Skin ageing: The effects of oral collagen supplementation

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ABSTRACT

Introduction: Skin ageing is a degenerative process caused by a decrease in physiological function of the skin that affects the formation of collagen, elastin, proteoglycans, and glycosaminoglycan. Majority of the skin mass is contributed by the collagen, which responsible for skin structure, mechanical integrity and elasticity. With ageing, compounded by environmental stressors that accelerate collagen breakdown, there may be a diminished collagen levels, disrupted organization, and reduced mechanical strength of the extracellular matrix, which in turn contributes to the visible signs of skin aging. Oral collagen supplements have widely used as intervention in improving the ageing effects. The present review discusses the effects of oral collagen peptide supplementation on skin ageing. **Materials and Methods:** The information in the review was obtained from selected papers, published in 2015 to 2025 from several databases such as PubMed and Google Scholar using keywords related to "collagen peptides", "collagen hydrolysates", "skin ageing" and "skin elasticity". **Results:** An overview of existing literature revealed consistent evidence that collagen peptides are designed to provide bioactive peptides that can be readily absorbed and utilized by the body. These collagen peptides are believed to enhance fibroblast activity in the dermis and promote extracellular matrix regeneration, contributing to the improvement of skin elasticity, hydration, and dermal collagen density. Furthermore, the collagen peptides consumption showed improvement in skin texture, wrinkle reduction with thicker and healthier skin. Both oral and topical collagen supplements play a role in delaying skin aging, but oral supplementation seems to be more effectively absorbed and utilized by the body. Apart from that, the consumption of collagen peptides may enhance the synthesis of filaggrin, which is an essential component in re-establishing the skin's barrier function. Several studies have reported that oral collagen supplements are safe and beneficial for skin aging, with no adverse effects or issues with tolerability during usage and beyond. **Conclusion:** In conclusion, oral collagen supplementation appears to be a safe and effective intervention for improving visible signs of skin ageing and supporting overall skin health.

Keywords: Skin ageing, collagen peptides, oral supplement