The efficacy of psychosocial approaches to behaviour disorders in dementia: a systematic literature review

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Authors' objectives
To provide a systematic review of research findings published between 1989 and 1998 concerning non-pharmacological strategies to alleviate behavioural disturbances in elderly persons with dementia.

Searching
Manual searches of selected journals (Age and Aging, Alzheimer's Disease and Associated Disorders, American Journal of Alzheimer's Care and Related Disorders, Australian and New Zealand Journal of Psychiatry, Australian Journal on Aging, British Journal of Psychiatry, Dementia, Geriatrics, Geriatric Nursing, Gerontological Nursing, International Psychogeriatrics, Journal of Gerontology, Journal of American Geriatrics Society and Gerontologist). Manual searches of citations from previous reviews were also made. Electronic databases were searched, namely MEDLINE, CINAHL, PsycINFO and Cochrane, all from 1989 to 1998 inclusive using keywords 'dementia', cognitive impairment', and 'behaviour'; a comprehensive list of search terms is available from the author. No language restrictions were reported.

Study selection
Study designs of evaluations included in the review
All studies that involved a comparison of the frequency or severity of behaviour before and after the introduction of an intervention were included in the review.

Specific interventions included in the review
Psychosocial interventions including: modification of physical environment; activity programmes; music or modification of voice; behaviour therapy; massage and aromatherapy; light therapy; using a multidisciplinary team; carer education. Interventions that were exclusively pharmacological were excluded, as were studies that focused on incontinence, social interaction or mood and studies of orientation and reminiscence therapy.

Participants included in the review
Patients with dementia diagnosed using specified, acceptable criteria. All patients had one or more overtly difficult behaviours, for example aggression or verbal disruption. Patients were living in residential care, psychogeriatric wards or psychiatric institutions, or in the community.

Outcomes assessed in the review
Modified behaviour, i.e. to what extent the following were reduced: 'exiting'; agitation; trespassing; levels of aggression; number of aggressive incidents; number of assaults; anxiety levels in staff; verbal disruption; level of noisiness; levels of disturbance; nocturnal restlessness;

How were decisions on the relevance of primary studies made?
Decisions were reviewed by all of the authors and disagreements were settled by consensus.

Assessment of study quality
The validity of studies for inclusion in the review was based on the following criteria: study design (strength of design according to Forbes 1998, see Other Publications of Related Interest no.1); sampling technique; setting; behaviour(s) studied; measurement tools; sources of information; type of intervention; feasibility and results. Papers were assigned a global rating of validity: 'strong', 'moderate', 'weak', or 'poor'. Papers of 'poor' validity were rejected. The authors do not state how many of the reviewers performed the validity assessment or if validity was assessed independently by more than one reviewer.
Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. Data extracted included: number of patients; type of behaviour studied; nature of specific intervention; feasibility of intervention (i.e. whether it was easy, moderate or hard), results, i.e. whether intervention had positive effect on behaviour or not, and whether result was statistically significant or not, or not tested statistically.

Methods of synthesis
How were the studies combined?
The studies were combined in a qualitative narrative synthesis and grouped by intervention.

How were differences between studies investigated?
Some differences between the studies were discussed in the text but heterogeneity was not systematically assessed for all of the studies.

Results of the review
Forty-three papers were included in the review. Generally, the designs of these studies were not specified, although four studies were randomised controlled trials. According to the validity ratings one paper was 'strong', 15 were 'moderate', and 27 'weak'. Seven studies addressed physical environment (n=83 plus two wards (n not given)). Seven studies addressed the effect of an activity programme (n=201). Ten studies addressed music or voice (n=162). Five studies addressed behavioural therapy (n=16). Three studies addressed massage or aromatherapy (n=47). Four studies addressed light therapy (n=45). Two studies addressed the impact of having a multidisciplinary team (n=44), and seven studies addressed carer education (n=218 plus two groups of staff,(n not stated)). Some studies addressed more than one intervention.

The studies described in the review had significant weaknesses including small numbers of patients, inadequate descriptions of study participants, imprecise data collection methods, high attrition rates and insufficient statistical analyses. There was however evidence to support the use of activity programs, music, behaviour therapy, light therapy, carer education and changes to the physical environment. Evidence in favour of multidisciplinary teams, massage and aromatherapy is inconclusive.

Authors' conclusions
It was easier to interpret the results of rigorously designed studies that focused on a single behaviour or single intervention tailored to the needs of individuals and carers. Future studies should seek to replicate the findings outlined in this review, improving methodologies where necessary and including outcome measures that encompass the interests of peoples with dementia, family caregivers and health professionals.

CRD commentary
This review addressed an appropriate question regarding non- pharmacological interventions in the management of behaviours in patients with dementia and used a comprehensive search strategy. The inclusion and exclusion criteria were clearly defined. No attempt was made to retrieve unpublished data so there is a risk of publication bias in this review. The validity of studies included in the studies was assessed systematically (although the number of reviewers involved in that process was not stated) and sufficient information regarding the individual studies was included. The studies were pooled in a narrative synthesis, being appropriately grouped by type of intervention, although heterogeneity between studies was not formally addressed. The authors conclusions are supported by the findings of the review.

Implications of the review for practice and research
Practice: The author states 'There was however evidence to support the use of activity programs, music, behaviour therapy, light therapy, carer education and changes to the physical environment'.
Research: The author states 'Future studies should seek to replicate the findings outlined in this review, improving methodologies where necessary and including outcome measures that encompass the interests of people with dementia, family caregivers and health professionals'.

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