

# Developing A Gardening Program for Recreational Therapy Interventions

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# Upon completion of this session, the participant will be able to

- identify three benefits of using gardening as a Recreational Therapy intervention.
- discuss at least three standards of practice to consider when developing a garden program.
- describe at least 4 different community resources that can assist in implementing a garden program.

# A few definitions:

- Gardening
- Horticulture
- Horticultural Therapy
- Dirt/Soil

# Why do we garden?



# Benefits of gardening

- Physical activity
- Reduced stress
- Healthy eating
- Improved mood
- Improved focus

# Gardening statistics

- 2010 – 68% of US households (US Census Bureau, 2012)
- 2013 – 35% US households participated in food gardening (National Gardening Association, 2014)
- 2013- \$3.5 billion (National Gardening Association, 2014)

# Gardening Activity: Propagation

- ?
- Process
- Purpose
- Safety
- Goals/Objectives

# History of gardening in therapeutic settings

- Ancient Egypt
- France, 1100 AD
- United States, 1812
  - Dr. Benjamin Rush,
- Philadelphia, 1813
  - Friends Hospital
- Menninger Foundation, 1919





# Research on plant-human interactions.

- Restorative effect of natural views.

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science*, 224(4647), 420-421.

# Improved mood & decreased heart rate

- Horticultural Therapy Program
  - Looked at healthy lifestyles
  - Improved mood can have + effects on cardiac rehabilitation
  - HT has been shown to reduce stress (BP, HR, cortisol levels)

Wichrowski, M., Whiteson, J., Haas, F., Mola, A. & Rey, M. (2005).

- Bacteria in the soil releases serotonin

Lowry, 2007

# Enhanced Cognitive Function

- Attention Restoration Theory (ART)
  - Concentration improves when spending time in nature.

Kaplan, R. & Kaplan, S. (1989)

- Nature, Sports, Urban
  - Natural setting showed highest levels of restoration vs. Urban settings showed the lowest

Herzog, T., Black, A., Fountaine, K., Knotts, D. (1997).

# Increased social interaction

- 6-week Horticulture program and purposeful activity.
  - Improved Quality of Life
  - Group dynamic – accomplishment
  - Sharing – self-satisfying
  - Learning – rewarding opportunity
  - Sensory – contribution to well being
  - Creative – outlet for self-expression

Perrins-Margalis, N., Rugletic, J., Schepis, N., Stepanski, H., & Walsh, M. (2000).

# Benefits of gardening with special populations

- **Cognitive Benefits:**
    - Enhance cognitive functioning
    - Improve concentration
    - Stimulate memory
    - Improve goal achievement
    - Improve attentional capacity
- (American Horticultural Therapy Association, 2012)

# Benefits of gardening with special populations

- **Psychological Benefits**
    - Improve quality of life
    - Increase self-esteem
    - Improve sense of well-being
    - Reduce stress
    - Improve mood
    - Alleviate depression
    - Increase sense of control
    - Improve sense of personal worth
    - Increase feelings of calm and relaxation
    - Increase sense of stability
    - Improve personal satisfaction
    - Increase sense of pride and accomplishment
- (American Horticultural Therapy Association, 2012)

# Benefits of gardening with special populations

- **Social Benefits**

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

(American Horticultural Therapy Association, 2012)

# Benefits of gardening with special populations

- **Physical Benefits**

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

(American Horticultural Therapy Association, 2012)





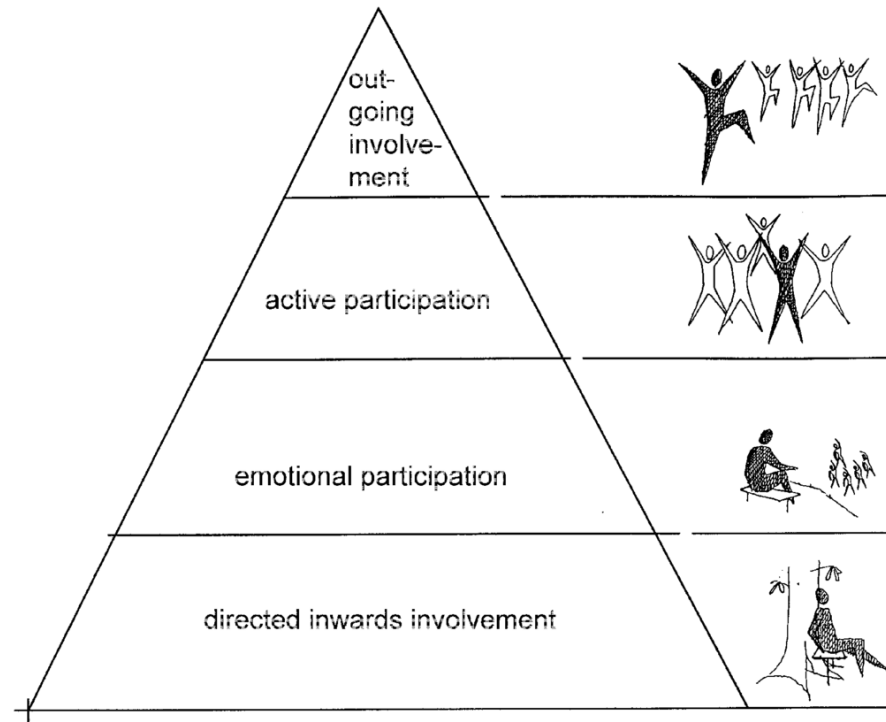
# Working with Children

- Children with intellectual disabilities showed improvement in sociality after taking part in a horticultural therapy program (Kim 2012).
- Children with behavioral disorders experienced the pride of accomplishment, practiced teamwork, coped successfully with a long delay in gratification for their efforts and learned certain basic principles of botany and reproductive biology (McGinnis 1989).

# Research

- Children who are obese were able to improve their BMI classification after taking part in a 7 week program (Castro 2013).
- Child cancer survivors taking part in a gardening program improved fruit and vegetable consumption (Blair 2013).
- Some research is showing that bacteria in the soil releases serotonin, elevates mood and decreases anxiety (Therapeutic, 2011).

# Supportive Environment Theory



# Standards of Practice for Gardening Programs

- Health, cultural, economic, social, and educational background
- Participant first
- Group participation and social interactions
- Activity modification
- Activities that address cognitive, affective, psychomotor, and psychosocial functioning

# Standards of Practice for Gardening Programs

- Activity selection based on need
- Integration
- Development of horticultural skills
- Community resources and opportunities
- Goal-oriented treatment
- Evaluation and Documentation

# Issues to consider when planning

- Sensory issues
- Nature
- Noise
- Tools
- Plants
- Materials
- People



# Nature

- Sunburn
- Medications
- Backup activities
- Allergies
- Insects/pests

# Noise

- Think about where you plan your garden.
- Loud sounds may startle.
- Plant green walls to cut down on road noise.



# Tools

- Teach tool safety.
- Use adaptive tools when available for specific populations.
- Make a list of any tools you are using in your program.
  - Keep a count sheet.
  - Count before and after each session.
  - This will insure any sharps that could be used to harm participants are managed and secured.

# Ergonomic Tools

- Studies of ergonomically labeled hand trowels

(Niemeyer, S. K. 2010) & (Tebben, A. B., & Thomas, J. J. 2004)

# Plants

- Know that plants can cause skin irritations.
- Use gloves.
- Choose plants that don't have sharp leaves.
- Do not use poisonous plants in your program.  
Here are some links to poisonous plant information:
  - <http://www.accessdata.fda.gov/scripts/plantox/>
  - <http://aggie-horticulture.tamu.edu/earthkind/landscape/poisonous-plants-resources/common-poisonous-plants-and-plant-parts/>
  - <http://www.poison.org/prevent/plants.asp>

# Materials

- Know what is in the materials you are using!
- Visit the websites of companies who make the materials you use and download their MSDS sheets.
- This information can be vital if an accidental ingestion or exposure to a product.

Ex. <http://www.scottsmsds.com/>  
<https://www.osha.gov/chemicaldata/>  
<http://www.preen.com/msds>

# MSDS

- Know what is in your
- materials!



<http://www.fdionline.net/fdi/public/files/msds/SO-Oasis Floral Foam 2009.pdf>

# Garden beds

- In-ground verses raised?



<https://www.youtube.com/watch?v=jA9n3cc-3Fs>



<http://www.berkeleyside.com/2011/06/24/accessible-beds-help-kenny-cottage-gardens-thrive/>



[http://latimesblogs.latimes.com/home\\_blog/2009/06/lazysusan-garden-universal-design-wheelchair-bound-gardener.html](http://latimesblogs.latimes.com/home_blog/2009/06/lazysusan-garden-universal-design-wheelchair-bound-gardener.html)



# Garden beds



[http://www.livingmadeeasy.org.uk/leisure/raised-beds,\\_containers-and-hanging-baskets-p/terraform-wheelchair-accessible-garden-0115208-1659-information.htm](http://www.livingmadeeasy.org.uk/leisure/raised-beds,_containers-and-hanging-baskets-p/terraform-wheelchair-accessible-garden-0115208-1659-information.htm)



<http://www.universaldesignstyle.com/wheelchair-accessible-gardens-gardens-humanity/>



<http://www.ag.ndsu.edu/plantsciences/research/gardens/areas>

# Scenarios and Risk Assessment Activity

- Scenario 1 – Rooftop garden for patients with TBI
- Scenario 2 – Garden at Alzheimer's/Dementia unit
- Scenario 3 – Garden program for incarcerated youth

Questions to ask:

Potential for harm, Level of Risk, Precautions



# Scenarios and Risk Assessment Activity

- Scenario 1 – Rooftop garden for patients with TBI

Your facility has just opened a brand new rooftop garden. It is located on the third floor of your facility. The garden is beautiful with many ornamentals, flowers, shrubs and trees. There is a wall about 7 feet tall that surrounds the garden area. The garden has river rock laid out in a path through the garden. Your clients are individuals who are recovering from a traumatic brain injury.

What are your concerns with this space?

# Scenarios and Risk Assessment Activity

- Scenario 2 – Garden at Alzheimer's/dementia unit  
You work at Alzheimer's/Dementia facility. Your garden is a secured garden courtyard. Residents can come in and out of the garden as they wish. The garden designer built a trellis that casts strange shadows along the paths. The raised bed is made of brick material and is about 5 feet tall. There is an unlocked tool shed for garden trowels, hoses, and pruners.

What are your concerns with this space?

# Scenarios and Risk Assessment Activity

- Scenario 3 – Scenario 3 – Garden program for incarcerated youth

You work at a juvenile detention facility. The juveniles in your unit have had violent tendencies in the past. You want to start a garden program but are concerned about safety. You want to teach them how to propagate plants.

How can you lead this activity without risking your safety?

# Resources

- Master Gardeners
  - Volunteers
  - Garden knowledge
- Extension
  - Every state
  - By county
  - Manage the Master Gardener Program
- AgrAbility
  - <http://www.agrability.org/>



# Adaptive tools

Take a few minutes to explore the following sites and learn what tools may be available to help your program.

- [http://www.greenherontools.com/products\\_all.php#erg](http://www.greenherontools.com/products_all.php#erg)
- <https://www.radiusgarden.com/>
- <http://www.lifewithease.com/garden.html>
- <http://thehelpfulhand.com/products.html> - hand grip
- <http://www.carryongardening.org.uk/shop/> - UK organization, list by task and disability
- <http://www.wrightstuff.biz/adaptive-garden-tools.html>
- <http://disabilityworktools.com/>
- <http://www.agrability.org/Toolbox/index.cfm> - AgrAbility Toolbox

# Resources

- Horticultural Therapists
- Landscape Architects
- American Horticultural Therapy Association  
– [www.ahta.org](http://www.ahta.org)

# Go Grow!

For more information or questions don't  
hesitate to contact me.

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