

**DEMENTIA COLLABORATIVE RESEARCH CENTRE –
Assessment and Better Care Outcomes****Summary**

Project Title Behavioural and psychological symptoms of dementia: A literature review of psychosocial treatments and the identification of further research topics regarding treatment effectiveness and implementation

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A detailed systematic review was conducted of 25 carefully selected controlled trials of psychosocial treatments of behaviour symptoms in dementia (see Table).

Aromatherapy, bed baths, person-centred bathing, preferred music, one-to-one social interaction, simulated family presence and muscle relaxation therapy all reduced behavioural symptoms better than control conditions. Evidence was strongest for aroma (Ballard *et al.*, 2002), bed baths (Dunn *et al.*, 2002), gentle sounds (Burgio *et al.*, 1996), individualised music (Gerdner, 2000) and muscle relaxation training (Suhr *et al.*, 1999). All five treatments were supported by studies with robust designs, “moderate or “strong” ratings on a research quality scale, and moderate or high statistical precision.

Evidence checklists like those devised by the Australian National Health and Medical Research Council (NH&MRC, 2000) attach greatest value to randomised controlled trials (Level 2) and downplay the role of “before and after” repeated measures studies (Level 4). Using NH&MRC rules, only the randomised controlled trial of relaxation training (Suhr *et al.*, 1999) was rated as 2. The other “best” studies achieved ratings of only 3a (Ballard *et al.*, 2002) and 4 (Burgio *et al.*, 1996; Dunn *et al.*, 2002; Gerdner, 2000). These gradings are too harsh. Well conducted repeated measures studies are just as robust in this area of research and much more efficient. There is therefore sufficient evidence to support the use of aroma, bed baths, gentle sounds, individualised music and muscle relaxation training as treatments of behavioural symptoms in people with dementia.

This does not mean that other treatments are ineffective. It means only that their benefits cannot be attributed confidently to a unique therapeutic modality. Most of the treatments described in the systematic review entailed some measure of human contact, either directly or indirectly. Positive interaction between the person with dementia on the one hand, and a family member or care attendant on the other, might form the common basis of many of these interventions.

This is not a weakness. Human contact can be conceptualised as a *treatment* of agitation, not just an attention control, that is worthy of study in its own right. In an important study by Cohen-Mansfield and Werner (1997), nursing home residents responded even better to carefully crafted, one-to-one social interaction than to two “established” interventions, namely individualised music and simulated family presence.

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With respect to treatment duration, Cohen-Mansfield and Werner (1997) noted that two of their 32 severely impaired nursing home residents resumed speaking after a couple of sessions of individually tailored one-to-one interaction but the benefits of psychosocial treatments were otherwise short-lived (Gerdner, 2000; Garland *et al.*, 2007). This is not a problem, though, if the object is to settle or prevent symptoms that arise in specific situations (e.g. aggression during bathing). Short-term problems might respond quite adequately to short-term solutions.

Marked differences in treatment responses were noted by several investigators. While some participants benefited from an intervention, a few became more agitated (e.g. Camberg *et al.*, 1999; Baillon *et al.*, 2004; Garland *et al.*, 2007). If analyses are based solely on measures of central tendency and dispersion, as usually happens now, important within-group differences will not be recognized and a treatment that benefits just a proportion of people, who perhaps share certain characteristics, will be rated a failure. One solution is to list the proportions of study participants whose symptoms improve or worsen to a specified degree. For example Garland *et al.* (2007), in their comparison of simulated family presence and preferred music, found that behaviour counts fell by 50% or more in both treatment arms, despite unimpressive results overall. An unspecified proportion of people became more disturbed. These additional details add a useful perspective and should be encouraged. A simple, cheap treatment that unsettles some participants can be stopped quickly when indicated, with no long-term sequelae.

Treatments tailored to individuals' backgrounds and preferences, whether in the form of music, activity or conversation, seemed especially beneficial (Cohen-Mansfield and Werner, 1997; Thomas *et al.*, 1997; Clark *et al.*, 1998; Sherratt *et al.*, 2004; Gerdner, 2000; Garland *et al.* 2007). This point has emerged strongly in other reviews too (Opie *et al.*, 1999; Cohen-Mansfield, 2001; Livingston *et al.*, 2005) and it should guide further research in this area. Interventions might also be tailored usefully to participants' symptoms or symptom profiles. Cohen-Mansfield and Werner (1997), for example, found that verbal disruption due to hallucinations responded best to simulated family presence while requests for attention benefited most from one-to-one attention. Fine-grained research is required to address these complex issues.

From a methodological perspective, advances in this field of research will include: (i) a requirement that study participants demonstrate one or more behavioural symptoms, to a specified degree and for a specified time, (ii) deploying treatments in time frames and settings (e.g. bath times) when symptoms are most evident, (iii) reporting refusal rates and drop-outs, (iv) tailoring treatments where practicable to participants' backgrounds and interests; (v) reporting multiple outcomes for participants (e.g. behaviour, activity, mood) as well as caregivers (e.g. preferences, time savings); and (vi) outlining treatments' costs, convenience and post-study take-up rates. Most investigators now measure behaviours directly rather than relying on informant reports which have lower inter-rater reliability (Cohen-Mansfield, 1996). Time-sampling makes it possible to monitor several subjects' behaviours simultaneously. Behaviours can also be videotaped and analysed later. These methods work less well with low frequency behaviours.

It is clear that behavioural symptoms are difficult to treat, irrespective of approach, and that non-specific Hawthorne-type effects explain a proportion of the benefits seen. This applies just as much to pharmacological treatments as psychosocial ones. In a meta-analysis by Schneider (1996), antipsychotics proved only 18% more effective than placebo tablets which alone were associated with an average percentage improvement of 37%. While a meta-analysis of the use of Risperidone showed it to be effective (De Deyn *et al.*, 2005), a recent large RCT of three atypical antipsychotics in "real world" conditions proved disappointing (Schneider *et al.*, 2006). Even combinations of carefully tailored nursing, psychosocial and medical interventions resulted in relatively modest, though statistically significant, changes in behaviour in a nursing trial by Opie *et al.*, (2002) in which counts of restlessness and verbal disruption fell by 26% and 20% respectively. Much of this improvement was evident before treatments actually started.

Seen in this context, aroma and music seem attractive interventions given their evidence base, ease of application and low cost. Their effects are probably relatively short-lived but this might prove adequate for some behaviours in certain situations. The task for clinicians and researchers is to discern and articulate these subtleties. A research strategy should therefore seek to (i) test further simple, affordable psychosocial interventions in community and residential settings, (ii)

check their effectiveness at times when difficult behaviours are most evident, and (iii) define what treatment properties appeal most to family and professional caregivers.

None of the strategies considered here qualify in most countries for government or insurance rebates. Time and expense are therefore important considerations. A simple treatment might succeed where an elaborate one fails. Nursing home staff must also be persuaded that a treatment is worthwhile. They are more likely to persist with an intuitively attractive intervention that is pleasant for staff and residents and confers demonstrable benefits in high risk situations. The challenge is to identify treatments that meet all these requirements.

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