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**File: ■ Argan (*Argania spinosa*, Sapotaceae) Oil
■ Skin Elasticity
■ Postmenopausal Women**

HC 091522-541

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RE: Ingestion and Topical Application of Argan Oil Improves Skin Elasticity in Postmenopausal Women

Boucetta KQ, Charrouf Z, Aguenau H, Derouiche A, Bensouda Y. The effect of dietary and/or cosmetic argan oil on postmenopausal skin elasticity. *Clin Interv Aging*. January 30, 2015;10:339-349.

Skin elasticity is known to decrease with age, and this change is particularly apparent in postmenopausal women. The decrease in skin elasticity is correlated with a decrease in estradiol levels after menopause and is the direct result of loss of collagen and elastin in the skin. If estradiol levels are increased with hormone replacement therapy (HRT), then collagen, elastin, and skin elasticity all increase. Not all women choose HRT, and other methods are desirable to increase skin elasticity. Argan (*Argania spinosa*, Sapotaceae) oil has been used traditionally in food and cosmetic products and has been found to have positive effects on diabetes, high cholesterol, and heart disease in postmenopausal women. These effects may be mediated through argan oil's high antioxidant concentration. In this randomized, controlled study, the effects of dietary and topical argan oil on skin elasticity were measured in postmenopausal women.

Sixty postmenopausal women met the inclusion criteria for this study conducted at Mohammed V University in Rabat, Morocco. Subjects had estradiol concentrations of < 30 pg/ml and follicle-stimulating hormone levels > 40 UI/L. Subjects were excluded if they had skin diseases, used HRT, or used anti-aging treatments or dietary supplements. All subjects ingested 25 g/d of butter for 2 weeks to balance lipid profiles. Subjects were then divided randomly and equally into a control group and a treatment group. The control group consumed 25 mg/d of olive (*Olea europaea*, Oleaceae) oil for 60 days. The treatment group consumed 25 mg/d of argan oil (Targante Cooperative; Chtouka Ait Baha, Morocco) for 60 days. Both groups placed 10 drops (~250 mg) of argan oil on their left volar forearm each day. Skin elasticity of the volar region of both forearms was measured with the following parameters at the beginning of the study and at 30 and 60 days: gross skin elasticity (R2), net skin elasticity (R5), biological elasticity (R7), and resonance running time (RRT). R2, R5, and R7 are directly proportional to skin elasticity, while RRT is inversely proportional to skin elasticity. Data were analyzed with parametric tests, one-way analysis of variance, post hoc Bonferroni tests, and Student's

t-tests.

Significant improvement was not found in any of the parameters on the right arm of subjects who ingested olive oil. In contrast, R2, R5, R7, and RRT improved significantly on the right arm of subjects in the treatment group ($P < 0.001$, < 0.001 , < 0.001 , and $P = 0.002$, respectively). All measures of skin elasticity improved significantly on subjects' left arms, where treatment was applied topically, in both the control and treatment groups ($P < 0.001$ for all except R7 in the treatment group [$P = 0.001$] and RRT in the control group [$P = 0.008$]). Improvements in R2, R5, R7, and RRT were significantly greater in the treatment group than in the control group when only the right arm was considered ($P = 0.036$, 0.036 , 0.012 , and 0.006 , respectively). In addition, topical application of argan oil significantly improved R2, R5, R7, and RRT in the control group when the left and right arms were compared ($P = 0.023$, 0.004 , 0.005 , and 0.022 , respectively). There were no differences in skin parameters on subjects' left arms between the control and treatment groups.

Dietary argan oil supplementation significantly improved measures of skin elasticity when compared to the ingestion of olive oil. The addition of topical argan oil to subjects' skin also improved skin elasticity in both groups, and skin elasticity was similar between the groups after topical application of argan oil. These findings suggest that subjects could use topical applications of argan oil if they seek improvements in skin elasticity. Argan oil has been shown to improve lipid profile and diabetes when ingested, providing additional incentive to ingest argan oil. Argan oil is thought to improve skin elasticity by increasing collagen and elastin production and by reducing their degradation. These effects may be mediated through antioxidants, such as tocopherols and polyphenols, found in argan oil, and can increase collagen and elastin production and reduce degradation of these two molecules. The study does have its limitations, including the small sample size and lack of blinding. It is also questionable whether olive oil is a true control since it contains some of the same antioxidants as argan oil; another oil, such as corn (*Zea mays*, Poaceae) oil, may have been more useful as a control.

—Cheryl McCutchan, PhD

Referenced article can be accessed at <https://www.arganoel360.info>

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