



High prevalence of vitamin D insufficiency in professional handball athletes

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Résumé en anglais	<p>OBJECTIVES: Vitamin D affects multiple body functions through the regulation of gene expression. In sports medicine, its influence on musculoskeletal health and performance is of particular interest. Vitamin D insufficiency might decrease athletic performance and increase the risk of musculoskeletal injuries. Several studies have demonstrated vitamin D deficiency in professional athletes; however, the prevalence of vitamin D insufficiency in professional handball players is yet unknown.</p> <p>METHODS: The study was planned as a prospective, non-interventional study. We examined 70 male elite handball athletes (first league) in a pre-competition medical assessment in July. Age, height, weight, body mass index, 25-OH vitamin D, calcium, and parathyroid hormone were evaluated, and a sun exposure score was calculated. Players were then divided into two groups of vitamin D levels: insufficient (<30 ng/mL) and sufficient (≥30 ng/mL).</p> <p>RESULTS: The mean 25-OH vitamin D level of the 70 players was 33.5 ± 10.9 ng/mL (median 32.2, IQR 26.5-38.9 ng/mL). Thirty-nine (55.7%) had sufficient and 31 (44.3%) insufficient levels. Athletes with sufficient vitamin D levels had significantly lower parathyroid hormone levels than athletes with insufficiency (24.9 ± 12.1 vs. 33.5 ± 15.1 ng/mL, p = 0.02). All other parameters evaluated demonstrated no significant difference between the two groups.</p> <p>CONCLUSION: Vitamin D insufficiency is a common finding in professional handball athletes even in summer, which might negatively affect physical performance. Furthermore, it might lead to an increased risk of musculoskeletal injuries and infections. This should be evaluated in further studies.</p>

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