

MEDICAL THERAPIES AND PHARMACOLOGY

## ORAL COLLAGEN SUPPLEMENTATION AND ITS DERMATOLOGIC APPLICATIONS

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**Background:** The use of nutraceuticals such as collagen for skincare has been rising, however regulations are lacking on quality, absorption and efficacy. To address this knowledge gap clinical studies regarding potential effects of collagen-based dietary supplements on skin are being completed.

**Objective:** To review the literature and assess available randomized-controlled trials using collagen supplementation for treatment efficacy regarding skin quality, anti-aging benefits and potential application in medical dermatology.

**Materials and Methods:** A literature search was conducted with PubMed using search criteria (collagen) AND (supplement OR food OR nutrition). No lower limit on the year of publication was set. Inclusion criteria were: randomized, placebo-controlled trials using collagen supplementation in human subjects related to dermatology and written in English.

**Results:** Eleven studies with total 805 patients were included for review. Eight studies used collagen hydrolysate, 2.5 g/d to 10 g/d, for 8 to 24 weeks for the treatment of pressure ulcers, xerosis, skin aging and cellulite. Two studies used collagen tripeptide, 3 g/d for 4 to 12 weeks with notable improvement in skin elasticity and hydration. Lastly, one study using collagen dipeptide suggested anti-aging efficacy is proportionate to collagen dipeptide content.

**Conclusions:** Preliminary results are promising for the short and long-term use of oral collagen supplements for wound healing and skin aging. Oral collagen supplements also increase skin elasticity, hydration, and dermal collagen density. Collagen supplementation is generally safe with no reported adverse events. Further studies are needed to elucidate medical use in skin barrier diseases such as atopic dermatitis and determine optimal dosing regimens.