Complementary and alternative therapies for treating multiple sclerosis symptoms: a systematic review
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Authors' objectives
To determine whether the use of complementary alternative therapies (CATs) for management of symptoms of multiple sclerosis (MS) is supported by evidence of effectiveness from rigorous clinical trials.

Searching
MEDLINE, EMBASE, CISCOM and The Cochrane Library were searched from their inception to the end of December 1999 using the following search terms: 'multiple sclerosis', 'complementary medicine' and 'alternative medicine'. Reference lists of articles were examined for further relevant publications. The authors also searched their own files and approached appropriate researchers for any available unpublished trials. There were no restrictions on the language of publication.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) published in peer-reviewed literature were included.

Specific interventions included in the review
Interventions included were CATs for MS including: nutritional therapy such as linoleic acid and alpha-linoleic acid derivatives, massage, Feldenkreis bodywork, reflexology, magnetic field therapy, neural therapy and psychological counselling.

Control groups received oleic acid as a spread (7.6 or 16 g) or capsules (4 g), olive oil, an emulsion containing 21 g of oleic acid, no treatment, sham bodywork or stimulation, calf massage treatments, a magnetically inactive device, or saline injections. Hyperbaric oxygen therapy was not included in this review as it cannot really be regarded as a CAT; in addition, it has been reviewed elsewhere (see Other Publications of Related Interest no.1).

Participants included in the review
Patients with MS were included.

Outcomes assessed in the review
Amelioration of MS symptoms, as measured by various methods including: number and severity of relapses, clinical deterioration, Kurtzke Disability Status score (KdSS) and Millar score, State-Trait Anxiety Inventory (STAI), Profile of Mood States (POMS), Imagery Assessment Tool (IAT), Health Attribution Test (HAT Scale), Performance Scale (PS), Perceived Stress Scale (PSS), Visual Analogue Scale (VAS), Urinary Control Scale (AUA), Quality of Life (QOL), quantitative electroencephalogy (QEEG), and Norwick-Strickland (NS) scales.

How were decisions on the relevance of primary studies made?
One author performed the selection of studies.

Assessment of study quality
The authors used the 3-item, 5-point Jadad score to assess the quality of included studies (see Other Publications of Related Interest no.2). The authors do not state how papers were assessed for quality, or how many of the reviewers performed the quality assessment.

Data extraction
One author performed the data extraction in a standard predefined manner. Data were extracted for the following...
categories: study identification and year of publication; diagnosis, design and the number of patients; treatment; control; primary measures of effect; results; and Jadad score.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative review, organised around the interventions and predefined outcome measures.

How were differences between studies investigated?
The authors do not state a method for assessing any differences between the studies.

Results of the review
Twelve RCTs with 880 participants were included in the review: 4 RCTs studying nutritional therapy (611 participants), 3 studying body manipulation therapy (115 participants), 3 studying magnet therapy and neural therapy (89 participants), and 2 studying psychological counselling (65 participants).

Quality: most of the included trials suffered from small sample size and other methodological flaws, as indicated by their Jadad scores. In addition, a definite diagnosis of MS was not always stated and the method of randomisation was generally unclear.

Nutritional therapy with linoleic acid and alpha-linoleic acid derivatives (4 studies and 1 combined analysis): linoleic acid may be of benefit for MS patients who have less disability, and have shorter duration of illness in terms of severity and duration of relapses, and progression of disability. These trials highlight the need for more rigorous stratification of linoleic acid trials by clinical category of MS.

Massage (1 trial), Feldenkrais bodywork (1 trial) and reflexology (1 trial): results suggest that these are promising treatments for MS in terms of psychological well-being. Reflexology may also be of benefit for physical symptoms of MS.

Magnetic field therapy (2 trials) and neural therapy (1 trial): all report beneficial, albeit short-term, effect on the physical symptoms of MS.

Psychological counselling (2 trials): these trials showed that psychological support appeared to be of benefit in terms of less patient depression, anxiety and negative attitude towards their condition, and to a lesser degree, to some physical symptoms of the condition. However, it is important to note that the study size was generally small.

Authors’ conclusions
The authors state that rigorous research on the complementary treatments of MS symptoms is scarce. There are no CATs that have been shown to be unequivocally effective. There is some evidence that dietary linoleic acid may be of long-term benefit for the physical symptoms of MS patients. Magnetic field therapy and neural therapy appear to have a short-term ameliorative effect on the physical MS symptoms. Massage, bodywork and psychological counselling seem to improve depression, anxiety and self-esteem felt by the patient. All require further investigation in large-scale RCTs.

CRD commentary
The authors stated a clear research question, although the inclusion and exclusion criteria were poorly reported. The literature search appeared to be thorough and no language restrictions were applied. Additional unpublished literature was also sought. The quality of the included studies was formally assessed, and the method and results are reported and discussed in the review. The authors have reported how the articles were selected and who performed the selection and data extraction, but not who performed the quality assessment. These processes were performed by only one of the authors, and were not checked by other researchers.

The data extraction was reported in tables and discussed in the text of the review. The studies were combined in a narrative review with no discussion of heterogeneity. Methodological limitations such as sample size, and definitions
for disease and treatments, were critiqued by the authors. The conclusions appear to follow from the results although the evidence is lacking in detail.

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

**Practice:** The authors did not state any implications for practice.

**Research:** The authors state that there is a need for rigorous research on the subject of CATs for MS patients. Trials with sufficiently large samples are required to minimise type II statistical errors. However, in the quest for larger samples it is also important to note that stratification of patients according to the status of their MS seems to be important in the design of such trials. In addition, both the physical and psychological effects of MS have to be considered, with some therapies seeming to aid both components of the condition.

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