

Can green tea preparations help with weight loss?

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Background

At least 60% of Canadians are above their ideal body weight, putting them at increased risk of chronic conditions such as type 2 diabetes, osteoarthritis and cardiovascular (CV) disease.^{1,2} Weight loss products made from natural sources appeal to consumers due to the (mis)perception that “natural” usually means safe. Green tea is one of the most common natural ingredients included in over-the-counter weight loss products available in Canada. Consumers and pharmacists want to know whether evidence supports the use of green tea in weight loss.

Evidence Summary

A Cochrane Systematic Review was published in 2012 that examined the efficacy of green tea for weight loss in overweight or obese adults.³ Databases (MEDLINE, Embase, CINAHL, and others) were searched to identify randomized controlled trials (RCTs) of at least 12 weeks' duration that compared green tea preparations (no combination products) to controls for their ability to aid in weight loss. Participants were adults who were overweight or obese, with a body mass index (BMI) of 25 or greater. Studies assessed weight loss using reduction in at least 1 of the following outcome measurements: weight, BMI, waist circumference, hip to waist ratio. Fourteen RCTs that met inclusion criteria for the Cochrane Systematic Review were judged to be of low risk of bias for the majority of evaluated criteria and were of reasonable quality in terms of study design. Meta-analysis of the 14 trials revealed differences sufficient to prevent analysis as 1 group. The 6 RCTs conducted outside Japan (532 participants)

were similar enough to allow meta-analysis and showed a very small, statistically nonsignificant mean difference in weight loss in favour of green tea preparations over control. The 8 RCTs conducted in Japan (1030 participants) were not similar enough to allow pooling of results. Those in the green tea group lost on average 0.2 to 3.5 kg more than those in the control group. Reported adverse effects were mild to moderate, with hypertension and constipation being the most commonly reported. A recent search of PubMed identified an additional RCT that concurred with the results of the Cochrane Systematic Review.⁴

The Bottom Line

- The ability of green tea preparations to help with weight loss has been evaluated in a Cochrane Systematic Review that included 14 RCTs. Those in the green tea group lost on average 0.2 to 3.5 kg more than those in the control group over 12 weeks. In most studies, the weight loss was not statistically significant.
- This evidence does not apply to cups of green tea, typically prepared by steeping a tea bag in hot water. All trials used preparations of green tea that involved extraction procedures that yielded concentrations of active ingredients (catechins and caffeine) that were greater than that produced in a traditional cup of green tea.
- With a loss of 5% to 10% of body weight considered to be beneficial in reducing CV risk factors, the amount of weight loss produced by green tea preparations is unlikely to be clinically relevant.⁵ ■

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