Editorial

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Pediatric Headache in Korea: Beyond a Common Complaint to a Chronic Neurological Condition

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INTRODUCTION

Pediatric headache is frequently dismissed as a minor ailment rather than recognized as a chronic condition capable of causing substantial disability. However, the lived experiences of affected children—often characterized by chronic absenteeism, cognitive impairment, and strained family dynamics—present a markedly different reality. Three recent reviews in *Headache and Pain Research* help explain why this clinical gap persists: the challenges of diagnostic framing,[1] the neurological risks associated with undertreated attacks,[2] and the persistent "interictal" burden that affects patients even between episodes.[3] When these issues are examined in the context of Korean epidemiological data and healthcare realities, a consistent pattern emerges: pediatric headache in Korea is both widespread and disabling, yet structurally positioned for under-treatment.

THE REALITY: PREVALENCE IN THE KOREAN CONTEXT

Globally, pediatric headache represents a major public health concern, with prevalence increasing steadily as children progress into adolescence.[4] More recent syntheses commonly estimate migraine prevalence at approximately 11% among children and adolescents, and rates rise further during adolescence.[5] Korean data mirror these international trends with striking consistency. A nationwide survey of Korean schoolchildren reported a 1-year headache prevalence of 29.1%, with higher rates observed in girls and in urban or suburban settings.[6] At this level of frequency, multiple students in a typical classroom are likely to be living with recurrent headache. In addition, Kwon[1] reports that chronic primary headache affects 1%–2% of adolescents, while nearly one quarter experience broader functional somatic symptoms. Collectively, these findings place pediatricians at a complex intersection of neurology and stress-related biological processes.

THE BURDEN OR HIDDEN TOLL: LIFE BETWEEN ATTACKS

Even in the absence of active pain, migraine-related burden frequently persists. Kim and Schwedt[3] emphasize the concept of "interictal burden," defined as a constellation of fatigue, cognitive dysfunction ("brain fog"), sensory hypersensitivity, anticipatory anxiety, and social withdrawal that continues between acute attacks. This hidden burden is particularly consequential in Korea, where academic

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performance is closely tied to consistent daily attendance and sustained cognitive demand. Interictal symptoms—including impaired concentration, planning difficulties, and anxiety about future attacks—often result in school presenteeism (attending school while cognitively impaired) and reduced participation in after-school activities, accompanied by social withdrawal. Moreover, stigma surrounding invisible pain frequently compels children to conceal symptoms, delaying timely medical evaluation and intervention.[3]

THE TREATMENT GAP: DANGERS OF "MEDICATION UNDERUSE"

A common misconception is that medication overuse is the primary driver of headache worsening. Moon and Chung,[2] however, argue that medication underuse—manifesting as delayed or inadequate treatment—is equally hazardous because it plays a critical role in perpetuating neuroinflammation and central sensitization, thereby increasing attack frequency and treatment resistance. Families who are primarily cautioned about the risks of frequent analgesic use may delay intervention until attacks become severe, which reduces the effectiveness of acute therapy and increases the risk of chronification.[2]

In Korea, specific structural hurdles exacerbate this problem:

- Low utilization of migraine-specific acute therapy (triptans): A large population-based Korean analysis found that migraine-specific triptans are prescribed to only approximately 10% of migraine patients, despite established efficacy.[7] Although these data are not pediatric-specific, they reflect a broader national pattern of underutilization that likely influences pediatric practice.
- Limited approved pediatric triptan options: While multiple triptans are available internationally, only almotriptan is approved for use in Korean adolescents, narrowing clinician choice and encouraging reliance on non-specific analgesics.[8]
- Reliance on non-specific analgesics and early discontinuation: Newly diagnosed migraine patients are often treated primarily with nonsteroidal anti-inflammatory drugs or acetaminophen rather than migraine-specific agents, an approach that may fail to interrupt pathways leading to chronification.[2,9]

WHY DIAGNOSTIC FRAMING MATTERS: "SOMATIC" DOES NOT MEAN BENIGN

Kwon's review[1] addresses a critical diagnostic "gray zone": pediatric headache may meet the International Classification of Headache Disorders, third edition criteria for a primary headache disorder, may reflect somatic symptom and related disorders, or may involve overlapping features of both. In clinical practice, labeling headache as "stress-related" or "functional" can inadvertently result in therapeutic withdrawal, characterized by repeated diagnostic testing, reassurance without structured follow-up, and limited active management. Kwon[1] advocates a holistic approach that integrates psychoeducation with non-pharmacological interventions, such as cognitive behavioral therapy (CBT) and biofeedback, to support functional improvement across both primary headache and somatic presentations. Despite this recommendation, access to CBT, biofeedback, school-based accommodations, and interdisciplinary headache care remains inconsistent across Korea.

A STRATEGIC PATH FORWARD FOR KOREA

To improve outcomes, clinical priorities must shift from simply counting headache days to actively preventing disability:

- Prioritize early intervention (avoid underuse): Families require clear, explicit guidance regarding when to initiate treatment to reduce the risks associated with medication underuse.[2]
- Broaden assessment: Treatment success should be evaluated using functional outcomes, including school participation and interictal burden, rather than pain frequency alone.[3]
- Unified framework: Moving beyond the "organic versus psychogenic" dichotomy allows clinicians to focus on shared neurological mechanisms, such as central sensitization.[1]
- Korea-specific policy expansion: There is an urgent need to expand approved pediatric pharmacologic options and strengthen school-based support systems.[8]

CONCLUSION

Pediatric headache is common, disabling, and insufficiently treated largely because its clinical significance is underestimated. Recognizing headache as a chronic biopsychosocial disorder with both ictal and interictal consequences necessitates a fundamental shift in clinical priorities. Early, proactive, and integrated management—combining timely pharmacologic treatment, psychological support, and family-centered education—is essential to prevent long-term disability. Failure to act risks exposing children to prolonged and avoidable suffering, impaired development, and entrenched pain pathways. Pediatric headache represents a serious neurological challenge, and addressing this condition appropriately requires the healthcare system to deliver the same level of sustained therapeutic commitment typically reserved for other major chronic pediatric disorders.

AVAILABILITY OF DATA AND MATERIAL

Not applicable.

AUTHOR CONTRIBUTIONS

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CONFLICT OF INTEREST

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