

Do Cross-Generational Interactions Make Any Difference to the Mental Health of Older Adults with Dementia?

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ABSTRACT: Background: *Despite the increasing longevity of older people, there is no completely effective medical treatment for dementia. It is vital to consider ways of preventing the onset of dementia and improving the quality of life of older people with progressive dementias. This aim of the study is to look at the evidence on whether interactions between different age groups in unrelated relationships make any difference to older adults with dementia. Methods:* *A rapid review was conducted to look at the impacts of cross-generational activities on older people with dementia. To be included, studies should have been published as peer-reviewed articles in English between January 1986 and early 2014. No country restriction was applied. Supplementary searches were performed and a narrative synthesis was reported. Results:* *Most cross-generational interventions showed beneficial effects on mental health in improving cognitive function, engagement, social health, and in helping to manage negative emotions in terms of stress and agitation. However, mixed results were found in some dimensions of emotional health such as perceived self-worth, purpose in life and depressive symptoms for older adults at early stage of dementia. Conclusion:* *Potentially, incorporating interactive components between generations into care practice in a personalised way would be an effective option for keeping older adults with dementia as fit as possible mentally by promoting their sense of wellbeing. Future studies embodying non-verbal communication elements for older adults in the advanced stage of dementia would be helpful to promote an atmosphere of togetherness.*

Key words: *Mental health, older adults, children, community, cross-generational, volunteers, dementia*

INTRODUCTION

With the increasing longevity of older people, the world faces a tremendous challenge in meeting their care needs. Worldwide, the proportion of older people aged 65 and over is expected to rise from 8 percent today to almost 17 percent by 2050 (The U.S. Census Bureau). Today, 36 million people across the globe have dementia, costing more than US\$ 600 billion (World Health Organisation, 2012). Given limited resources in our societies, it is important to find effective ways of alleviating the burden to health and social care services, as well as carers. Given that there is no curative medical treatment for dementia, it is vital to consider ways of preventing the onset of dementia and improving the quality of life of older people with this progressive condition. Although literature on various psycho-social interventions for dementia care is increasingly being accumulated (Blake, 2013; Woods, 2005; Dreher, 1997), there are relatively limited amounts of studies viewing the effectiveness of interventions from a cross-generational perspective. This is important as interactive activities between different generations can potentially be mutually beneficial for the different generations, addressing their emotional and social needs. This present study briefly looks at the evidence on whether cross-generational interactions outside of families make any difference to the mental health of older adults with dementia.

METHODS

A rapid review was conducted to look at the impacts of cross-generational activities on older adults with dementia. To be included studies needed to have been published as peer-reviewed articles in

English between January 1986 and early 2014 in PubMed. No country restriction was applied. Supplementary searches were performed and a narrative synthesis was reported. The search strategy is the following: ("intergenerational program*") OR (("Intergenerational Relations/epidemiology"[Mesh] OR "Intergenerational Relations/ethnology"[Mesh] OR "Intergenerational Relations/statistics and numerical data"[Mesh])) OR ("intergenerational intervention*").

RESULTS

Impacts of Cross-Generational Programmes

Out of two-hundred fifty one studies initially identified, six studies met the inclusion criteria. After checking citations of these studies, four additional studies were included. Details of the studies included are shown in Table 1.

Overall, cross-generational activities had beneficial impacts on cognitive functioning, engagement styles with children and psychological health. Emotional well-being also had beneficial impacts in terms of improved delayed recall, reduced agitation and better social interaction. However, mixed results were found on depression, feelings of usefulness and purpose of life.

Regarding cognitive functioning, a Japanese study looking at activity reminiscence therapy as a "brain-activating rehabilitation" (Yamagami, Oosawa, Ito, & Yamaguchi, 2007) reported significant improvements in delayed recall. In qualitative studies for structured volunteering interventions, older people described being with children as a cognitively stimulating experience making them think about things that they had not thought about for a long time (George, 2011; George, Whitehouse, & Whitehouse, 2011).

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Table 1.
Summary of Studies Included

Author	Year	Study design	Sample	Setting	Country	Main outcomes
Camp et al.	1997	Before and after	N=12, mean age=90	Nursing home	USA	Engagement style
Chung	2009	Before and after	N= 51, mean age =79	Community, day care centre, home	Hong Kong	Quality of life, depression
George	2011	Randomised Controlled Trial	N= 8, mean age of 85.7 (intervention), N= 7, mean age = 81.4 (control)	Community, school	USA	Stress, quality of life
George & Singer	2011	Randomised Controlled Trial	N= 8, mean age of 85.7 (intervention), N= 7, mean age = 81.4 (control)	School	USA	Stress, quality of life
George et al.	2011	Randomised Controlled Trial	N= 8, mean age of 85.7 (intervention), N= 7, mean age = 81.4 (control)	Community, school	USA	Stress, depression, cognitive, purpose, and usefulness
Judge et al.	2000	Controlled trial	N=9 (intervention), N=10 (control), mean age=81	Adult day care	USA	Engagement style
Lee et al.	2007	Cross-Over Controlled Trial	N=14, aged 85 to 94 mean age =90.29	Skilled Nursing home	USA	Engagement style
O'Shea et al.	2014	Randomised Controlled Trial	N=153 (intervention), N=151 (control), mean age= 85.2	Residential care homes	Ireland	Agitation, quality of life, depression
Ward et al.	1996	Before and after	N=12, mean age=85	Long-term care residence	USA	Agitation, laughing, touching, head nodding
Yamagami et al.	2007	Before and after	N=18 , mean age=82.2	Day care centre, group home	Japan	Cognitive function, delayed recall, memory

For engagement styles, older adults with dementia showed more constructive engagement during cross-age programmes, based on Montessori educational methods, relative to controls in a cross-over trial (Lee, Camp, & Malone, 2007) as well as in another study for Montessori-based teaching activities by older people paired with children (Camp, Judge, Bye et al., 1997), and a group-based multi-component intervention including Montessori activities (Judge, Camp, & Orsulic-Jeras, 2000). Interestingly, no case of disengagement was found, when children and older adults worked together with no aggressive behaviours exhibited (Camp, Judge, Bye et al., 1997). However, in the Japanese study, non-significant changes in withdrawn and disoriented behaviours were observed (Yamagami, Oosawa, Ito, & Yamaguchi, 2007). In addition, when looking at the levels of agitation, observed by caregivers such as nursing staff on the days when the cross-generational music activities were taking place, it was found that older adults exhibited lower levels of agitation (Ward, Kamp, & Newman, 1996). However, the Japanese study also showed non-significant changes in irritable behaviours after the activity reminiscence therapy programme (Yamagami, Oosawa, Ito, & Yamaguchi, 2007).

Concerning quality of life, there was good evidence in an intergenerational reminiscence programme facilitated by young volunteers from Hong Kong (Chung, 2009), while another study for a structured education-based reminiscence programme from Ireland (O'Shea, Devane, Cooney et al., 2014) showed mixed results, depending on the different methodologies employed. Statistically significant improvements in quality of life were found using a protocol analysis, while non-significant results were reported, based on an intention-to-treat analysis (O'Shea, Devane, Cooney et al., 2014).

Looking at psychological health a significant decrease in stress levels was shown in studies evaluated alongside randomised controlled trials (George, 2011; George, Whitehouse, & Whitehouse, 2011). In particular, older people in the cross-age programme showed significantly decreased levels of stress, whereas increased stress was reported among those involved in workshops with their peers. In terms of caregiver burden, a non-significant change was reported between the intervention and control groups (Yamagami, Oosawa, Ito, & Yamaguchi, 2007). A significant reduction in depression was reported between pre- and post-tests (Chung, 2009). However, some studies such as the intergenerational volunteering programme based on a randomised controlled trial (George & Singer, 2011), the

Irish study (O'Shea, Devane, Cooney et al., 2014) and the Japanese study (Yamagami, Oosawa, Ito, & Yamaguchi, 2007) did not show statistically significant changes in depression.

For emotional well-being, no significant differences were found in terms of purpose of life and feelings of usefulness between the intervention and control groups in one quantitative study for a structured volunteering intervention by older adults (George, 2011), while more positive findings were reported in terms of self-worth, relationships, and purpose in life from narrative interviews (George, Whitehouse, & Whitehouse, 2011). It was found that non-verbal communication such as touching was more frequent observed in the presence of children in studies looking at structured volunteering interventions (George, 2011; George, Whitehouse, & Whitehouse, 2011). In addition, Montessori-based teaching activities also showed positive impacts on the social participation of older adults with dementia in terms of the increased number of older people who successfully completed their sessions with children over time (Camp, Judge, Bye et al., 1997).

DISCUSSION

Most studies showed beneficial effects on cognitive functioning, engagement style, quality of life, psychological health and emotional well-being. However, mixed results were found for depression. For example, in one Irish randomised controlled trial (O'Shea, Devane, Cooney et al., 2014), the authors mentioned this was partly attributable to one outlier in the control group drawing the average up too much. There were wide variations across different residential care facilities. The authors were unable to demonstrate the benefits of the intervention for older people who had sub-clinical threshold levels of depression. It suggests a targeted approach would have benefited more people with a clinical diagnosis of depression. The capacity to benefit was much greater for people with clinically meaningful levels of depressive symptoms than those with sub-threshold levels. Interestingly, when depression was measured using the Cornell Scale for Depression in Dementia (CSDD), there was a significant improvement in the control group due to one site reporting an extraordinary improvement in depression among controls. After excluding this outlier from the analysis there was no significant impact on depression. The authors mentioned this should be interpreted with caution.

One of the common factors that emerged from successful cross-

generational programmes was the playing of an active role such as teaching activities as shown in the Montessori-based programmes (Lee et al., 2007; Camp et al., 1997; Judge et al., 2000). Particularly, in the Japanese novel reminiscence programme, everyone took turns to be the leader in a small group setting over time (Yamagami, Oosawa, Ito, & Yamaguchi, 2007). The high attendance rates in these programmes might be a result of the use of an approach that encouraged older people to get involved longer. This heightened their motivation levels throughout the course as each older adult took an active role for different structured themes to discuss and demonstrate the ways of using old tools to the younger people every week. For instance, older people demonstrated how to make rice cakes (mochitsuki) using a steam pot, glutinous rice, mortar and mallet to younger staff who were unfamiliar with these kinds of old-fashioned objects. This process of transferring their cumulative knowledge and experiences in the past to the next generation can be interpreted as an effective way of meeting one of the fundamental social desires of older people. In turn, realisation of generativity in this way could have made the older people feel valued and provided an opportunity for them to regain competence through confidence boosting experiences in their social roles. Practically, it was also associated with improving delayed recall as shown in increased interest in their personal appearance such as taking care with their hairstyles or in preparing outfits to wear for subsequent sessions, thus maintaining their self-care functioning as well.

Older people with dementia may feel stigmatised and infantilised by others either consciously or unconsciously. Responses for research questionnaires often rely on responses from family members, staff and other caregivers due to the progressive nature of their cognitive impairments. However, it is worth noting that the difference in responses between self-reported quality of life and proxy QOL-AD scores by research nurses was minor (O'Shea, Devane, Cooney et al., 2014), while both responses showed positive benefits from reminiscence. Self-reported outcomes were slightly higher, although it could be challenging to apply the self-reported version of the QOL-AD to older adults with relatively low MMSE scores. It was possible that older people could successfully complete the answers with support from research nurses during the measurement process. It is important to ask the views of service users as a gesture of respect for their dignity and this could lead to making them feel that their opinions are valued and contribute to their positive self-perception.

Although most studies reported beneficial effects on quality of life after reminiscence, not all participants had positive cases. In the Japanese study, an older lady aged 93 years old with mild dementia who was on antipsychotic medication, showed worsening effects in terms of MMSE after reminiscence sessions. It is questionable whether taking part in the reminiscence programme led to a worsening of confusion or unexpected side-effects of the antipsychotics that she had been taking for the whole intervention period. Nonetheless, her family mentioned that she had had very difficult times in her early life and touching these adverse memories might have led to the heightened confusion states. However, this case is an outlier and not generalizable to the overall positive outcomes seen for other older participants (Yamagami, Oosawa, Ito, & Yamaguchi, 2007). One limitation of this analysis, however, is that it is difficult to make comparisons between studies due to their heterogeneity.

CONCLUSION

Most studies showed positive impacts on the mental health of older people with mild to moderate dementia. More studies are needed to determine whether any adverse effects of reminiscence can systematically occur to people with tough experiences in their early life and/or people who are diagnosed with co-morbid mental health problems and take any medications regularly such as anti-depressants, anti-psychotics and other drugs for physical health problems. It is important to develop programmes tailored to individual needs and circumstances ahead of time to prepare appropriate activities.

There is a gap for research on the benefits of intergenerational activities in older people with severe dementia. Future research might evaluate whether cross-generational programmes may be effective in promoting an atmosphere of togetherness by incorporating non-verbal communication methods such as affectionate touch, hugs, cuddles, holding hands, shaking hands and other tactile forms of communication in a structured manner into activities.

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