What Is Green Coffee Extract?

OBESITY CONTINUES TO BE A worldwide health problem. More than one third of US adults (35.7%) and approximately 17% (or 12.5 million) of children and adolescents aged 2 to 19 years are classified as obese.[1,2] Different weight loss strategies are presently utilized, and a variety of weight loss supplements sold as "slimming aids" or "fat burners" are readily available. The dietary supplements industry continues to grow even in a down economy, surpassing $30 billion in sales for 2011.[3] One supplement that has gained considerable popularity in the recent year is green coffee extract (GCE). Using an Internet search engine returned over 3.5 million hits for green coffee. Internet exposure is there, but the quality of the source can be questionable. What are the facts regarding green coffee extract?

GCE is a supplement made from green unroasted coffee beans. The supplement is available in capsule form, or it can be added to beverage products or chewing gum. The supplement contains naturally occurring caffeine and chlorogenic acid, a polyphenol antioxidant. Green coffee is used because the roasting process of coffee beans reduces the chlorogenic acid levels. The theory behind this product is that the chlorogenic acid is thought to be responsible for several of its pharmacological effects in GCE.[4] It has been shown to inhibit fat accumulation and reduce weight in animal models and humans. In addition, GCE is thought to reduce postprandial glucose concentrations. It is also thought to reduce glucose absorption in the intestine. There is also speculation that GCE might alter adipokine levels and body fat distribution.[4] In a meta-analysis article on the use of GCE published in *Gastroenterology Research and Practice*, the reviewers concluded that the results were promising, but the studies are of poor methodological quality.[5] More rigorous trials are needed to assess the usefulness of GCE as a weight loss supplement. The optimal dose is still unknown, and supplements vary in their formulations.

Another concern is adverse reactions, as GCE contains caffeine. A high intake of caffeine can cause headaches, diuresis, gastric distress, nervousness, vomiting, insomnia, anxiety, agitation, ringing in the ears, and arrhythmias.[4] Caffeine-containing herbs and supplements, calcium, and magnesium may cause interactions with GCE. In addition, some drugs that are sensitive to caffeine would need to be reviewed. Disease and conditions that may be affected when taking GCE are anxiety disorders, bleeding disorders, diabetes, diarrhea, glaucoma, hypertension, irritable bowel syndrome, and osteoporosis.[4]

Registered dietitians can help consumers differentiate food and nutrition misinformation that contains erroneous, incomplete, or misleading statements that sound credible and may or may not be based in science. The evidence on the use of dietary supplements for weight loss indicates little to support use in the management of overweight and obesity. Treatment for overweight and obesity continues to evolve. A healthful lifestyle that includes increased physical activity, reduced total energy intake, and behavior therapy is the foundation of a comprehensive weight management program.[6]

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doi: 10.1016/j.jand.2012.12.004

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Academy Resources

Academy of Nutrition and Dietetics Evidence-Based Nutrition Practice Guidelines

- Adult Weight Management Evidence-Based Nutrition Practice Guideline
  http://andevidencelibrary.com/topic.cfm?cat=2798
- Pediatric Weight Management Evidence-Based Nutrition Practice Guideline
  http://andevidencelibrary.com/topic.cfm?cat=2721

Practice Paper: Communicating Accurate Food and Nutrition Information
http://www.eatright.org/Members/content.aspx?id=6442469632

General Resources

FDA: Weight Loss Fraud
http://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/MedicationHealthFraud/ucm243756.htm

National Institutes of Health Office of Dietary Supplements
http://ods.od.nih.gov/

Drugs, Supplements, and Herbal Information
http://www.nlm.nih.gov/medlineplus/druginformation.html