Nonpharmacological management of apathy in dementia: a systematic review

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CRD summary
The authors concluded that non-pharmacological interventions appeared to reduce apathy, and the best evidence was for therapeutic activities, delivered to individuals. Due to unclear review processes, a basic quality assessment, and a very basic synthesis, the authors' conclusions are unlikely to be reliable.

Authors' objectives
To evaluate non-drug, psychological or psychosocial interventions for apathy in dementia.

Searching
Six databases, including MEDLINE, PsycINFO, EMBASE and CINAHL, were searched up to 2009. Search terms were reported. Reference lists of identified records were checked. Only studies available in English were eligible for inclusion.

Study selection
Controlled studies of non-pharmacological interventions, with more than five participants with a diagnosis related to dementia, were eligible for inclusion. Eligible outcomes included apathy as well as related concepts, such as participation, interest, curiosity, motivation, and interaction with others. All care settings were considered. Studies were excluded if participants had other psychiatric disorders, and if apathy outcomes were not reported separately or quantitatively.

The included studies investigated a range of interventions, delivered to individuals or groups: exercise, music, multisensory stimulation, animal therapy, special care programming, therapeutic activities, personalised audiotapes, emotion-oriented care, reminiscence, and others. The delivery, frequency, and duration of intervention sessions varied widely. Studies were published between 1981 and 2008. Most studies were conducted in Europe or North America, and most were conducted in residential or hospital settings. The measured outcomes included apathy, social behaviour, engagement, passivity, and withdrawal. Patient characteristics were not consistently reported. Some studies reported the concepts related to apathy, such as participation and interest.

It was not reported how many reviewers selected studies for inclusion.

Assessment of study quality
Study quality was assessed, using criteria selected by the authors, based on published guidelines. Randomisation procedures and blinding of outcome assessors were reported; the other domains that were evaluated were not reported. A quality score, out of 15, was awarded with studies scoring 11 or more judged to be of high quality.

Ten studies appear to have been quality assessed by two independent reviewers. The number of reviewers, who assessed the quality of the remaining studies, was not reported.

Data extraction
Intervention and study details, as well as measured outcomes and the significance of the findings, were extracted from each study. It was not reported how many reviewers extracted the data.

Methods of synthesis
Studies were summarised in a narrative.

Results of the review
Fifty-six studies were included in the review, with 3,091 participants (range six to 214). Of these, 24 were randomised (at centre or participant level; 1,765 participants), 23 used an interrupted time series design (820 participants), eight were before-and-after studies (472 participants), and one was a non-randomised trial (34 participants). Follow-up ranged from none to 12 months. Quality scores ranged from 2 to 13; 12 studies were considered high quality. Six of
these reported appropriate methods of randomisation and six reported some blinding of outcome assessors.

The authors stated that the included studies largely reported positive or partly positive results. Ten studies reported results that were not significant. One of three studies reported a positive result for exercise therapy; 10 of 11 studies reported positive results for music therapy (one study assessed music and exercise); five of six studies reported positive results for multisensory stimulation; four of five studies reported positive results for special care programming; 13 of 15 studies reported positive results for therapeutic activities; seven of 10 studies reported positive results for miscellaneous therapies; and all seven studies of animal-based interventions reported positive results. The studies of therapeutic activities generally had the highest methodological quality.

**Authors’ conclusions**
Non-pharmacological interventions appeared to reduce apathy. The best evidence of effectiveness was for therapeutic activities, particularly when delivered to individuals.

**CRD commentary**
The review question was vague, but the inclusion criteria were clear. One study of patients with dementia and depression was included, contrary to the criterion that excluded studies of patients with other psychiatric disorders. Some concepts related to apathy that were not determined in advance were included. Several relevant sources were searched, but it was unclear if unpublished studies were sought, and studies that were not in English were excluded, introducing a risk that relevant studies were missed. Two reviewers independently assessed the quality of a subset of studies, which provided an audit check, but did not minimise errors and bias. It was unclear if independent duplicate processes were used for the remainder of the quality assessment, data extraction, and study selection.

No participant details were reported, making it difficult to assess the generalisability of the results. Given the variability between the included studies the authors’ decision to summarise the studies in a narrative seems to have been appropriate, but the synthesis was very basic. Studies were categorised as reporting positive or non-significant results, which did not allow any inferences on the size of any observed effects. Summary scores for study quality were reported, without an explanation of the domains assessed and with no details of why a score was awarded to each study. Study quality appears to have influenced the authors’ conclusions to some extent, but it was unclear which areas of quality had an impact on the overall scores. The authors generally acknowledged methodological weaknesses.

Due to the unclear review processes, a basic quality assessment, and a very basic synthesis, the authors’ conclusions are unlikely to be reliable.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.
**Research:** The authors recommended that future research should consider confounders, such as comorbidities, the effects of medication, and differences in the environment. They stated that good-quality randomised controlled trials were needed.

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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.