maybe lead to overuse of these medications (10). Because of importance of headache in children and adolescents as a common complaint (11), this study was conducted to evaluate the prevalence of headache and contributing factors in a sample of female high school students in Tehran.

Methods

In this cross sectional study, female students from the high schools of Tehran were enrolled from September 2011 to April 2012. The project was approved by ethical committee of the Iran University of Medical Sciences. Cases were selected by simple random sampling and three-hundred students were selected. Every student had a face to face interview with a pediatrician and their past medical histories were evaluated. If students reported headache in last seven days, last 3 or 6 months, they were assumed to have headache. Also, any case who had headache during last 12 months was enrolled as student with positive history of headache. Types of headaches were categorized based on International Headache Society Classification (12). All cases suspected to secondary headaches, excluded and referred to pediatric neurologist. Cases with primary headaches including migraine and tension types were evaluated. Other types of headaches had no organic causes such as increased intracranial pressure, hypertension, sinusitis, visual refractory problems etc. They were classified to primary headache group but did not fulfill diagnostic criteria of migraine or tension type headache based on ICHD diagnostic criteria (from point view of frequency or duration).

The effects of headache on function of students were evaluated by Migraine Disability Assessment Score (MIDAS). It is a questionnaire as a valid and sensitive test in order to assess impact of headache on daily activity during last three months. Total scores of 0–5 as "little to no disability", 6–10 as "mild disability", 11-20 as "moderate disability", and total scores higher than 20 as "severe disability" were considered (12). Data about age, type and frequency of primary headaches, and analgesic consumption were recorded. Statistical analysis was performed using the SPSS software version 14.

Table 1-Type and Frequency of Headaches

Variable	Number (%)
Type of Headache	
Tension	86(39.6%)
Migraine	68(31.4%)
Other types	63(29%)
Frequency of Headache per month	
1-5	164(75.5%)
6-10	12(5.5%)
11-15	11(5%)
>15	30(14%)

Results

A total of 300 female students 14-17 year-old in high schools of Tehran were studied. The mean (SD) age of students was 15±0.8 years. Two hundred seventeen (72.3%) students had headache during past 12 months. Types of primary headaches that students experienced were included tension, migraine, and other types of headaches (Table 1). Mean (SD) duration time that every student had headache was 2±1.7 years (4 months to 9 years). Mean (SD) frequency of headache was 6.6±4.8 episodes per month (range 1 to 30 episode/month); details are shown in Table 1. All people were evaluated by MIDAS score. Mean (SD) MIDAS score in all cases with headache was 16.6±3.71 and disability scores including 0-5, 6-10, 11-20 and more than 20 were seen in 45.9%, 19.7%, 21% and 13.4%, respectively. Mean (SD) MIDAS score was 35.3±5.85 in migraine, 7.7±7.3 in tension and 5.5±4.6 in other types of headaches. Disability in different types of headaches is shown

Table 2. MIDAS score in different types of headaches

	Disability				
	No or little	Mild	Moderate	Severe	
Type of headaches	N (%)	N (%)	N (%)	N (%)	P-value
Migraine	23 (34)	15 (22)	10 (15)	20 (29)	0.0001
Tension	40 (46.5)	11 (13)	32 (37)	3 (3.5)	>0.05
Other	40 (63.5)	14 (22)	5 (8)	4 (6.5)	>0.05

Table 3. Analgesics Consumption in Cases with Headaches

Variable	Number (%)
No medication	38 (17.5%)
NSAIDs*	81 (37.5%)
Acetaminophen	49 (22.5%)
Both**	49 (22.5%)

*NSAID=Non-steroidal anti Inflammatory drug
**Both=Acetaminophen + NSAIDs

in Table 2. Severe disability was detected more in cases with migraine type headaches and there was a significant association between severe disability and migraine type headaches (P= 0.0001). Thirty eight (17.5%) cases did not use any drugs for sedation and 179 (82.5%) cases used analgesics including acetaminophen, nonsteroidal anti-inflammatory drugs (NSAIDs) such as Ibuprofen or Gelofen (Table 3) that 95% of them were without physician prescription.

Discussion

Adolescence is a complicated period of life that is associated with hormonal, physiological and psychological changes that may impact on prevalence and type of headache. The studies have shown that prevalence of headache increases by age and tension-type headaches are more common especially in girls (13).

Our study showed that 72.3% of students, aged 14-17, had headaches. In similar study in 2007, Fendrich et al found that the 3 months prevalence of headache among German adolescents was 69.4%, 59.5% in males and 78.9% in females (14). In another study in 2004, Zwart et al (15) reported the 76.8% of Norwegian adolescents had 3 headache episodes in the past 6 months, boys: 69.4% and girls: 84.2%. This finding of current study is consistent with other studies that reported headache prevalence among high school students, especially female students, is significantly high. Although we just studied on girls, the sex comparison of headache prevalence was not possible. In addition, in present study, the 31.3% of people had migraine and the 39.6% of people had tension type headache. Moayedi et al (16) also reported that the most common cause of children headache was migraine with 36.5% prevalence.

In present study 76% of cases with headache had frequency of 1-5 attacks per month and mean (SD) disability score was 16.6±3.71,with higher severity rates in migraine type headaches. Similar to us, Albers et al (11) showed that frequency of headaches in 1399 grammar school student 12-19 year old was 9 days in three months. Cases with migraine had average 10 days with severe disability during three months. Average pain intensity was moderate and pain intensity was higher in migraine than tension headaches.

In our study 81.5 % cases used medication with more frequency for NSAIDs and 95% of uses were without physician prescription. In Dyb et al (17) study 5471 cases in range of 13-18 years were evaluated for headache and analgesics use. There was a prevalence of 0.5% headache associated with analgesic consumption and he warranted parents and physicians for risk of analgesics overuse in adolescents. Analgesics use in their cases was lower than ours and it may be due to easy availability of these medications (without prescription) in Iran.

In a study by Bicakci et al (18), among patients with headache, 74.6% of them used sedative drugs, 5.9% used sedative drugs frequently and only 2.9% had consultation with neurologists.

In another study by Bigal et al (19) 456 male and female patients with headaches were evaluated about overuse of medications. They used acetaminophen, 46.2%; Opioids, 33.3% and NSAIDs 9.8%. Similar to our study, frequency of analgesics' consumption for headaches are high but types of medications are different because of different age group and gender.

Conclusion

We found that prevalence of headache and analgesics' use in female students of Tehran is high and that may lead to significant disability in their daily activities. Thus, it is recommended to screen female students for headaches.

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Conflicts of interest: None declared.

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