

Whey Protein Supplementation in the elderly

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INTRODUCTION

Sarcopenia is the progressive loss of both muscle and its function due to multifactorial etiologies. It may worsen due to poor nutrition. This is common among the elderly. Low protein intake is one of the primary factors at the forefront of this dysfunction (1). For this reason, the evidence suggests that supplementing these eating habits with Whey protein is an effective option. It has long been studied due to its potential to revert assuage sarcopenia (2).

Here we review the existing scientific literature regarding the recommended daily protein allowances, potential methodologies, and in what conditions might Whey protein supplementation be considered an effective option to prevent sarcopenia in the elderly.



MATERIAL & METHODS

The PubMed database of the U.S. National Library of Medicine was used as the main electronic database to collect data for this review. We analyzed all studies published until August 2017 using this online database, with the following Key-words: "Sarcopenia"; "Whey Protein" and "Elderly". Additionally, synonyms were included in the search strategy. The search was limited to human studies and only Portuguese and English articles were included. We used Mendeley software for electronic title management.

References:
1-Beasley, J. M., Shikany, J. M., & Thomson, C. A. (2013). The role of dietary protein intake in the prevention of sarcopenia of aging. *Nutrition in Clinical Practise: Official Publication of the American Society for Parenteral and Enteral Nutrition*, 28(6), 684-690. <https://doi.org/10.1177/0884533613507607>.
2-Devries, M. C., & Phillips, S. M. (2015). Supplemental Protein in Support of Muscle Mass and Health: Advantage Whey. *Journal of Food Science*, 80(S1). <https://doi.org/10.1111/1750-3841.12802>

RESULTS

Seventy six articles were included in this review. Various studies suggest that Whey protein provides several benefits, primarily which it promotes protein synthesis in the body and thus aids in muscle growth and maintenance, both of which are crucial to the health of the existing skeletal muscle. Studies also showed that physical activity is one factor that, when in concomitance with these dietary habits, leads to even more promising results. Strength training was showed to promote higher amounts of muscle gain, force, and potential in association with an adequate protein intake. Additionally, supplementation with vegetable proteins, despite promoting commensurate levels of protein synthesis, has been shown to be less effective when compared to Whey protein. Several studies aver that protein synthesis potentialities in the elderly are not affected, but results reveal a dilatory anabolic response that requires elevated anabolic stimulus. Leucine is one of the factors underscoring the extent of potential protein synthesis in the elderly, and its ubiquitous absence impedes positive anabolic results.

DISCUSSION & CONCLUSION

In a slightly advanced sarcopenia, a balanced diet with high biological value protein is sufficient to prevent the development of the syndrome. Whey protein supplement should be implemented in the elderly at risk and without medical contraindication, whose diet is proven to be insufficient. However, branched chain aminoacid supplementation should be more extensively investigated as an alternative to Whey protein.