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Medication overuse headache in the pediatric population: an integrative review

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Introduction
Medication Overuse Headache (MOH) in pediatrics is characterized by the chronification of primary headaches due to excessive analgesic use. It negatively affects the quality of life of children and adolescents, causing academic and psychosocial impairments. Given the high prevalence of headaches and inappropriate analgesic use in this population, MOH represents an important public health challenge, although its pediatric profile remains insufficiently understood.

Objective
This study aimed to analyze evidence regarding the epidemiology, risk factors, diagnostic challenges, and therapeutic approaches of pediatric MOH, while identifying current scientific gaps.

Methods
An integrative review was conducted following PRISMA guidelines using PubMed/MEDLINE, LILACS, SciELO, ScienceDirect, and SpringerLink databases. Studies published between 2020 and 2026 were included. DeCS/MeSH descriptors were: "Medication Overuse Headache," "Cefaleia por Uso Excessivo de Medicamentos," "Adolescent," "Child," and "Pediatrics" combined with the free terms "pediatric", "children" and "adolescents". Original articles and systematic reviews involving pediatric populations were included. Studies without primary data, involving adults, or unrelated to the topic were excluded. The final sample comprised 9 articles.

Results
Among pediatric patients with chronic primary headaches, medication overuse prevalence ranged from 10% to 60%. Female sex was the main risk factor, associated with hormonal and psychosocial influences. The most frequently involved medications were nonsteroidal anti-inflammatory drugs (NSAIDs), paracetamol, and triptans. ICHD-3 criteria increased diagnoses by 33% compared with ICHD-2. Clinical improvement after medication withdrawal ranged from 40% to 77%, while 4% to 41% of patients showed no benefit. Evidence regarding withdrawal strategies remains conflicting, although some studies indicate better outcomes with abrupt discontinuation compared to gradual withdrawal. Treatment is multimodal and includes detoxification, prophylaxis, self-management education, and psychological interventions, without a standardized therapeutic consensus. Proposed pathophysiological mechanisms include genetic predisposition, drug interactions with neurotransmitter and hormonal systems, and alterations in gray matter volume and brain metabolism. Main study limitations were methodological heterogeneity, lack of pediatric-specific guidelines, and predominance of observational designs.

Conclusion
Pediatric MOH is a complex multifactorial condition with variable prevalence and limited consensus regarding management. Further multicenter studies with standardized methodologies are necessary to improve clinical management and quality of life in this population.

Keywords:
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Pediatrics
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