

In Older Adults Weight-Loss Lifestyle Changes Slow Bone Loss

Study evaluates the effects of a [weight-loss](#) lifestyle intervention on age-related bone deterioration.



Study

The Prevención con Dieta Mediterránea-Plus (PREDIMED-Plus) randomized clinical trial was conducted across twenty-three [healthcare](#) centers in Spain. Herein, researchers investigated the effects of a multifactorial intervention on age-related BMD, total BMC, and low BMD prevalence among older adults with metabolic syndrome and overweight or obesity over three years of follow-up.

Different lifestyle-based interventions considered in this analysis included an energy-reduced Mediterranean diet, increased [physical activity](#), and behavioral support.

Community-dwelling adults between 55 and 75 years of [age](#) with at least three metabolic syndromes and were either overweight or obese were recruited to participate. Initially, 6,874 eligible participants were randomly assigned to either the control group or intervention group, stratified by center, sex, and age at a 1:1 ratio.

The control group was advised to follow an ad libitum traditional Mediterranean diet without [energy restriction](#) or specific physical activity recommendations. Comparatively, the intervention group received specific Mediterranean diet recommendations with a 30% energy reduction. The intervention cohort also received counseling to gradually increase their physical activity levels to meet recommended criteria by the World Health Organization (WHO) for adults 65 years of age and older.

In addition to physical activity and diet, study participants were subjected to behavioral and motivational strategies to facilitate the sustainable adoption of dietary and lifestyle modifications. [Dual-energy x-ray absorptiometry](#) (DXA) was also used to assess BMD variables and total BMC at baseline, as well as one and three years of follow-up.

Targeted Lifestyle Changes Lead to Stronger Bones in Older Adults

A total of 924 individuals with [metabolic syndrome](#) and DXA scan data included in the final study cohort. At baseline, 464 study participants were included in the control group and 460 in the intervention group, 49.1% of whom were female with a mean age of 65.1 years.

As compared to controls, the intervention group experienced a greater reduction in total body weight by 3.3% and 3% over one and three years, respectively. A significant difference in total [body weight](#) changes was observed between the two groups at -2.8 kg and -2.2 kg after one and three years, respectively.

After adjusting for multiple covariate factors like smoking status, age, sex, [educational level](#), and medical history, significant differences in mean changes between groups were observed.

For example, as compared to controls, study participants in the intervention group exhibited an overall increase in [lumbar spine](#) (L1-L4) BMD after three years. Furthermore, a protective association was established in women but not in men.

Intention-to-treat analysis revealed that, after three years, an increase in total femur, lumbar spine (L1-L4), and femoral trochanter BMD occurred among women in the [intervention group](#) as compared to controls. Likewise, the completer's case analysis also indicated that after three years, women in the intervention exhibited a greater increase in lumbar spine (L1-L4) BMD as compared to controls.

The sensitivity [analysis](#) results were consistent with these findings. Notably, the overall three-year intervention effect was more significant for total BMC in women as compared to men.

Conclusion

A modest hypocaloric Mediterranean diet combined with physical activity had a more profound effect on bone health in older women with metabolic syndrome, especially at the lumbar level, as compared to ad libitum [Mediterranean diet](#) recommendations.

Additional studies are needed to assess the impact of this weight loss lifestyle intervention on bone health for longer follow-up periods. Nevertheless, the study findings support incorporating this intervention into future [public health](#) strategies aiming to reduce the prevalence of osteoporotic fractures in older adults.

Source:

<https://www.news-medical.net/news/20250414/Weight-loss-lifestyle-changes-slow-bone-loss-in-older-adults.aspx>