

INTERNALIZING PROBLEMS ARE RELATED TO SLEEP PATTERNS DISORDERED IN CHILDREN AFFECTED BY PRIMARY HEADACHE

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ABSTRACT

Introduction: Migraine is a common disorder in children and adolescents, associated with various disorders such as emotions, behavioral problems, and sleep disturbances.

Aim of the study is to verify the relationship between psychological problems of cephalalgic patients and sleep disturbances.

Materials and methods: 64 subjects (27 females), aged 8-12 years (mean 9.4 years, SD \pm 1.03) with primary headache were enrolled. CBCL 6-18 scale and the SDSC scale were used for behavioral screening and for assessing sleep habits.

Results: According to the ICHD-III criteria, the distribution of the headache subtype was as follows: headaches without aura (71.87%), headache episodes typical of tension (7.81%) and chronic headache (7.81%) (Figure 1).

CBCL assessment (total problem element) showed an interesting relationship with sleep disorders such as DIMS, DA and SWTD (respectively $r = .37, p = 0.019$; $r = .39, p = 0.015$; $r = .37, p = 0.019$).

Discussion: MwA children revealed a specific behavioral phenotype characterized by internalization problems. Among migraine subjects, prevalent sleep disorders include difficulty falling asleep, increased night-time awakening, decreased sleep duration, and excessive daytime sleepiness.

Keywords: Primary headaches, internalizing problems, sleep disorders.

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Introduction

Headache is a common disorder in children and adolescents, associated with the presence of several disorders such as emotional, behavioural difficulties and sleep disorders. Migraine is a common complaint in the pediatric population. Approximately 25% of children will be migraine-free by the age of 25, boys in a significantly higher percentage than girls and more than half will still have headaches at the age of 50. The most common symptoms include episodic attacks of moderate to

very severe headache (typically throbbing, unilateral, and exacerbated by physical activity), accompanied by nausea, photophobia and phonophobia. Attacks are heterogeneous in symptomatology, severity and disability, both between different individuals and separate attacks in the same individual sufferer. Migraine is a highly disabling condition that leads to reduced quality of life among children⁽¹⁻³⁵⁾.

Many studies have reported a close association of psychological dysfunctions with pain problems and headache, in particular internalizing symptoms

(anxiety, depression symptoms) but also adverse environmental and social, in particular familial, factors not only in clinical but also population sample. Sleep disturbances is a common comorbidity of primary headaches. However, there is a paucity of research exploring the specific interactions between headaches and sleep in children and adolescents⁽³⁶⁻⁵⁰⁾.

The aim of the study was to verify the relationship between psychological troubles of headache patients and sleep patterns.

Materials and methods

Population study consists of 64 subjects (27 females), aged 8-12 years (mean 9.4 years, $SD \pm 1.03$). All the mothers of the subjects were asked to fill in the Child Behaviour Checklist 6-18 (CBCL) and the Sleep Disturbances Scale for Children (SDSC) questionnaire to describe psychological profile and assess sleep troubles.

Child Behavior Check-List (CBCL)

The Child Behavior Check-List, version 6-18 (Italian validated version) is a self-administered questionnaire containing 118 items. Parents respond to the items on a three-point scale (0= not true, as far as you know, 1= somewhat or sometimes true, or 2= very true or often true) based on the past 6 months. The measure taps eight empirically based syndromes (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior and Aggressive Behavior), and three broad-band scales (Internalizing, Externalizing and Total Problems). In this study, Cronbach's alpha value was $\alpha \geq 0.88$.

Sleep Disturbances Scale for Children (SDSC)

The SDSC is a sleep questionnaire that consists of 26 items subdivided into six sleep disorders subscales: disorders in initiating and maintaining sleep (DIMS), sleep breathing disorders (SBD), disorders of arousal (DA), sleep-wake transition disorders (SWTD), disorders of excessive somnolence (DES), and sleep hyperhydrosis (SHY), widely used in paediatric age both in its original and modified version. To verify the relationship with psychological assessment, we considered only some of the scales of SDSC such as DIMS, DA, SWTD, and Total value.

Results

According to ICHD-III criteria, headache subtype distribution was as follows: migraine without aura (71.87%), episodic tension-type headache (7.81%), and chronic tension-type headache (7.81%) (Figure 1).

Psychological CBCL assessment (Total problems item) showed an interesting relation with sleep disorders as DIMS and parasomnias (DA and SWTD) (respectively $r = .37$, $p = 0.019$; $r = .39$, $p = 0.015$; $r = .37$, $p = 0.019$).

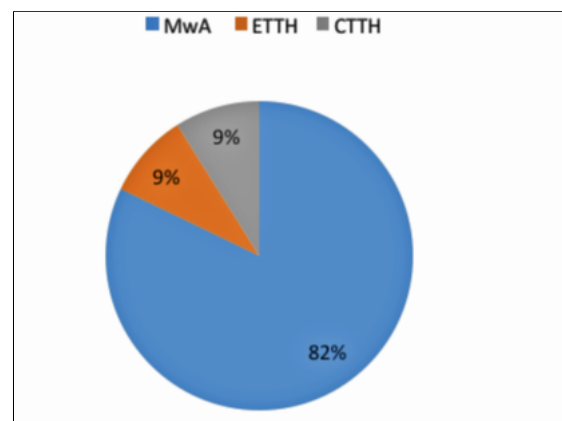


Figure 1: shows the percentages (%) of primary headaches in our sample.

Discussion

As shown in recent medical literature, migraine children revealed a specific behavioural phenotype characterized by internalizing problems, as higher scores of behavioural and emotional symptoms,

both of internalizing and externalizing type, than normal peers. Herein, temperament and sleep are important factors influencing all social aspects of life, both in adults and in children. Among subjects affected by MwA, the prevalent sleep disturbances include difficulty falling asleep, increased nightly waking, decreased sleep duration, and excessive daytime sleepiness⁽⁵¹⁻⁸⁵⁾.

Most studies addressing the associations between primary headaches and sleep disruptions in children and adolescents have done so using cross-sectional study designs which limit conclusions about the direction of the effects⁽⁵¹⁻⁸⁵⁾.

Anxiety and mood disorders have been shown to be the most relevant psychiatric comorbidities associated with migraine, influencing its clinical course, treatment response, and clinical outcomes. Anxiety was more robustly associated with increase

in migraine risk than depression. Lack of ability to properly control worrying and to relax are the most prominent issues in migraine psychiatric comorbidity. Physical symptoms in depression are more linked to migraine than emotional symptoms⁽⁸⁶⁻¹⁰⁰⁾.

Several studies on headache in children outlined the contemporary presence of headaches and parasomnias. Few studies have focused on the whole sleepwake cycle and on the circadian aspects of headache to clarify the close relationship between the two. Temperamental troubles should be considered not only for diagnostic and therapeutic purposes, but also from the aetiological aspect.

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