A systematic review of Internet-based supportive interventions for caregivers of patients with dementia

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CRD summary
This review of Internet-based interventions to support informal carers of people with dementia found low quality evidence that these interventions may improve carer well-being. The authors' cautious conclusion incorporates the uncertainty resulting from the poor quality of the included studies.

Authors' objectives
To assess the effectiveness, feasibility, and quality of Internet-based interventions for informal carers of people with dementia.

Searching
Five databases (including PubMed and PsycINFO) were searched up to January 2013 for publications written in English and Dutch. Search terms were reported. References of included studies and relevant review articles were also searched. Study authors were contacted to assess whether the studies met the inclusion criteria.

Study selection
Studies that assessed the effectiveness of Internet-based interventions aimed at informal carers (such as spouses, children or children-in-law) of people with dementia or mild cognitive impairment were eligible for inclusion. Studies were excluded if they were aimed solely at the patient rather than the caregiver.

The following interventions were used in the included studies: a web site with information and support for carers on various aspects of caring; a web site with additional carer strategies; a web site combined with telephone support, and a web site with a combination of individual work and exchange with other carers online. The intensity/extent of active support and the duration of the interventions varied widely. All studies focused on more than one carer function-related outcome; these included self-efficacy, stress/burden, depressive symptoms, coping, social contact/support, knowledge, use of health services, and general (mental) health.

Two reviewers were involved in the study selection. Any disagreements were discussed with a third reviewer.

Assessment of study quality
The quality of the studies was assessed using the Cochrane Back Review Group list which included seven criteria based on descriptive, statistical, and internal validity. The scores ranged from 0 to 9. Studies were considered high quality if at least four items scored positively.

The level of evidence was graded from 1 (highest) to 5 (lowest) based on the quality of evidence developed by the Oxford Centre of Evidence-based Medicine (OCEBM) guidelines.

Two reviewers independently performed quality assessment. Any disagreements were resolved by a third reviewer.

Data extraction
Participant characteristics and outcome data were extracted using a standardised data extraction form.

The authors did not state how many reviewers were involved in data extraction.

Methods of synthesis
A narrative review was conducted.

Results of the review
Twelve studies were included in the review (range 11 to 700 participants). The methodology quality of the included studies varied. The observed total internal validity score ranged from 0 to 5 out of 9. Only two out of 12 studies were
considered to be of good quality. The follow-up ranged from 30 days to 12 months.

Six studies reported significant improvements in carers' well-being with Internet-based intervention for depression, sense of competence, decision-making confidence, self-efficacy, and burden. One study found increased intention to seek support, increased carer gain, and decreased carer stress and strain. One study reported increased carer self-control. In addition to online interventions, guidance from a coach (two studies) and interaction with other carers (two studies) could be beneficial.

There were no significant differences between or within treatment groups for carer quality of life, use of stress management techniques, social isolation, and health status.

Several studies reported carers' experience as additional outcomes; these included increased knowledge of the disease and caring (three studies), increased coping with caring (two studies), confidence in carer skills (three studies) and reduced feelings of isolation (one study).

**Authors' conclusions**

Internet interventions for informal carers of people with dementia may improve carer well-being. However, the available supporting evidence lacked methodological quality.

**CRD commentary**

The review question and inclusion criteria were clear. Relevant sources were searched but unpublished studies were not sought, so relevant evidence may have been missed. No formal assessment was made of publication bias but the authors reported that there might be a possibility of publication bias. Methods were used to minimise reviewer errors and bias in the study selection and quality assessment; it was unclear whether similar steps were taken for data extraction.

Study quality was assessed using specified criteria; the results were reported. A narrative synthesis was appropriate because of the diversity of the studies. However, it was sometimes unclear whether statistically significant differences between groups or pre-post measurements were reported. The authors acknowledged the limitations of this review in the complex and inconsistent designs and interventions, and the low quality of many studies.

The authors' cautious conclusion incorporates the uncertainty resulting from the low quality of the included studies.

**Implications of the review for practice and research**

**Practice:** The authors stated that multi-component Internet-based interventions combining tailored information with interaction among carers showed the most promise for improvement.

**Research:** The authors stated that more randomised controlled studies that assessed interventions performed according to protocol were needed to give stronger statements about the effects of supportive Internet-based interventions and their most promising elements.

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