Multisensory stimulation for people with dementia: a review of the literature
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CRD summary
The review concluded that multisensory stimulation rooms seemed to provide evidence of immediate positive effects on the behavior and mood of people with dementia. However, there were no conclusive data about their long-term effectiveness or about the relevance of the results to other environments. The review had important limitations, so authors’ conclusions should not be regarded as reliable.

Authors’ objectives
To evaluate the therapeutic effectiveness of multisensory stimulation in people with dementia.

Searching
MEDLINE and Web of Science were searched from 1990 up to 2012 for studies published in English; search terms were reported. Unpublished studies and conference proceedings were excluded.

Study selection
Eligible studies were of multisensory stimulation in patients with dementia aged 65 or over.

Most included studies were of one-to-one treatment and took place in a specifically designed room. The number of sessions ranged from three, to a daily session for 15 months. Session duration (where reported) ranged from 15 to 45 minutes. Most studies were of patients with moderate-to-severe dementia, where reported. Comparator treatments included activity sessions, usual care/activities, volunteer visits, and gardening. Methods used to assess outcomes varied across studies.

The authors did not state how many reviewers selected studies.

Assessment of study quality
No formal evaluation of study quality was presented (although some aspects were mentioned in the discussion).

Data extraction
The authors did not state how many reviewers extracted data.

Methods of synthesis
A narrative synthesis was presented, with results grouped by outcome.

Results of the review
Eighteen studies were included (663 patients, range 4 to 136); 10 were randomised trials.

Nine studies (four randomised) reported positive effects on behaviour following multisensory stimulation. The reporting of results in the studies was limited; only two reported that the effects were statistically significant compared with a control group. Two other studies (one randomised) reported no significant effect. Four of the nine studies reported on any immediate effects on behaviour; four non-controlled studies reported positive effects (all without any supporting statistics), and one randomised trial (20 participants) reported no significant difference between groups.

No significant differences were found for mood (between treatment and control groups) in the three studies of one-to-one interventions.

One randomised study of 136 participants found no significant differences in cognition between groups.

Two randomised studies found significant improvements in communication with caregivers following multisensory stimulation.
Further results of individual studies were reported.

**Authors' conclusions**
Multisensory stimulation rooms seemed to provide evidence of immediate positive effects on the behavior and mood of people with dementia. However, there were no conclusive data about their long-term effectiveness or about the generalization of results to other environments.

**CRD commentary**
The review addressed a clear question and was supported by basic eligibility criteria. Two relevant databases were searched, but only for studies published in English, so the review may have been subject to publication and language bias. The authors did not report using methods minimised the risk of reviewer error and bias during the review process (such as independent duplicate study selection and data extraction).

Study quality was not assessed, which meant that it was not possible to fully appraise the reliability of the evidence. A simple narrative synthesis was presented. Very few primary study results were reported (although it appeared that the reporting of results in some primary study publications was very limited).

Both the review and (at least some of) the primary studies had serious limitations. In light of this, the authors' conclusions should not be regarded as reliable.

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

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

**Research:** The authors made a number of recommendations including a need for studies with better methodologies and longer-term follow up. They also stated a need for studies in different settings, of different techniques, and in patients with different stages of dementia.

**Funding**
None.

**Bibliographic details**

**PubMedID**
23221029

**DOI**
10.1177/1533317512466693

**Original Paper URL**
http://aja.sagepub.com/content/28/1/5.extract

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Dementia /therapy; Humans; Psychotherapy /methods; Sensation /physiology

**AccessionNumber**
12013023487

**Date bibliographic record published**
14/05/2013
Date abstract record published
25/06/2013

Record Status
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.