

Effects of a 6-Month Peanut Consumption Intervention on Anthropometric Parameters and Body Composition in Youth

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Backgrounds and objectives: Peanuts, despite being energy-dense, are rich in nutrients with antioxidant and anti-inflammatory properties. Their high satiety value supports weight management and dietary adherence. While their effects on body composition in adults have been studied, evidence in preadolescents remains limited. This study examines daily peanut consumption's impact on anthropometric parameters, Mediterranean diet adherence, and inflammation in preadolescents.

Methods: A two-arm parallel cluster-randomized controlled trial was conducted with 83 healthy preadolescents in Barcelona. Schools were randomly assigned to intervention or control group and both arms received an educational intervention designed to promote healthy dietary habits. The intervention group consumed 25g of whole skin roasted peanuts for six months. Anthropometric and adiposity measurements were taken during baseline and final visits.

Results and discussion: After 6 months, both groups gained weight, but only the control group showed a significant increase in weight z-score after adjusting for age and sex ($P < 0.001$). The control group also exhibited a 6% increase in body fat and a 5% reduction in muscle mass ($P < 0.001$). Waist circumference remained stable in the intervention group but increased significantly in the control group, a key cardiovascular risk factor. The intervention group had a more controlled weight gain, resulting in significant differences between groups ($P = 0.015$ for BMI z-score; $P = 0.034$ for fat percentage). Overall, the intervention group maintained better body composition with significantly lower fat accumulation and muscle mass preservation.

Conclusions: In conclusion, peanut consumption seem to have some effect on anthropometric parameters, such as supporting body weight maintenance, reducing muscle mass loss, and limiting increases in body fat. However, further studies are needed to confirm these findings, particularly in younger populations and over long term.

Summary of the CV:

Eulàlia Gutiérrez is a PhD candidate in the Polyphenol Research Group at the University of Barcelona. She holds a Bachelor's in Human Nutrition and Dietetics from the University of Barcelona and a Master's in Nutrition and Metabolism from the University of Rovira i Virgili. Her research focuses on the effects of polyphenols on inflammation, body composition, and cognition in children.