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# Horticulture Therapy for Older Adults with Alzheimer Disease and Related Dementias (ADRD) - Report Series # 3

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Report Series - # 3

***Horticulture Therapy for Older Adults  
with Alzheimer Disease and  
Related Dementias (ADRD)***

**Project Team**

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**About SERC (Sheridan Elder Research Centre)**

Through applied research the Sheridan Elder Research Centre (SERC) will identify, develop, test and support implementation of innovative strategies that improve the quality of life for older adults and their families.

1. Wherever possible, older adults participate in the identification of research questions and contribute to the development of research projects at SERC.
2. We conduct applied research from a psychosocial perspective which builds on the strengths of older adults.
3. Our research is intended to directly benefit older adults and their families in their everyday lives. The process of knowledge translation takes our research findings from lab to life.
4. SERC affiliated researchers disseminate research findings to a range of stakeholders through the SERC Research Report Series, research forums, educational events and other means.
5. A multigenerational approach is implicit, and frequently explicit, in our research.
6. To the extent possible our research is linked to and complements academic programs at the Sheridan College Institute of Technology and Advanced Learning.

**EXAMPLES OF SERC RESEARCH**

<b>The Built Environment</b>	<b>Information &amp; Communication Technology (ICT)</b>	<b>Human Communication</b>	<b>Public Policy</b>	<b>Other research interests</b>
- Indoor/Outdoor Design - Graphic Design	- Accessible computing - Age appropriate games	- Hearing/low vision - Vision - Language	- Elder Abuse - Ageism	- Self image/self esteem - Care-giver support

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*Horticulture therapy involves the use of simple gardening activities to promote higher intellectual functioning, enhance social interactions and to improve both emotional stability and physical functioning. This therapeutic method could be especially relevant to individuals with dementia who may exhibit behavioural and emotional manifestations of the disease. This study, conducted in the winter of 2004, employed a 5-week horticultural therapy program with four older adults who exhibited mild to moderate cognitive impairment. Data were gathered and evaluated based on field notes prepared by the researcher. Field notes encompassed three areas of function: cognitive, physical and social; patterns/changes were tracked during each session. Results of this brief pilot project demonstrated some improvement in cognitive function and increased social/physical functioning for both motivated and less motivated participants.*

## **1. Purpose**

Horticulture therapy involves the use of plants and horticultural science to improve intellectual function and social interaction, while balancing emotional stability, and enhancing physical ability. Elderly persons, especially those with early stage dementia, are at risk for becoming isolated, depressed, anxious, or lonely. These symptoms may be alleviated through horticulture therapy as the individual becomes empowered through social interactions. Intellectual growth is stimulated as the person acquires new knowledge or rediscovers previous knowledge.

The main goal of the horticulture therapy program was to enhance or maintain the quality of life of the participants. In order to achieve this, the researcher focused on several secondary goals. The researcher set out to provide participants with the opportunity to engage in a hobby or interest, encourage social interaction through client participation, provide activities that allow for creative self-expression, alleviate aggressive behaviors and agitation by providing a therapeutic outlet, and to provide comfort for insecurities and fears held by participants.

## **2. Methodology**

### *2.1 Research Design*

This pilot project was qualitative in nature. Activities varied with each session, as it was difficult to pre-determine which activities would be successful; this depended on the client's behavior and interest level on a particular day. Each session took place in a special sunroom dedicated to the horticultural project. Participants were involved in the planning of activities in order to foster independence and to promote self-determination. To ensure continuity, the facilitator followed a similar pattern of activity at the beginning of each session (which varied slightly with each session as different activities would be occurring). Facilitators were instructed to consider each individual's needs and abilities. The focus was on maintenance of the main goals and implementing techniques to help achieve these goals. A qualitative approach was used as the program's activities were partially determined by the participants themselves. Data was extrapolated from a naturalistic setting and findings were based on observation.

## *2.2 Respondent Sampling*

The researcher recruited 4 clients who attend the Victorian Order of Nurses' (VON) Halton Alzheimer's Services Day Program (located at SERC) who exhibited mild to moderate cognitive impairment. Participants were chosen based on a verbal needs assessment by the day program staff members who provided a report on the individual's psychosocial status and social needs. Four participants who were higher in cognitive functioning were chosen in order to observe emotions and behaviors.

## *2.3 Method*

The horticulture therapy program was comprised of ten sessions, held twice a week for five weeks. A client profile was completed prior to the first session, which documented the participants' capabilities in a structured form. Cognitive functioning was then assessed through informal interviews with each participant. After being selected, each participant read and signed a consent form. At the beginning of each session, researchers clarified the content of the program and explained the day's activities illustrated with examples. The researcher used a system of visual cues to indicate which activities were to take place (for example, a picture of a watering can placed on a watering bottle indicates plants needed to be watered). The researcher made continuous observations throughout the activity period and intervened at times to ask the participant him/herself about the activity. At the end of each activity, the researcher included a short debriefing with the entire group and completed her field notes. At the end of the program, participants were given a certificate of achievement in order to encourage them to continue with similar activities.

## *2.4 Data Collection Measures*

The researcher evaluated each session. Field notes were taken for each individual participant. The researcher also referred to a series of pre-determined questions regarding participants' cognitive ability, physical ability, and behavior as a qualitative research tool used to assess the success of the program.

## *2.5 Data Analysis Process*

The researcher evaluated the success of the program by considering a number of questions. This included the researcher's observations concerning the participant's cognitive ability, physical ability, and behavior. Questions focused on the participant's understanding of the activity, whether or not they experienced any difficulties and to what extent and, finally, any changes in behavior regarding aggression, isolation and social interaction.

# **3. Results**

## *3.1 Data Analysis Findings*

Results were inferred from field notes taken during each session of the program. Each participant was evaluated based on the goals and objectives established. The horticulture therapy program was determined to be successful if it achieved the goals outlined i.e. if the quality of life for participants was maintained, and in/or enhanced; if

the participants expressed positive feedback throughout the duration of the program. Those who had expressed disinterest or lack of motivation had demonstrated significant improvements by the end of the program. While participants did show some cognitive improvement, in order to accurately determine whether cognitive ability had improved significantly, a more extensive longer study would be required.

### *3.2 Limitations*

The lack of a large and more diverse sample may have had an impact on the results. The length of the study posed another barrier. While participants did demonstrate some improvement during the ten sessions, in order to adequately determine whether there were any statistically significant improvements in cognitive/physical abilities or behavior, a longer duration would be required. In addition, background noise and disturbances were common as there is always other activity in the day program. This proved to be highly distracting at times, and participants would often wander off out of curiosity. Overall, the horticulture therapy program met its goals and was deemed successful by both the researcher and participants.

## **4. Implications for Research and Policy**

- Horticulture therapy CAN maintain or improve an older person's quality of life and support their personhood.
- This pilot study demonstrates the importance of variety in recreational programming for people with dementia and other forms of cognitive impairments – even those participants who were not enthusiastic about participating showed significant interest and interaction by the conclusion of the study.
- A study that includes longitudinal observation of the four specific areas of functioning: social, emotional, cognitive and physical would likely yield more accurate results. This is a study that would greatly benefit from the use of SERC's web-casting capability to ensure reliability.
- A longer time period allotted for the study would allow for a) more accurate results in terms of benefits to intellectual, emotional, social and physical functioning

## **5. Conclusions**

The horticulture therapy program was a success as it met the goals set out by the researcher and participants. Participants were able to interact and feel empowered. The program built on the strengths of each participant and promoted competence and independence. The program stimulated behavior and thought through social interaction and intellectually provoking activities. Benefits from the horticulture therapy program were evident in the participants' improved intellectual, social, emotional and physical wellbeing.

SERC uses applied research to identify, develop, test and support strategies to improve the quality of life for older adults and their families. Recognizing that consumer driven

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research is in its infancy in Canada, at SERC, older adults participate in shaping the nature of research wherever possible. Research is conducted that builds on the strengths of older adults and has the potential to directly benefit their everyday lives. With respect to the VON Alzheimer Day Program, research is conducted only if it contributes value added programs for program participants. The horticulture pilot study was one in which the researcher integrated a model whereby the participants self selected activities and helped to shaped the program. In fact, one client who had previous gardening experience informally assumed the role of co-facilitator in the study. Further SERC research will build on client self-determination and focusing on consumer-driven approaches.