

2011

**Sydney Multisite Intervention of LaughterBosses and ElderClowns (SMILE):  
results from a clustered randomised controlled trial**

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## **Sydney Multisite Intervention of LaughterBosses and ElderClowns (SMILE): results from a clustered randomised controlled trial**

### **Abstract**

Abstract from the International Psychogeriatric Association Reinventing Aging through Innovation 15th International Congress, 6-9 September 2011, The Hague, Netherlands.

### **Keywords**

controlled, randomised, clustered, results, smile, elderclowns, laughterbosses, intervention, multisite, trial, sydney

### **Disciplines**

Education | Social and Behavioral Sciences

### **Publication Details**

Low, L., Brodaty, H., Casey, A., Goodenough, B., Spitzer, P., Bell, J., Chenoweth, L. & Fleming, R. (2011). Sydney Multisite Intervention of LaughterBosses and ElderClowns (SMILE): results from a clustered randomised controlled trial. In International Psychogeriatric Association Reinventing Aging through Innovation 15th International Congress, 6-9 Sep, 2011, Hague, Netherlands. *International Psychogeriatrics*, 23 (Supplement S1), S360-S361.

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difficulty, and proposed strategies for improving communication with such individuals. Participants The participants included 75 individuals (54 women) who were diagnosed with probable AD according to the criteria of NINCDS-ADRDA. Their mean age was 83.0 (+/-8.0)years, and mean MMSE score was 16.1 (+/-5.5).

**Method:** 1) Auditory test: Applying hearing thresholds at 0.5 kHz, 1 kHz and 2 kHz by using the audiometer (MADSEN MIDIMATE 602), the participants were classified into four groups of different pure-tone average: i.e., “normal” less than 25 dBHL, “mild” impairment 26–40 dBHL, “moderate” impairment 41–60 dBHL and “severe” impairment 61–80 dB HL. We found no significant difference in MMSE scores among the four groups. 2) Language test: The participants were given the communication screening test (Iiboshi et al., 2007), which was comprised of four aspects of language (auditory comprehension, reading comprehension, speech and writing). 3) Word recognition test: The participants were given the word recognition test, which included 20 words from the list of 67-S words (Japan Audiology Society, 2000). A speech therapist (ST) spoke words in a normal tone, had the participants listen to these words and repeat them. Each participant listened to the words in two different ways, i.e., with watching or without watching the ST’s mouth movements during speech.

**Results:** 1) The two-way (4 levels of hearing difficulty; normal, mild, moderate or severe x 4 aspects of language; auditory comprehension, reading comprehension, speech or writing) ANOVAs showed main effect of language aspects [ $F(3,69)=21.17$ ,  $p=.00$ ]. In addition, an interaction between the levels of hearing difficulty and the aspects of language was also significant [ $F(3,71)=3.11$ ,  $p=.03$ ]. For the normal, mild and moderate groups, auditory comprehension, reading comprehension and speech aspects were relatively spared and significantly higher than writing aspect. However, for the severe group, the reading comprehension aspect was significantly higher than writing aspect only. 2) The two-way (4 degrees of hearing difficulty; normal, mild, moderate or severe x 2 mouth movement; with or without watching) ANOVAs showed main effect of mouth movement [ $F(1,73)=34.57$ ,  $p=.00$ ]. An interaction between the levels of hearing difficulty and the mouth movement was also significant [ $F(3,71)=12.27$ ,  $p=.00$ ]. It was indicated that the effect of watching the speaker’s mouth movements was particularly remarkable for the moderate and severe groups.

**Discussion:** Among the four groups of different hearing difficulty, the AD individuals with normal,

mild and moderate hearing difficulties showed relatively spared auditory comprehension, reading comprehension and speech, which were useful strategies for improving communication. However, those with severe hearing difficulty showed a unique pattern in that their reading comprehension was higher than the other language aspects. Hence, use of letter language is expected to improve comprehension of AD individuals, especially those with severe hearing difficulty. In addition, this study proved that watching the speaker’s mouth movements may improve the individual’s word recognition. This procedure would be a useful and effective strategy for AD individuals, particularly for those with moderate or severe hearing difficulty.

## PS02.124

### Sydney Multisite Intervention of LaughterBosses and ElderClowns (SMILE): Results from a clustered randomised controlled trial

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**Design:** The Sydney Multisite Intervention of LaughterBosses and ElderClowns (SMILE) is a clustered randomised controlled trial of humour therapy in residential aged care.

**Aim:** The aim of the study was to examine the effects of humour therapy on resident mood, social engagement, quality of life, agitation and behavioural disturbance. Intervention: The intervention comprised 1-day training for a staff member nominated by the facility to act as the LaughterBoss for that facility. The training was addressed how to incorporate humour into daily care practices. The LaughterBoss partnered with an ElderClown (a performer experienced in using humour in health care settings) to engage residents through humour using music, mime, props and other techniques. ElderClowns visited facilities over 12 weeks for humour therapy sessions lasting two hours on each visit, weekly for 12 with each facility receiving a minimum of 9 sessions.

LaughterBosses were encouraged to continue use humour techniques between ElderClown visits and after these sessions had ceased. **Sample:** Three hundred and ninety-nine residents were recruited from 35 residential aged care facilities. Facilities volunteered to participate and were included if they provided full-time residential aged care at either hostel or nursing home level within the greater Sydney area to older persons with dementia or other age associated conditions. Residents were included who resided permanently within a pre-defined area of the facility; had lived within the facility for more than 3 months; were not too aggressive, floridly psychotic, receiving palliative care, or vegetative; could provide informed consent or had a guardian who could consent for them, had pre-morbid English language skills sufficient to participate in an interview.

**Randomisation:** Facilities were stratified based on size and level of care (hostel or nursing home) and randomised to either intervention (17 facilities) or control (18 facilities) groups. Assessment: Researchers blind to treatment assignment collected information at baseline (week 0, n=399), post-intervention (week 13, n=372) and at follow-up (week 26, n=272 to date). Data were collected through resident and staff interviews and from resident charts. The main outcome measures were the Cornell Scale for Depression in Dementia (CSDD), dementia related quality of life measured with the DEMQOL resident and proxy versions, the social engagement subscale of the Multidimensional Observation Scale for Elderly Subjects (MOSES), the Cohen-Mansfield Agitation Inventory (CMAI), and the Neuropsychiatric Inventory Nursing Home version (NPI). Demographic and clinical information were also collected. Post hoc qualitative interviews were undertaken with LaughterBosses.

**Analysis:** An intention-to treat approach was used. Multilevel models were used to test the interaction between treatment and time taking into account clustering of residents within facilities. Analyses were conducted using linear mixed-effects models in SPSS 18.0.

**Results:** Residents who dropped out of the study had higher levels of depression, cognitive impairment and agitation at baseline. Follow-up data for eight facilities has not yet been collected. Analysis of all currently available data showed that there were significant improvements on in agitation scores across time for the humour therapy group relative to controls. However there were no significant time by group interactions on the other outcome measures. Within the subsample of intervention facilities, there were significant facility by time interactions on the MOSES, DEMQOL-proxy and a trend for the CMAI. The full

dataset for all 35 facilities will be presented in September.

**Conclusions:** Humour therapy seems to reduce the level of agitation of aged care residents, but did not affect mood, quality of life or other behavioural symptoms. There were differences between the facilities on the effectiveness of the intervention. Differences in the penetration of the intervention between facilities will be discussed.

## PS02.125

### Influence of adherence to a systematic care program for caregivers of dementia patients

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Not much attention is usually given to the most obvious reason why support programs in dementia research are not effective: health professionals' adherence to the intervention protocol. Therefore, we evaluate the influence of adherence to the intervention protocol for caregiver and patient outcomes on the Systematic Care Program for Dementia (SCPD) study in community mental health care. Basically, the SCPD consisted of training health professionals in the systematic assessment and interpretation of caregiver problems and in strategies to deal with deficiencies. The SCPD training consisted of three sessions of 2 hours each. One meeting was used to explain the program, and two meetings were used for evaluating the use of the program and for preparing suggestions about how to hand over the responsibility for care after the health service's work was completed. The SCPD can be used in the health professional's first consultation with a patient-caregiver dyad entering the community mental health service. It might prevent overburdening caregivers who have made no request for treatment of their own problems. The intensity of the interventions is left to the discretion of the health professionals. Data were drawn from the SCPD study – a single-blind, multicentre, cluster-randomized, controlled trial. Six community mental health services across the Netherlands and forty-eight health professionals