


Abstract

Predictors of Reduced Bone Mineral Density in Children and Adolescents with Anorexia Nervosa [†]

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Abstract: The complexity of eating disorders, especially anorexia nervosa (AN), is associated with reduced bone mass (RBM) caused by much more than calorie restriction. The aim of this study was to determine the predictors of reduced bone mass (RBM) in children and adolescents with anorexia nervosa (AN), with the consideration of endotypes. This retrospective study with prospective data collection enrolled 197 hospitalized patients, including 65% with a restrictive type, 25% with a purgative type and 10% with an Eating Disorder Not Otherwise Specified. At the time of hospitalization, the patients already had a noticeable RBM, which did not differ according to their endotype. The age of patients at the time of hospitalization (14.9 ± 2.5 years) was confirmed as an independent risk factor for SKM (41.1% higher risk in older patients). Prevalence of RBM did not differ between the endotypes. However, at the time of hospitalization, the patients already had an RBM, which did not differ by the endotype. Patients' age at hospitalization (14.9 ± 2.5 years) is an independent risk factor for RBM (41.1% higher risk with older age). Body mass at hospitalization directly correlates with bone density ($r = 0.531$; $p < 0.01$) and is another independent risk factor for RBD. The risk drops by 9.6% per each kg of body mass more at hospitalization and by 5.7% per each kg body mass more before the diagnosis. Interestingly, longer nutritional support during hospitalization (per day) independently reduces the risk of RBM by 8.4%. The results confirm RBM, which worsens with AN duration, regardless of the endotype. There is a need for an early diagnosis and adequate physical recovery in order to prevent long-term consequences from fractures to osteoporosis.

Keywords: anorexia nervosa; adolescents; bone mineral density; body mass; nutritional support



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