

Nature as an intervention in dementia: a qualitative pilot study

April 4th, 2014 - Debby Gerritsen & Rose-Marie Dröes

Being outdoors in a natural environment is thought to be restorative and relaxing (Kaplan & Kaplan, 1989). For people with dementia, nature and outdoor spaces ('ingericht groen') can provide a stimulating environment with exposure to light and sensory experiences (Burns et al. 2002; Guisset-Martinez et al., 2013) as well as engagement in pleasant activities (Mac-Donald, 2002). It is reported that both nature in general (Ottossen & Grahn 2005) and outdoor spaces (Kaplan & Kaplan 1990, Milligan et al. 2004) are beneficial in dementia care. Although the evidence base is still quite small, recently, two articles were published on this topic that are very insightful.

Olsson et al. (2013) investigated how people with dementia reflect on being outdoors, and found that persons with dementia reflected on and described outdoor activities as a confirmation of the self (cf. Cohen-Mansfield et al., 2000; Edvardsson et al., 2010). Although some felt confirmations of their restrictions, - such as no longer being capable of engaging in desired activities, or a change in being independent in life which sometimes leads to feelings of inadequacy and reduced wellbeing - mostly positive confirmations were described, such as confirmation of the fact that one was able to maintain desired activities and was 'still part of it all'. Furthermore, the informants perceived positive values in relation to being outdoors: feelings of increased self-confidence, freedom and independence, sensory experiences and the experience of an uncomplicated and undemanding environment - 'just being' -.

These perceived values are in accordance with the 'Attention Restoration Theory' (Kaplan & Kaplan, 1989). This theory is based on the notion that nature requires little energy and is thought to be unlimited and that it gives humans an opportunity to rest and recover. The fact that natural environments are non-demanding, in contrast to the built environment and indoor life, could be what allowed the informants to feel free: in nature, they could experience being with others 'in the quiet' by sharing sensory impressions without verbal/ intellectual demands, which might strengthen the self (Olsson et al., 2013). Further, these results have interesting parallels with the prosentia hypothesis of Chalfont et al. (2010), which holds that interacting with nature together with another person can contribute to maintaining a sense of self of a person with dementia.

In their review of sensory gardens and horticultural activities, Gonzalez and Kirkevold, (2013) included sixteen studies with participants ranging from eight to 129 participants. Research designs were case studies (n = 2), survey (n = 1), intervention studies with pre-test/post-test design (n = 11) and randomised controlled studies (n = 2). Of these 16 studies, eight examined the benefits of sensory gardens, seven examined horticultural therapy or therapeutic horticulture and one examined the use of plants indoors. They conclude that these types of non-pharmacological interventions may improve well-being and affect and reduce the occurrence of challenging behaviour.

Nature and outdoor spaces may thus be important for persons with dementia and improve their wellbeing. Nature in general is, however, often either not available for nursing home dwellers with dementia (Cox et al. 2004, Chalfont, 2007) or underused despite easy access to it (Mather et al. 1997). Outdoor spaces such as gardens and parks are often available for nursing home dwellers and home dwelling persons with dementia, but their use must be further improved (Gonzalez & Kirkevold, 2013).

AIMS

In this pilot study, the aims are to:

- 1) investigate the views of persons with dementia on the importance of nature and outdoor spaces for their quality of life;
- 2) create a checklist of what people experience as important for their quality of life in nature and outdoor spaces;
- 3) determine the content of nature and outdoor spaces interventions aiming at improving the well-being of people with dementia and based on what they experience as important for their quality of life in nature;
- 4) develop a nature/outdoor space wellbeing- intervention for people with dementia, especially for persons who exhibit behaviour (often described as 'challenging behavior') that represents unmet needs¹;
- 4) pilot test this intervention, investigating possible effects and feasibility.

METHODS

Phase 1)

Importance of nature and outdoor spaces for the quality of life of persons with dementia: a qualitative focus group study

Adding to the reviews performed earlier (Conzalez & Kirkevold, 2013; Fontys Hogeschool HRM en Psychologie, 2014), a short international literature review will be conducted to explore whether relevant (new) papers were published in addition to the papers described above. The results of this literature review will, together with those of the earlier review, be used as input for the composition of a topic list/discussion guide that will be applied in the qualitative study.

For the first aim, 6 focus groups with persons with dementia will be held. Each focus group will consist of 4-6 persons and will last approximately one hour. Following the guidelines for conducting focus groups, discussions are facilitated by a skilled moderator with experience in communicating with people with dementia, who will use the discussion guide to direct the discussion (Patton, 1998). If necessary, after the focus groups, we will conduct semi-structured interviews with focus group members who appeared to have had difficulty participating in the group discussions.

A purposive sampling strategy is used to increase the external validity of our results. We will conduct 2 focus groups each for persons with dementia who visit 'ontmoetingscentra'; who visit day care; and who live in a long term care institution. This will provide an overview of needs and preferences of persons with dementia in different stages of dementia and different settings. Further, the following characteristics are considered as relevant for the external validity: age, sex, geographical location (city versus rural).

Participants will be recruited via the ontmoetingscentra-network (www.ontmoetingscentradementie.nl) and via long term care organisations of the Nijmegen University Care Home Network (www.ukonnetwerk.nl).

The focus groups will be tape-recorded with the participants' consent, and completely transcribed verbatim. Relevant and new topics will be added to the topic/discussion guide after a preliminary analysis of the first sessions. In this way, ideas and thoughts that emerge in primary stages

¹ These unmet needs regard self confidence (negative self image), freedom, feelings of independence and sensory experiences, and/or the experience of an (over)demanding social or material environment

of the analysis can be brought forward in subsequent focus groups as the study proceeds. Content analysis of the transcriptions, based on grounded theory analysis (Corbin & Strauss, 2008) will be carried out by two independent researchers to derive themes from the data on what people with dementia find important for their quality of life in nature.

Phase 2)

Create a checklist of the themes that people with dementia mention as important for their quality of life in nature, which can be used in practice by caregivers to match thematic nature and outdoor space interventions to an individual person's needs and preferences.

Phase 3)

Determine the content of nature and outdoor spaces interventions aiming at improving the wellbeing of people with dementia and based on what they experience as important for their quality of life in nature

Based on the input on important aspects of nature for people with dementia received from the focus groups, 3 or 4 concept theme interventions will be developed. These will be presented for feedback to persons with dementia and several other stakeholders in the field of dementia care: psychologists, nursing staff members, recreational and physical therapists and coordinators of meeting centers and day cares. Persons with dementia will be asked whether they would like to participate in one or more of the concept-interventions, which themes they would like and which could be improved in their opinion. The other stakeholders will be asked about their thoughts on the feasibility (e.g. barriers and facilitators to implementation) and relevance of these concept-interventions.

Individual semi-structured interviews with five patients will be conducted as well as ten structured interviews with other stakeholders. Methods of analyses will be the same as those of the focus groups.

Phase 4)

Develop an intervention for persons with dementia who exhibit behaviour representing unmet needs ('challenging behavior')

Based on the input received in Phase 3, relevant and implementable interventions will be designed based on what people with dementia find important.

Phase 5)

Pilot test this interventions, investigating possible effects and feasibility.

For this pilot study, each pilot intervention will be tested among persons with dementia. Also in this phase we will use a purposive sampling strategy, with a specific focus on including persons with dementia who are known to have challenging behaviour. The created checklist will be used to assign people with dementia to one of the interventions.

About 15 persons with dementia will perform a nature/outdoor space related activity. They will be observed and their affect assessed during the activity, and interviewed afterwards about their experience and satisfaction. For observing affect, the Observed Emotion Rating Scale (Lawton et al., 1999) will be used, which is a scale that measures emotional states and can be used during activities. Additionally, the Interact instrument (Dowling et al., 1997) will be used to observe positive and

negative behaviour in people with dementia during the intervention. After this pilot, the concept will be adapted if necessary.

Data will be entered in an anonymous database and analyzed by a one-sample non-parametric test for differences using SPSS.

DELIVERABLES

This pilot study will result in:

- insight into what people with dementia consider important and relevant aspects of nature and outdoor spaces
- a checklist which can be used to inventory what people find important in nature for their well-being/quality of life
- insight into categories of theme interventions regarding nature and outdoor spaces.
- insight into barriers and facilitators for implementing nature/outdoor spaces based interventions, to help future implementation
- (a) pilot intervention(s) for persons with dementia of different settings (home-dwelling and in long term care)
- information on feasibility and possible effects of the pilot intervention(s).

Based on the results of this pilot study, funding for a larger study into the effectiveness of the intervention can be sought.

TIME SCHEDULE

Months	
1-2	Literature review and topic list construction
1-5	Respondent inclusion
2-3	Data collection focus groups
2-4	Analyses focus groups
4	Develop checklist
4	Develop concept interventions
4-5	Interview persons with dementia and stakeholders
6-7	Pilot interventions
7-8	Analyses
8	Reporting results

EXPERTISE

Debby L Gerritsen, PhD, is senior researcher at the Department of Primary and Community Care of the Radboud University Nijmegen, Medical Centre and is involved in the research curriculum of the specialist training program for elderly care medicine. She has distinctive expertise on quality of life, mental health and the measurement of patient outcomes in long term care. The topic of her PhD thesis was QoL and its measurement in nursing homes, which has resulted in several international peer reviewed publications. She was/is project leader of the ZonMW sponsored AiD-trial (170992801), and the projects E-learningmodules for nursing staff on depression (316000008) and the Proper study (113101005). She co-authored 40 scientific peer-reviewed publications and currently supervises 6 PhD students and a post-doc. She is a member of Interdem, a pan-European research group on detection and timely INTERvention in DEMentia, and a member of the Taskforce on ethics of portrayal of dementia of Alzheimer Europe.

Rose-Marie Dröes (PhD) is professor of psychosocial care in dementia at the department of Elderly Care Medicine and General Practice of VUmc, and head of the research programme Care and support in dementia of the department of Psychiatry of VUmc /GGZ-inGeest in Amsterdam. She is Human Movement scientist and received her PhD degree in 1991. She has expertise in psychomotor therapy, care innovation, intervention studies and implementation studies in dementia care. She is the founder of the Meeting Center Support Programme (MCSP) for persons with dementia and their caregivers, which spread to over 120 centers in the Netherlands and will now be implemented under her leadership in Europe, in the MEETINGDEM project (JPND funded). She participated in several European ICT projects: COGKNOW (FP6), Rosetta (AAL), and STAR (LLP). She has over 220 publications, and received several awards for her innovative work. She is an active member of the IPA and the Interdem group, and she is a member of the Advisory Board of the Dutch Quality Institute Care which is part of the new Dutch Care Institute (ZIN, before CvZ) and aims to improve the care in the Netherlands.

BUDGET

	FTE	Euro
Costs personnel		
Junior researcher	0.9 for 8 months	40.170
Dr. D. Gerritsen	0.1 for 8 months	6.779
Prof. Dröes	0.05 for 8 months	3.906
	Total costs personnel	50.855
Material costs		
Travel expenses researcher		500
Travel expenses respondents		500
Consideration respondents		500
Support transcription interviews		500
	Total material costs	2.000
	Total requested budget	<u>52.855</u>

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