

ABSTRACT

This thesis deals with the relationship between bone quality and lifestyle factors with a focus on nutrition, tobacco use, alcohol consumption and physical activity. The theoretical part of the thesis presents general knowledge about bones, their composition, structure, bone division, growth and development of bones. The next two chapters describe the process of bone remodeling and calcium-phosphate metabolism. The work describes in detail the factors influencing the quality of bone mass, especially those that can be affected, such as the use of tobacco products, alcohol, some drugs and sufficient physical activity. A separate chapter is devoted to the influence of diet on the quality of bone mass. The most common disorders of calcium-phosphate metabolism and their treatment are described as well. The last chapter of the practical part is devoted to the examination of bone metabolism.

The aim of the practical part of the diploma thesis was to examine the eating habits and other components of the lifestyle (smoking, physical activity, etc.) of patients of Osteocentre, 3rd Medical Department, General Faculty Hospital in Prague and to find out how these components correlate with the results of densitometric examination of the patients. Data collection was ensured by means of a questionnaire survey, which contained 25 questions and the results of the densitometric examination were provided from the medical documentation. Data were obtained from 33 patients. After evaluating the data, it was found that approximately half of the patients ate in a rational manner. Most patients consume enough milk and dairy products, meat, fruits and vegetables and engage in physical activity, while reducing the consumption of smoked meats, alcohols, sweet drinks and black coffee. The problem of a large part of patients is insufficient consumption of sea fish and long-term use of tobacco products. The T-score of most patients is in the range (-1) - (-2.5), which corresponds to osteopenia. After comparing the results of the questionnaire survey and examination of bone mass, it was found that the positive effect of diet and other lifestyle components on the quality of bone mass was demonstrated only to a small extent in Osteocentrum patients.

keywords: bone, bone density , metabolism, nutrition