

DIETARY PROTEIN INTAKE IS ASSOCIATED WITH SARCOPENIA AND BONE MASS IN ELDERLY WOMEN

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Inadequate dietary protein intake may contribute to age-related decreases in skeletal muscle and bone mass. The aim of the study was to evaluate protein intake and its relationship with bone and muscle mass. A total of 200 women (35 with sarcopenia and 165 with no sarcopenia) were enrolled in this study. Bone mineral density (BMD) and body composition measurements were performed by dual-energy x-ray absorptiometry and sarcopenia was defined as skeletal muscle mass index $<5.45\text{kg/m}^2$. Protein intake was evaluated through three-day dietary records. It was observed that women who had protein intake above 1.2g/kg/day presented significantly high total skeletal muscle mass [32 versus 34kg ; $p=0.020$], appendicular skeletal muscle mass [13 versus 15kg ; $p=0.013$], bone mineral content [1.784 versus 1.945g ; $p=0.005$], total body BMD [0.988 versus 1.039g/cm^2 ; $p=0.011$], lumbar spine BMD [0.903 versus 0.983g/cm^2 , $p=0.014$], femoral neck BMD [0.760 versus 0.813g/cm^2 ; $p=0.017$], total femur BMD [0.807 versus 0.868g/cm^2 , $p=0.026$] when compared to women who had protein intake under 0.8g/kg/day . Essential amino acids intake as threonine [2.28 versus 2.57g/day , $p=0.033$] and lysine [4.02 versus 4.52g/day , $p=0.036$] and branched chain amino acids such as valine [3.10 versus 3.40g/day , $p=0.044$] was significantly lower in women who had sarcopenia compared with women without sarcopenia respectively. Furthermore, protein intake was positively associated with the index of skeletal muscle mass ($p=0.028$) and trochanter BMD ($p=0.010$). In conclusion, protein intake above 1.2g/kg/day appears to be beneficial for bone and muscle mass, also protein should contain essential amino acids.