

New research finds no evidence that popular slimming supplements facilitate weight loss

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New research evaluating the effectiveness of a broad selection of popular slimming supplements sold in pharmacies and health food shops has found no evidence that any of them facilitate weight loss beyond the placebo effect.

Two studies presented today (Monday) at the International Congress on Obesity in Stockholm, Sweden, have found they were no more effective than the fake supplements they were compared with.

"There are scores of slimming supplements out there claiming [weight-loss](#) effects through all sorts of mechanisms of action. We have so-called fat magnets, mobilizers and dissolvers, as well as appetite tamers, metabolism boosters, carb blockers and so on. The market for these is huge, but unlike for regulated drugs, effectiveness does not have to be proven for these to be sold," said Dr. Thomas Ellrott, head of the Institute for Nutrition and Psychology at the University of Göttingen Medical School, Germany, who lead one of the studies. "Few of these supplements have been submitted to [clinical trials](#) and the landscape of products is always changing, so we need to put them through rigorous scientific evaluation to determine whether they have any benefit."

Ellrott's group tested nine popular supplements against placebo pills in a [randomized controlled trial](#). The supplements tested included L-Carnitine, polyglucosamine, cabbage powder, guarana seed powder, bean extract, Konjac extract, fibre pills, sodium alginate formulations and selected plant extracts.

The researchers bought the supplements from German pharmacies, changed the packaging and product names to make them look neutral and rewrote the information leaflet inserts to eliminate the product name from the text. They then gave 189 obese or overweight middle-aged consumers packages of either fake pills or of one of the nine supplements, each week for eight weeks, in doses recommended by the manufacturers. Some of the products came with dietary advice, while others didn't, so the researchers provided exactly the same advice as that written in the relevant product leaflets.

Average weight loss was between 1 kg and 2 kg across seven of the products, depending on the supplement, and was 1.2 kg in the group getting the placebo pills. No statistically significant difference in weight loss was found for any of those products when compared with the placebo.

"Most previous studies have examined only one product. This is the first to include nine supplements with different proposed mechanisms of action and we found that not a single product was any more effective than placebo pills in producing weight loss over the two months of the study, regardless of how it claims to work," Ellrott said, adding that if there is an indication for the use of weight-loss drugs, consumers should opt for regulated obesity drugs with proven effects (prescription or over-the-counter) instead.

In a second study presented at the congress, Dr. Igho Onakpoya of Peninsula Medical School at the Universities of Exeter and Plymouth, UK, conducted the first systematic review of all existing systematic reviews of clinical trials on weight loss supplements. The analysis summarizes the state of evidence from reviews of studies involving nine popular slimming supplements, including chromium picolinate, Ephedra, bitter orange, conjugated linoleic acid (CLA), calcium, guar gum, glucomannan, chitosan and green tea.

"We found no evidence that any of these food supplements studied is an adequate treatment for reducing body weight," Onakpoya said. "Annual global sales of dietary supplements are well over \$13 billion. In Western Europe, sales of weight-loss products, excluding prescription medications, topped £900 million (\$1.4 billion) in 2009. The weight-loss industry in North America is worth over \$50 billion and Americans spend over \$1.6 billion a year on weight-loss supplements. People think these supplements are a short cut to weight loss and may spend huge sums of money on them, but they may end up disappointed, frustrated and depressed if their weight expectations are not met in the long term."

Onakpoya said some of the supplements included the study were reported to cause some adverse effects. However, more rigorous research is needed, he said, as only very few trials have been of long duration and the number of patients in most of the trials has been small - factors which together limit the conclusions that can be drawn about the effectiveness and safety of such [supplements](#).

Ellrott's study was funded by a German consumer issues magazine, while the study by Onakpoya and colleagues had no particular funding, but Onakpoya's position is funded by an unrestricted grant from GlaxoSmithkline, which makes the obesity drug orlistat.

Provided by International Association for the Study of Obesity

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