THE THERAPEUTIC USE OF HORTICULTURE

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Learning Objectives

- History of horticulture therapy
- Horticulture programs in the different settings that Recreation Therapists serve
- Evidence based research on the benefits of horticulture
- Review of case studies
- Example of horticulture program and how to implement
- Group discussion
- Activity ideas
The therapeutic benefits of garden environments have been documented since ancient times.

In the 19th century, Dr. Benjamin Rush was first to document the positive effect working in the garden had on individuals with mental illness.
History of Horticulture Therapy

- In the 1940s and 1950s, rehabilitative care of hospitalized war veterans significantly expanded acceptance of the practice.

- No longer limited to treating mental illness, HT practice gained in credibility and was embraced for a much wider range of diagnoses and therapeutic options.

- Today, HT is accepted as a beneficial and effective therapeutic modality. It is widely used within a broad range of rehabilitative, vocational, and community settings.
Horticulture Therapy vs. Therapeutic Use of Horticulture

- **Horticulture Therapy** (HT) is a formal practice that uses plants, horticultural activities, and the garden landscape to promote well-being for its participants. HT is goal oriented with defined outcomes and assessment procedures. HT sessions are administered by professionally trained Horticultural Therapists.

- **Therapeutic horticulture** is a process that uses plants and plant-related activities through which participants strive to improve their well-being through active or passive involvement. In a therapeutic horticulture program, goals are not clinically defined and documented but the leader will have training in the use of horticulture as a medium for human well-being.

- Both recognize the positive benefits of the interaction between people, plants and gardens to improve cognitive, physical, social, emotional, and spiritual wellbeing.
Horticulture therapy activities can be applied to almost all situations, indoors or outdoors, in homes, hospitals, schools, prisons, and residential care facilities.

Horticulture therapy is low-cost, effective and versatile in meeting therapeutic goals of both individuals and groups through task adaptation and environmental modification.

Horticulture therapy has been proven to benefit older adults in senior centers, nursing homes, retirement communities and adult day-care facilities as well as children in hospitals, school-based programs, and residential treatment programs.

Horticulture therapy can also benefit people with disabilities in residential, day treatment and rehabilitation programs along with prison inmates, hospice clients and at-risk youth.
The benefits of using horticulture as therapy include:
Physical activity, relaxation and enjoyment, skill development, creative expression, social interaction, a sense of productivity, intellectual and personal growth, sensory stimulation and a spiritual connection with life.
Benefits

**Cognitive Benefits**
- Enhance cognitive functioning
- Improve concentration
- Stimulate memory
- Improve goal achievement
- Improve attentional capacity

**Social Benefits**
- Improve social integration
- Increase social interaction
- Provide for healthier patterns of social functioning
- Improved group cohesiveness

**Physical Benefits**
- Improve immune response
- Decrease stress
- Decrease heart rate
- Promote physical health
- Improve fine and gross motor skills and eye-hand coordination

**Psychological Benefits**
- Improve quality of life
- Increase self-esteem
- Improve sense of well-being
- Reduce stress
- Improve mood
- Decrease anxiety
- Alleviate depression
- Increase sense of control
- Improve sense of personal worth
- Increase sense of stability
- Improve personal satisfaction
- Increase sense of pride and accomplishment
- Increase social interaction
- Provide for healthier patterns of social functioning
This study assessed changes in depression severity and perceived attentional capacity of clinically depressed adults during a 12-week therapeutic horticulture program.

The active parts of the TH program included sowing, germinating, potting, planting, composing beds, cultivating vegetables, and rooting various cuttings of flowers and herbs. The passive parts included walking around, sitting on benches, picking flower bouquets, and watching and listening to birds, insects, butterflies, the weather, and the landscape.

Beck Depression Inventory (BDI) and Attentional Function Index (AFI) were administered at baseline, twice during (4 and 8 weeks), and immediately after the intervention (12 weeks), and significant and clinically relevant at the 3-month follow-up.

The greatest change in BDI and AFI scores occurred in the initial weeks of the intervention. The reduction in BDI scores remained significant and clinically relevant at the 3-month follow-up.

The decline in depression severity during the intervention correlated strongly with the degree to which the participants found that it captured their attention. Therapeutic use of horticulture may decrease depression severity and improve perceived attentional capacity by engaging effortless attention and interrupting rumination.
Community Gardening at a Senior Center

- A pilot project was undertaken to examine what effect, if any, a community gardening activity at a senior center might have on the level of functional health, depression, and physical fitness for independent-living elders. This study employed a quantitative one-group, pre-test/post-test design to evaluate each of those areas.

- There was a general trend toward lower, improved, scores for most Dartmouth COOP Functional Health Assessment Charts at the post-test and most notably for Social Activities.

- In addition, mean scores for Total Emotional Score and the Geriatric Depression Scale decreased from the pre-test to the post-test indicating an improved level of function, and the Six-Minute Walk Test increased indicating a greater distance walked and improved function.

- Community gardens located in senior centers represent ideal opportunities for health professionals including recreational therapists to collaborate with local agencies to encourage healthy lifestyles for older adults. Recreation therapists are particularly qualified to provide the leadership necessary to assist older adults in the development of community garden programs.
Fairmount Home Horticulture Program

- Started by Recreation Therapists in 2004 to engage seniors in enjoyable leisure activities; the resulting program accomplished much more. Recreation therapists found that their gardening therapy program provided seniors with endless benefits, including giving them a pleasurable experience, building self esteem, promoting a non threatening, familiar environment, and stimulating work skills and past memories.

- Every resident, in some way or another, can participate. There are many tasks to accomplish in creating the four outside gardens and indoor gardens. These include browsing through catalogues to pick out seeds, creating themes for the gardens (an example of some used last year include "Edible Garden", "Rose Garden", and "Herbs and Spices"), and tending to the gardens. From planting to planning, everyone has a role, including staff and volunteers. For the residents, this means having a sense of community, ownership, purpose, and a feeling of usefulness.

- Residents have specific tasks that continue throughout the gardening season. In the winter months, residents can participate in many other activities involving the gardens, including herb planting, plant sales, the indoor gardens and projects.
Several studies have suggested that being able to see trees and flowers reduces agitation and aggression and promotes healing.

In a prospective observational study, the effect on dementia resident behaviors by adding a wander garden to an existing dementia facility was investigated.

In this study, 34 male residents were observed for 12 months before and after opening the wander garden. Behaviors were assessed using the Cohen-Mansfield Agitation Inventory Short Form (CMAI), incident reports, as needed medications (PRNs), and surveys of staff and residents' family members.

Results showed that the final CMAI scores and number of PRN medications used were lower than baseline values with a trend for residents who used the garden more often to have less agitated behavior. Staff and family members felt that the wander garden decreased inappropriate behaviors, and improved mood and quality of life of the dementia residents.
So what does it take to implement a program like this?

- The time frame should be adequate for keeping participants engaged while still allowing time to gather supplies, engage in the activity, and properly clean up—all of which participants should be included in to maximize engagement.

- The intervention should last approximately 6 to 10 weeks during the growing months of the year. This length of time should be conducive to a tangible end product; for example, participants looked forward to taking some of the grown plants home at the end of the intervention. Typically start the program at the beginning of each year, going year round.

- Consider safety precautions, such as the use of nontoxic materials, protection from the sun and insects, monitoring of extreme temperatures, and supervision when participants have the risk of falling.

- Group size should be dictated by the activity, with the following considerations: the activity should be facilitated in a group setting to foster social interaction and the ratio of clients to care staff should maximize the ability to deliver person-centered care.

- A group of clients in need of physical assistance would benefit from a higher number of care staff, whereas an independent group of individuals would need fewer.

- Since this person-centered care has been shown to contribute to sustained attention, an array of activities should be provided, in order to meet the needs and abilities of each individual in the program (e.g., standing activities, seated activities, and tasks like filling water cans for someone who tends to wander).
Consider Adaptive Equipment

- Adapted equipment many need to be purchased so that the program can build the residents strength while accommodating for their limitations.

This can include:

- A watering wand with a long handle, so gardening areas can be reached while in a wheelchair.
- Lightweight tools with padded handles for arthritic hands.
- Easily adjustable hand tools for those who have trouble bending or need to garden from a sitting position.
- Ergonomic hand tools, such as trowels, and cultivators.

*Because staff and residents abilities may be limited, a group of dedicated volunteers may be needed to do more of the labor intensive tasks.*
Discuss with your group:

- What horticulture programs have you successfully implemented within the setting you work in? What benefits are you seeing?
- What are new program ideas for your population? What will you need to get started? How would your participants benefit from these ideas?

Let’s share!
Ideas

Starting Seeds Indoors + Transplanting to the Garden
Ideas

Spring Flowering Container
Ideas

Using Your Senses and Enjoying the Fragrances in the Garden
Ideas

Terrariums
Ideas

Flower Pressing
Program Ideas

Leaf Print Flag Garland
Ideas

Houseplants and Cuttings
Ideas

Planting Paper White Bulbs + Mistletoe Decoration
Questions?

I grow plants for many reasons: to please my soul, to challenge the elements or to challenge my patience, for novelty, or for nostalgia, but mostly for the joy in seeing them grow.

David Hobson
Resources


- Shannon E. Jarrott, PhD1 and Christina M. Gigliotti, PhD2. Comparing Responses to Horticultural-Based and Traditional Activities in Dementia Care Programs. *American Journal of Alzheimer’s Disease & Other Dementias®* 25(8) 657-665

- Watts, Cassandra; Hsieh, Pei-Chun. The Use of Horticulture-Based Programs to Promote Engagement for Older Adults with Dementia. *Therapeutic Recreation Journal* 49.3 (Third Quarter 2015): 257-260.