

Abstract:

This theoretical-practical bachelor thesis focuses on dysfunction of the deep stabilisation system of the spine in female basketball players. Basketball is an unilateral sport depending on which hand we use to shoot or dribble, and therefore unilateral overloading occurs. This results in the development of muscle imbalances, painful syndromes, and a higher risk of injury.

The theoretical part addresses several thematic areas important for understanding the issue. These include posture and its components, the deep stabilizing system of the spine, specifically its anatomy, functions, dysfunctions, and examination. Another area is a summary of developmental kinesiology and its most significant periods during childhood. Proper child development is the foundation of the Dynamic Neuromuscular Stabilization (DNS) concept included in the fourth thematic area. The fifth theme covers muscle imbalances, their types, and causes. The last section offers a comprehensive insight into basketball itself, analyzing its movement patterns, most stressed muscles, and common injuries resulting from this sport.

The main goal of the practical part was to apply elements of DNS in the physiotherapeutic intervention for 5 young female basketball players with proven dysfunction of the deep stabilizing system of the spine. For this purpose, a brochure of exercises was created, according to which the players exercised for a period of 5 months. The outcome assessments showed significant improvements not only in the activation of these muscles but also in various performance tests and the subjective evaluation of individual players.