

EFFECTS OF A MINDFULNESS-BASED INTERVENTION ON ADOLESCENTS WITH HIGH FREQUENCY PRIMARY HEADACHES: A PROSPECTIVE MULTICENTER STUDY

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Background. Primary headache in childhood and adolescence is frequently associated with high disability and a complex psychological profile characterized by anxiety, depressive symptoms, pain catastrophizing, and difficulties in emotional regulation. These factors contribute significantly to headache chronification and to the functional impact of the condition. In addition to standard care, mindfulness is a feasible and effective behavioral approach, although data on the long-term effects of mindfulness in adolescents with headache remain limited.

Methods. This prospective study included 40 adolescents aged 11–18 years with high-frequency primary headache recruited from four pediatric headache centers. Participants attended a mindfulness program conducted by an experienced physician in small groups, consisting of eight weekly online sessions, combined with lifestyle education. Questionnaires were administered before treatment (T0), and 3 (T3) and 6 (T6) months after the end of treatment to assess headache-related disability (PedMIDAS), anxiety (MASC, STAI-C), depressive symptoms (CDI-2), pain catastrophizing (PCS), emotional dysregulation (DESR), alexithymia (TAS-20), and emotional and behavioral functioning (CBCL).

Results. The analyses showed a progressive reduction in monthly headache frequency (11.6 vs 9.1 vs 7.9 days/month at T0, T3, and T6), associated with a decrease in analgesic use (4.2 at T0, 3.1 at T3, and 2.8 at T6). An improvement in headache-related disability was also observed (PedMIDAS: 39.8 at T0, 23.0 at T3, and 19.0 at T6), together with a reduction in pain catastrophizing levels (PCS: 25.1 at T0, 24.7 at T3, and 19.5 at T6). A trend toward a reduction in state anxiety was also found (STAI-C1: 34.2 at T0 vs 33.5 at T3 and 32.3 at T6). Twelve-month assessments are still ongoing and appear to confirm maintenance of the benefit in patients who have completed follow-up.

Conclusions. The results of our study show that a mindfulness-based intervention, integrated into an educational-behavioral approach, may lead to an overall improvement in the clinical and psychological condition of adolescents with high-frequency primary headache. The benefit is particularly evident in domains related to emotional regulation and pain perception, with a positive impact on quality of life.