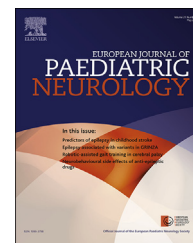




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Original article

Survey on treatments for primary headaches in 13 specialized juvenile Headache Centers: The first multicenter Italian study



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ABSTRACT

Aim: The purpose of this retrospective multicenter study was to evaluate the use and the self-perceived efficacy and tolerability of pharmacological and non-pharmacological treatments in children and adolescents with primary headaches.

Methods: Study of a cohort of children and adolescents diagnosed with primary headache, consecutively referred to 13 juvenile Italian Headache Centers. An *ad hoc* questionnaire was used for clinical data collection.

Results: Among 706 patients with primary headaches included in the study, 637 cases with a single type of headache (migraine 76% – with and without aura in 10% and 67% respectively; tension-type headache 24%) were selected (mean age at clinical interview: 12 years). Acetaminophen and non-steroidal anti-inflammatory drugs (in particular ibuprofen) were commonly used to treat attacks, by 76% and 46% of cases respectively. Triptans were used overall by 6% of migraineurs and by 13% of adolescents with migraine, with better efficacy than acetaminophen and non-steroidal anti-inflammatory drugs.

Preventive drugs were used by 19% of migraineurs and by 3% of subjects with tension-type headache. In migraineurs, flunarizine was the most frequently used drug (18%), followed by antiepileptic drugs (7%) and pizotifen (6%), while cyproheptadine, propranolol and amitriptyline were rarely used. Pizotifen showed the best perceived efficacy and tolerability. Melatonin and nutraceuticals were used by 10% and 32% of subjects, respectively, both for migraine and tension-type headache, with good results in terms of perceived efficacy and tolerability.

Non-pharmacological preventive treatments (i.e. relaxation techniques, biofeedback, cognitive-behavioral therapy, acupuncture) were used only by 10% of cases (migraine 9%, tension-type headache 15%).

Discussion: Non-steroidal anti-inflammatory drugs, especially ibuprofen, should be preferred to acetaminophen for acute attacks of migraine or tension-type headache, because they were usually more effective and well tolerated.

Triptans could be used more frequently as first or almost second choice for treating migraine attack in adolescents.

Non-pharmacological preventive treatments are recommended by some pediatric guidelines as first-line interventions for primary headaches and their use should be implemented in clinical practice.

Prospective multicenter studies based on larger series are warranted to better understand the best treatment strategies for young people with primary headaches.

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1. Introduction

Headache is a common disorder in children and adolescents, and its prevalence increases with age.^{1–4} Indeed, the lifetime prevalence of headache increases from 47.2% in children 7–9 years old to 69.5% in children 13–15 years old.^{5–8} The most common pediatric headache types include migraine (M) and tension-type headache (TTH),^{2,3} whose prevalence in pediatric studies is 9.1% and 57.5%, respectively.^{2–9} Primary headaches can have a high impact on the quality of life of children and their families.^{10–12} Therefore, in order to prevent a possible evolution to a chronic condition, appropriate diagnosis and treatment are of primary importance.^{10–15} In Italy, general practitioners usually refer children and adolescents with recurrent headaches to specialized centers for juvenile headaches, where an accurate clinical diagnosis is made based on the current diagnostic criteria of the International Classification of Headache Disorders (ICHD-IIIb).¹⁶

After diagnosis, patients with primary headaches should receive a thorough and individualized treatment, which includes management of acute headache attacks and pharmacological and/or non-pharmacological preventive interventions.¹⁵

As regards pediatric migraine, preventive therapy should be considered under the following conditions: three or more attacks per month; high disability as a consequence of the attack; attack duration greater than 90 min; age over 5 years; and presence of risk factors for chronic migraine, such as familial history or psychiatric comorbidities. The aims of preventive therapy are minimizing the impact of migraine by reducing the frequency and intensity of attacks.¹⁷

International guidelines and systematic reviews addressing the treatments of primary headaches in children and adolescents are limited in number,^{18–26} some of them date back to several years ago,^{24,25} and only few are completely dedicated to the pediatric age.^{18,22,24–26} The main

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