

Lycium barbarum (goji) juice improves in vivo antioxidant biomarkers in serum of healthy adults.

Amagase H, Sun B, Borek C.

FreeLife International, LLC, Phoenix, AZ 85040, USA.

Although *Lycium barbarum* (goji) and active compounds, *Lycium barbarum* polysaccharides (LBP), have a high in vitro antioxidant score as determined by simple chemical reaction methods, their in vivo antioxidant effects in humans have not been extensively examined. After our earlier report that an LBP-standardized *Lycium barbarum* preparation (GoChi) helps prevent oxidant stress-related conditions in humans, our present study examined the hypothesis that the antioxidant effects of GoChi result from its ability to enhance endogenous antioxidant factors. We investigated the effects of GoChi in a 30-day randomized, double-blind, placebo-controlled clinical study. The study population included 50 Chinese healthy adults aged 55 to 72 years. In vivo antioxidant markers, consisting of serum levels of superoxide dismutase (SOD), glutathione peroxidase (GSH-Px), and lipid peroxidation (indicated by decreased levels of malondialdehyde, MDA) were examined preintervention and postintervention with GoChi or placebo (120 mL/d). In the GoChi group, antioxidant markers significantly increased by 8.4% for SOD and 9.9% for GSH-Px between the preintervention and postintervention measurements, whereas MDA were significantly decreased by 8.7%. In addition, the SOD, GSH-Px, and MDA levels in the GoChi group were significantly different from those in the placebo group at the postintervention time point, with increases of 8.1% and 9.0% and a decrease of 6.0%, respectively. No significant differences were detected between the preintervention and postintervention time points in the placebo group. **These results indicate that GoChi increased antioxidant efficacies in humans by stimulating endogenous factors and suggest that continued use beyond 30 days might help prevent or reduce free radical-related conditions.**

PMID: 19185773 [PubMed - in process]

A randomized, double-blind, placebo-controlled, clinical study of the general effects of a standardized *Lycium barbarum* (Goji) Juice, GoChi.

Amagase H, Nance DM.

FreeLife International, LLC, Phoenix, AZ 85040, USA.

BACKGROUND: This randomized, double-blind, placebo-controlled clinical trial is the first study reported from outside China that has examined the general effects of the orally consumed goji berry, *Lycium barbarum*, as a standardized juice (GoChi; FreeLife International LLC, Phoenix, AZ) to healthy adults for 14 days.

METHODS: Based upon the medicinal properties of *Lycium barbarum* in traditional Asian medicine, we examined by questionnaire subjective ratings (0-5) of general feelings of well-being, neurologic/psychologic traits, gastrointestinal, musculoskeletal, and cardiovascular complaints as well as any adverse effects. Also, measures of body weight, body-mass index, blood pressure, pulse rate, and visual acuity were assessed before and after consuming 120 mL of GoChi/day or placebo control solution. Data were statistically analyzed for changes between day 1 and day 15.

RESULTS: Significant differences between day 1 and day 15 were found in the GoChi group (N = 16) in increased ratings for energy level, athletic performance, quality of sleep, ease of awakening, ability to focus on activities, mental acuity, calmness, and feelings of health, contentment, and happiness. GoChi also significantly reduced fatigue and stress, and improved regularity of gastrointestinal function. In contrast, the placebo group (N = 18) showed only two significant changes (heartburn and happiness). No significant changes in musculoskeletal or cardiovascular complaints were observed in either group. All parametric data (body weight, etc.) were not significantly different between groups or between day 1 and day 15 for either group.

CONCLUSIONS: These results clearly indicate that daily consumption of GoChi for 14 days increases subjective feelings of general well-being, and improves neurologic/psychologic performance and gastrointestinal functions. The data strongly suggest that further research is indicated to confirm and extend knowledge of the potential effects of *Lycium barbarum* upon human health.

PMID: 18447631 [PubMed - indexed for MEDLINE]

Goji Berry Effects on Macular Characteristics and Plasma Antioxidant Levels.

Bucheli P, Vidal K, Shen L, Gu Z, Zhang C, Miller LE, Wang J.

*PhD †MD, PhD ‡MD Manufacturing Support Department, Nestlé Product Technology Center, Konolfingen, Switzerland (PB), Nutrition and Health Department, Nestlé Research Centre, Vers-chez-les Blanc, Lausanne, Switzerland (KV), Department of Clinical Laboratory (LS), and Ophthalmology Department (ZG), Xinhua Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China, Sprim China Ltd., Shanghai, China (CZ), Sprim Advanced Life Sciences, San Francisco, California (LEM), and Science and Research, Nestlé R&D Center Beijing Ltd., Beijing, China (JW).

Abstract

PURPOSE.: Goji berry (*Lycium barbarum* L.) is purported to benefit vision because of its high antioxidant (especially zeaxanthin) content, although this effect has not been demonstrated in high-quality human studies. The purpose of this study was to evaluate the effects of daily supplementation with a proprietary milk-based formulation of goji berry, Lacto-Wolfberry (LWB), on macular characteristics and plasma zeaxanthin and antioxidant capacity levels in elderly subjects. **METHODS.:** This was a double-masked, randomized, placebo-controlled trial in healthy elderly subjects (range, 65 to 70 years) receiving 13.7 g/d of LWB (n = 75) or placebo (n = 75) for 90 days. Subjects underwent direct ophthalmic examination to assess pigmentation and soft drusen count in the macula and a blood draw to measure plasma zeaxanthin level and total antioxidant capacity.

RESULTS.: The placebo group demonstrated hypopigmentation and soft drusen accumulation in the macula, whereas the LWB group remained stable. Both plasma zeaxanthin level and antioxidant capacity increased significantly in the LWB group, by 26% and 57%, respectively, but did not change in the placebo group. No product-related adverse events were reported in either group.

CONCLUSIONS: Overall, daily dietary supplementation with goji berry for 90 days increases plasma zeaxanthin and antioxidant levels as well as protects from hypopigmentation and soft drusen accumulation in the macula of elderly subjects. However, the mechanism of action is unclear, given the lack of relationship between change in plasma zeaxanthin and change in macular characteristics.

PMID: 21169874 [PubMed - as supplied by publisher]