

Adapted physical activity

Preventive and Adapted Physical Activity in Adolescent Idiopathic Scoliosis: A Clinical Case Application

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Purpose: Adolescent idiopathic scoliosis (AIS) is one of the most common spinal disorders during growth and is frequently associated with postural dysfunctions and neuro-musculoskeletal imbalances. Adapted physical activity and corrective exercise programs may play a relevant role in preventing curve progression and supporting patients before orthopedic treatment. However, communication among healthcare professionals involved in AIS management is often fragmented, making it difficult for families to navigate therapeutic pathways effectively.

Methods: This study describes a clinical case of AIS managed through a structured postural re-education and neuromuscular rebalancing program within a multidisciplinary pathway integrating specialist medical assessment, physiotherapy, and adapted physical activity. The intervention was organized into sequential phases: initial postural evaluation, interdisciplinary collaboration with medical specialists, and implementation of a preventive adapted exercise protocol aimed at improving postural control and body alignment. Outcomes were monitored through observation of postural landmarks, radiographic evaluation, and follow-up clinical assessments.

Results: Postural assessment performed at the end of the intervention showed an improvement in body alignment and load distribution in the standing position. A reduction in the scoliosis Cobb angle was also documented on follow-up radiographic evaluation. These findings suggest that an adapted exercise program, integrated within an interdisciplinary care pathway, may contribute to improved postural control and better preparation of the patient for subsequent orthopedic brace treatment.

Conclusions: The analyzed case highlights the importance of an inter- and multidisciplinary approach in the management of adolescent idiopathic scoliosis. The integration of clinical assessment, adapted exercise intervention, and collaboration among healthcare professionals may support a more effective and coherent therapeutic

pathway. Furthermore, improving communication among specialists and providing families with clearer practical guidance are essential to ensure a more structured and informed management of the condition.

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