Abstract

Title: The effect of web-based technology on weight loss maintenance - a systematic literature review
Author: Aleksandra Oravsky Sandström, Mari Wollmar
Supervisor: Mette Axelsen
Examiner: Helene Lindquist
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Introduction: Achieving weight loss is possible, however, weight regain is the most common long-term outcome. Self-monitoring - behavioral awareness - is associated with successful weight loss maintenance, as well as adherence. Modern technology might lessen the burden of self-monitoring and thus enhance adherence. To date, few long-term studies have evaluated the effect of web-based technology on weight loss maintenance.

Objective: The aim of this systematic review is to evaluate the evidence whether web-based technology is beneficial for weight loss maintenance.

Search Strategy: The literature search was carried out in the databases PubMed, Scopus and Cochrane. Free-text search words of relevance for the research question were used.

Selection Criteria: Studies included were randomized controlled trials on humans, written in English, with weight as primary outcome measure. Participants were adults who had lost >4 kg, with the exception of weight loss achieved by surgery and/or medication. Studies published prior to 2005 were excluded, as well as studies shorter than 18 months.

Data collection and analysis: Two articles that matched our inclusion criteria were identified and quality assessed by each author individually, using the Swedish Council on Health Technology Assessment (SBU) evaluation template. The combined strength of evidence for the two articles was set using the GRADE system.

Main results: Two studies filling the search criteria were identified, both high in quality. In total 1346 overweight or obese subjects, who had lost 4 kg, or 10% of their bodyweight before entry into the study, were followed for 18 months. Web-based technology was modestly trending toward a positive effect on weight loss maintenance, but the results displayed serious heterogeneity between studies (moderate evidence, ++ +). Web-based technology and personal contact had similar effects on weight maintenance, but the data suffered from low precision (moderate evidence, ++ +).

Conclusions: Behavioral strategies such as self-monitoring are strongly associated with a positive outcome on long-term weight loss maintenance. We are looking for means that facilitate the translation of theory into practice.

Key words: “weight maintenance”, “self weighing”, “self-monitoring”, “prevent regain”, “internet”, “technology”