Internet-based innovations for the prevention of eating disorders: a systematic review

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CRD summary
This review evaluated the effectiveness of internet-based eating disorder prevention programs and concluded that there was no robust evidence regarding their impact on symptoms or eating disorder development. Given the limitations of the included studies and the review, it was unclear how reliable or generalisable the results of the meta-analyses were. The non-committal conclusions of the review seem appropriate.

Authors' objectives
To evaluate the effectiveness of internet-based eating disorder prevention programmes.

Searching
MEDLINE, EMBASE, CINAHL, ERIC, Cochrane Central Register of Controlled Trials, HealthStar, PsycINFO and Sociological Abstracts were searched for English-language studies published between 1985 and 2004; the search strategy was reported as being available on request. Contents lists of three relevant journals were searched, as were dissertations and the reference lists of relevant citations.

Study selection
Prospective studies for the prevention of eating disorders that evaluated guided or non-guided synchronous (real time) and/or asynchronous, internet-based programmes (including e-mail/listserv interventions) that were of group or individual format compared to a control group were eligible for inclusion regardless of the population studied. Studies where internet education was a minor adjunct to face-to-face treatments were excluded. All interventions used the same programme (Student Bodies) given for one day per week for eight weeks. Follow up varied from 10 to 24 weeks and was compared to waiting list controls. Settings included private and public universities and private secular high school; all were located in California. The mean age ranged from 15 to 20 years. Gender of participants was not reported.

The primary outcomes were the Eating Disorder Inventory (EDI) and the Eating Disorder Examination Questionnaire (EDE-Q). Secondary outcomes such as support and participation were also reported.

The authors stated neither how studies were selected for the review nor how many reviewers performed the selection.

Assessment of study quality
Study quality was assessed in terms of randomisation, blinding, data collection and analysis, and withdrawals. Studies were rated as weak, moderate or strong in design (definitions were provided). Two reviewers assessed study quality. Disagreements were resolved by discussion.

Data extraction
Mean differences and 95% confidence intervals (CI) were calculated for each study. The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction.

Methods of synthesis
Weighted mean differences (WMD) and 95% CI were calculated using a random-effects model. Heterogeneity was assessed using the $\chi^2$ test ($p<0.05$). Sensitivity analyses were conducted by excluding the quasi-experimental study from analysis to evaluate its impact.

Results of the review
Five studies reported across 13 publications were included in the review (n=356): four randomised controlled trials (RCTs; n=203); and one non-randomised (NRCT; n=153). Three of the studies were deemed to be methodologically weak and two moderate.

There was no significant difference in the overall Eating Disorder Inventory score or the Bulimia or Drive for Thinness
subscales between internet programmes and waiting list controls post intervention or at follow-up. There was no significant difference in the overall Eating Disorder Examination Questionnaire score, or the weight, shape, eating, or restraint subscales between internet programmes and waiting list controls post intervention, or the weight, shape, or restraint subscales at follow-up. No statistical heterogeneity was observed for these analyses. Exclusion of the non-randomised study did not impact on the overall pooled results. Results for secondary outcomes were reported.

Authors' conclusions
There was no robust evidence for the impact of internet-based prevention strategies on eating disordered symptomatology and putative factors that contribute to eating disorder development.

CRD commentary
The review addressed a clear question and used very broad inclusion criteria to detect studies. An extensive search of the published literature was undertaken and some attempts to locate unpublished studies were made. The search was limited to studies published in English, so there was a risk of language bias. Quality assessment was reported as being conducted in duplicate, but it was unclear whether similar methods to reduce error and bias were used during study selection and data extraction. Quality was assessed using established criteria and the results for each criterion were reported for each study. Most of the studies had very small sample sizes. Given the restricted patient spectrum, settings and location of studies, it was unclear how generalisable the results of the review were. Given the limitations of the included studies and the lack of reporting of some aspects of the review process, it was unclear how reliable the results of the meta-analyses were. The non-committal conclusions of the review seem appropriate.

Implications of the review for practice and research
Practice: The authors did not state implications for practice.
Research: The authors stated that future studies should have larger sample sizes, be controlled for possible covariates, capitalise on the potential benefits of Internet-based interventions, address barriers such as geographical boundaries and address ethical concerns raised by developing guidelines to regulate use and protect participants.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.