HORTICULTURE
AS A THERAPEUTIC COMPONENT
FOR PSYCHIATRIC PATIENTS: A CASE STUDY

by

Connie Maria Mullen

A Master’s Research Project in Partial Fulfillment of the Requirements for the Degree
Master of Arts

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HORTICULTURE

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has been approved

June 1989

APPROVED:

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Director of Graduate Studies
ABSTRACT

Mental health workers face ever rising problems in the health care field. This program was designed to develop a therapeutic media which will allow patients to express feelings, ideas and thoughts in a safe and therapeutic setting.

This project has been very successful for all involved. It has given the staff and patients insight into a new media that has allowed patients the ability to enhance their self-esteem and personal abilities through plant therapy.

Daily observations were made to provide information related to the project area and patients' participation.
I would like to thank my major professor, Dr. Mark Rossman, for the encouragement and enthusiasm he gave me while I was conducting my research. I would also like to extend my thanks to Phoenix Camelback Hospital for their support and help with my research project.

My thanks to all the patients involved in my project, who trusted me as well as trusting themselves.
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CHAPTER I

Introduction and Problem Statement

Introduction of the Problem

Individuals working for a period of years frequently notice a need for adolescent and geriatric patients to have their own special program. We needed to develop a new and different program that would allow those patients a media to enhance their reality orientation, socialization and self-esteem in a safe and structured environment. Our first idea was taking care of animals. The current health laws would not allow us to follow through with this idea. After a few months of research, we came up with the idea of plants. My current work area would work perfectly for this program.

Horticulture therapy places much emphasis on "growth" which is what occurs when the individual touches the environment and the environment touches the individual.

Horticulture provides opportunities for individuals to experience making new contact with the environment created by themselves, thereby expanding their boundaries and developing support.

We have observed having plants in their environment reduce anxiety, loneliness and blood pressure, and may help motivate withdrawn patients to cooperate in their own treatment, according to myself and co-workers.

Though it is still in its experimental stage, nationwide psychiatric caseworkers discovered that watching and caring for plants can produce increased self-esteem as well as increase the patient's ability
to enhance communication skills.¹

But what is it about plants that makes them capable of all this? And why do millions of people go to the trouble and expense of keeping them? Plant therapy offers several answers.

For one thing, plants don’t talk back. This researcher discovered that a person’s anxiety frequently goes up whenever he or she talks to another person. But we talk to plants in a different way, often touching and caring for them at the same time, and this seems to minimize stress.

Another observation holds that plants remind us of infants needing daily care and nurturing and they are dependent on us for their needs, and after charming us they nevertheless eventually grow up. As proud parents we are willing to boast.

One of the most important ingredients in our relationship with plants is that we can touch them, talk to them, and give them affection whenever we want to.

Statement of the Problem

Individuals working with this special population noticed a need to develop a new and different way to orient these patients into reality, increase their socialization and self-esteem, and develop a safe environment which provides structure and success for all involved.

Therefore, the problem is to create an alternative environment in which patients can express themselves freely and openly.

¹Kaiser, p. 22.
Organization of the Study

I have chosen the Case Study Method to report my findings. The case study is an intensive description and analysis of reporting a phenomenon or social unit such as an individual, group, institution, or community. In contrast to surveying a few variables across a large number of units, a case study tends to be concerned with investigating many, if not all, variables in a single unit. A single phenomenon or entity ("the case"), this approach seeks to uncover the interplay of specific factors that are characteristic of the phenomenon. The case study seeks holistic description and interpretation.

The case study has a dual function. It can be used as a research methodology to contribute to knowledge, or as a means of remedying or improving the situation being reviewed.

Results are hypotheses which can be described as empirically developed hypotheses.

As well as flexibility, the researcher has a lot of freedom to decide what type of data will be collected and analyzed. The data collection techniques chosen were observation, interviewing and document analysis, which is the most commonly used.
CHAPTER II

Review of the Literature

There has been limited information related to horticulture as a therapeutic media for psychiatric patients.

In order to present and explore horticulture therapy as a therapeutic media, horticulture therapy and pet therapy have been explored and researched.

Horticulture

The word "horticulture" is derived from two latin words, hortus and cultura; hortus meaning "garden," and cultura meaning "cultivation." Together they mean the cultivation or care of a garden, although today horticulture is much more than that; it is a science and an art. Scientific knowledge is needed in knowing how to go about a task; artistic ability enables the horticulturist to use the tools skillfully, giving plants a pleasing appearance.

Modern horticulture includes the growing of fruits, vegetables, ornamental plants, and landscaping. Man began to cultivate plants so they could be used as better tools for survival and ornamental purposes. In natural conditions, where the plants are growing wild, they become less useful because they are not serving the best purpose of the species. Under special conditions of cultivation, the plants are protected from the competition of other plants and given an artificially favorable environment.

There is still much to explore in the field of horticulture. The joint efforts of many different specialists give endless prospects for
new areas of application. Gardening and/or related activities provide for new attitudes toward a sense of mastery of one’s surroundings so that one can have some control over what happens around him or her.

Animal Therapy

Why pet therapy? Studies have shown that pet therapy reduces anxiety and may help motivate withdrawn patients to improve in their own treatment, according to Jacquelyn McCurdy, R.N., 1976, who is in charge of home care and pet companionship program at Columbia Hospital.

Pet therapy distracts the patient from his or her own problems, as does the horticulture therapy program.

Extreme care is necessary at all times to keep the pets healthy and safe as in the same manner as horticulture, one must always feed and water their pet or plant to keep them alive. In both of these types of therapy one can reach into hospitals, nursing homes, private homes and prisons.

Pet therapy combats the overwhelming aspect of loneliness and depression caused by not having anyone or anything. Pets and plants have been used to break that long and damaging behavior and situations of silence. Loneliness and low self-esteem have caused chronic mental and physical illness. Animals can be that ever-needed catalyst for conversation.

People are frequently more comfortable with talking about past experiences and feelings related to their pets.

Pets are also a very safe means by which people can express their needs to others. This is done by talking through the animals, being
able to verbally or non-verbally express their ideas and needs.

Pets have been used for years to encourage responsible behavior in children. One can reflect on one’s childhood and remember the proud and grown-up feelings that occurred when being allowed to have a pet. This was one way to prove autonomy to parents and friends.

For one thing, animals can’t talk back and are totally dependent on you, the owner. They also give unconditional love. So far, pets appear to be one of the safest investments for ourselves and our loved ones, young and old.

Pets are able to foster an emotional connection among withdrawn, uncommunicative and anti-social people when other therapeutic methods have failed.
CHAPTER III

Program Development

In this chapter the program is presented, and then the participants, techniques and activities will be discussed.

Six patients were chosen from the acute care unit. These patients are patients who are at high risk in participating in the regularly scheduled activities. They are more dangerous to themselves and others, as well as more withdrawn and at times non-verbal.

The purpose of a horticulture program includes the absence of serious risk or danger in a Horticulture Therapy Program, and the large number of ancillary activities as well as support treatment, goals and objectives.

They will be supervised and observed under my direction. We will meet weekly as a group and discuss and review current goals and objectives related to their current therapeutic treatment plans supervised by the patients' doctor, nursing personnel and recreational therapists.

A select group of patients who have participated for 30 days in the program will be chosen and summaries will be written reflecting observations.

What is a Case Study?

The case study is an intensive description and analysis of reporting a phenomenon or social unit such as an individual, group, institution or community happening. In contrast to surveying a few variables across a large number of units, a case study tends to be concerned with investigating many, if not all, variables in a single unit. A single
phenomenon or entity ("the case study"), this approach seeks to uncover the interplay of specific factors that are characteristic of the phenomenon. The case study seeks holistic description and interpretation.

The case study has dual function. It can be used as a research methodology to contribute to knowledge, or as a means of remedying or improving the situation being reviewed.

Results may be hypotheses, which can be described as empirically developed hypotheses.

As well as flexibility, the researcher has a great deal of freedom to decide what type of data will be collected and analyzed. The data collection, interviewing and document analysis, is the most commonly used especially in a psychiatric setting.

**Horticulture Therapy**

**Program Outline**

I. Purpose

Horticulture, as a treatment component, has recently been acknowledged as a therapeutic and rehabilitative medium. It is viewed by staff members of an Easter Seal Rehabilitation Center as being beneficial to patients during their stay at the Center, as well as after they have been discharged. The experience the participants gained from the pilot programs demonstrated that horticulture could be used therapeutically for both behavioral change and physical restoration in children, adults, and senior citizens. The learned skills lessened such problems as non-involvement, inability to return to gainful employment,
and lack of purposeful daily activities.

This rehabilitative process aids patients in encouraging them to develop an interest in their surroundings. It has given participants more satisfaction and meaning in life through the confidence and achievement they have received from adding beauty to the environment. Programs have been designed emphasizing total personality needs—improving physical, mental, social and vocational aptitudes.

The use of plants as a medium for therapeutic activities is unique in that they are living things. Research shows that there is a symbiotic relationship between man and plants. Plants need man's care to develop best, but man also requires contact with plants to develop and maintain a mental wholeness. Being in daily contact with some form of plant life, Dr. Hugh Iltis, a taxonomist at the University of Wisconsin, believes that man is genetically programmed to require living plants in his surroundings and needs these facets of the environment as absolute unalienable rights of his biological body.²

Andrew Barber, of the Menninger Foundation, states that the psychology behind plants being used for therapeutic intervention stems from the basic fact that growing living things fulfills certain needs in man. "Germination of seeds, vegetative growth, flowering, and maturation have close parallels to the basic concepts of human development. Common gardening tasks such as watering, fertilizing, and protecting plants from bad weather also have human connotations. The physical structure of a greenhouse, or similar environment, has been

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²Olszowy, p. 6.
likened to a mother's womb and provides an atmosphere of security. Working with plants involves acceptance of responsibility and a hope for achievement and success. It also provides for an experience dealing with loss, a common therapeutic concern. One can learn patience through the delayed gratification that is reflected in the slow, but continuous process of a plant.

The attention needed to work with plants requires a concentration of a type that provides a rest from other conflicts a person may have. What is of utmost importance is that the patients engaged in this activity perceive it as one of enjoyment, alleviating stress and creating an atmosphere for health and improvement.

II. The Horticulture Therapist

The therapist provides for a wide range of activities, using a knowledge of plants and gardening, greenhouse, and floristry skills. These tools would be used to help the patients with adjustment problems and to encourage them to develop a broader interest in the plant world and an increased understanding of their natural surroundings.

The following criteria are suggested for the activity leader having an interest in using horticulture as a therapeutic medium:

1. A basic understanding of the nature, significance, and values of a program in horticulture therapy.

2. A familiarity with other related programs.

3. A knowledge of techniques and methods used in organizing and conducting a program in horticulture therapy. Attending workshops can be beneficial.

Olszowy, p. 7.
4. An in-service training program is essential. This may involve weekly sessions including lectures, demonstrations, and discussions to share new ideas and techniques.4

In transmitting this knowledge to others, the therapist should avoid formal lecture techniques. Demonstrations and "hands on" experiences are the most effective. Some patients may have a background or have had experience in working with plants. These participants may be asked to relate their knowledge in this area to others and/or more responsibility may be given to them to increase their participation and to help the therapist in assisting with the group. For those persons without any experience, activities should be included that require simple responses. The directions should involve simple repetition of movements.

A person assuming this leadership role should be working along with other staff members towards a common goal. Therefore, an emphasis can be made on reinforcing gains made in other therapeutic sessions. The therapist must be observant of behaviors and verbalizations made during the session so that he/she can report objectively about those interactions.

III. Development of Skills - Goals and Objectives

Each patient is assigned goals and objectives by a treatment team, which consists of their doctor, primary nurse, recreation therapist, teacher and social worker. At these treatment review meetings, the patient's goals and objectives are reviewed and determined accomplished

4Olszowy, p. 16 (adapted from).
1. Gardening Skills - Patients are offered an attainment of new skills. Horticulture offers the opportunity to learn various methods and techniques, which may lead to a new hobby or vocation.

2. Intra-personal Skills - The growing process involves acceptance of responsibility and a hope for achievement and success. Working with plants teaches patience; the discovery that new life can spring from a "dead" seed can stimulate determination and motivation to alter one's lifestyle. The fostering of plants to their potential helps one to relax and experience a great deal of success and achievement.

3. Coping Skills - Horticulture activities are valuable because they tend to divert the participants' attention from himself to the appliance to the activity. Nervous tensions can be reduced by using creative and muscular outlets associated with gardening.

4. Cognitive Skills - The senses are aroused in the horticulture sessions, resulting in increased sensitivity to the immediate environment. Those with perceptual problems can improve their ability to look and observe.

A new awareness of the environment and basic relationships between living things stimulates the ability to notice small differences. The arrangement of plants in a pot can be used to diagnose spatial ability and number concept, in addition to memory and concentration.

Plants provide a medium for experimentation, which might arouse one's sense of curiosity.

Experiencing new activities and projects results in learning new terms and concepts. Classifying and naming plants can help improve these skills.

5. Interpersonal Skills - One-to-one communication between the participants can improve their ability to relate to peers in other situations. An outdoor environment may be a more comfortable atmosphere in which the patients can interact.

6. Group Communication - Social interaction increases within this kind of activity. Working towards a common goal lends itself to group involvement. Gardening has been found to result in new attitudes of the participants toward their community. Improving the appearance of surroundings creates a pleasant

5Ibid.
atmosphere and alleviates stress.

7. **Life Planning Skills** - Gardening activities promote an enthusiasm for the future. Certain specialized activities provide for an atmosphere of anticipation and a new interest in tomorrow. Working with plants allows opportunities for the satisfaction of creative energies, giving the patients an outlet for their aggressive drives.

8. **Physical Benefits** - Activities provide for the development of basic motor skills. Outdoor activities improve both physical and mental health.

9. **Other Rationales** - To adjust to limitations of disability; to develop an interest in the surrounding environment; and to find challenge and meaning in life through renewed confidence and achievement.

IV. **Program Development**

The sessions were begun by the teacher introducing the participants to the basic factors involved in plant growth, basic horticultural techniques, and then related activities were designed to meet the participants' needs (sample below).

**Fundamental Factors For Plant Growth**

- a. Growing Media
- b. Water
- c. Essential Elements
- d. Light
- e. Temperature

**Basic Horticulture Techniques**

- a. Propagation
- b. Transplanting
- c. Potting
- d. Pinching

As a day center, it was advantageous for all patients to have at least one assignment of "out with staff supervision" and "out without staff supervision" status. If the participant is unable or refused to be involved in the task performance, he/she may have been
e. Pruning
f. Mulching
g. Pest Control

**Related Activities**

a. Flower Arrangements
b. Gardening Activities
c. Drying Plants and Flowers
d. Flower Gardening
e. Hydroponic Gardening
f. Grafting Cacti
g. Growing Herbs
h. Kitchen Gardening
i. Sand Painting
j. Terrariums
k. Collecting Plant Materials
l. Forcing Bulbs
m. Forcing Flowering Branches
n. Hanging Baskets
o. Gardening in Raised Beds
p. Ecology Boxes

V. **Expectation of Participants**

As a diversified program, it made allowances for all patients having at least the requirement of "out with staff supervision" and "out without staff supervision" status. If the participant is unable or refused to become involved in the task performance, he/she may have been
asked to be seated and observe the activity. By observing, a patient became more relaxed and his/her anxiety reduced. This opportunity gave patients a chance to cope with objective reality as it appealed to their senses.

More structured sessions were available for those patients having the ability to comprehend instructions, to concentrate, and willing to participate in the activities. Both immediate and long-range goals were discussed as they related to this program. Tasks were chosen according to the manual dexterity of each participant.

VI. Working Environment

Special facilities and equipment were not needed for progress in horticulture therapy. Being able to improvise with slight modifications and alterations was very beneficial.

Indoor facilities were easily accessible. Materials were placed in planter boxes eight inches wide and 28 inches long. Grow lights were placed above the planter boxes. All support equipment was stored above planting area.

The greenhouse was planned to be used for the germination of seeds, storing of plants to be used for propagation, storing flowers to be used in floral arrangements and corsages, and to allow for the storage of soil mixes and other gardening equipment.6

1. Equipment - Light-weight equipment and supplies will be used by those participants with physical limitations. Heavier equipment can be given those in need of strengthening their muscles or improving work tolerance. Tools with adjustable handle lengths are available and can be ordered if necessary.

6Olszowy, p. 18.
A movable push cart with separated areas for storage of tools and other media and supplies is very useful. It is possible for all persons to participate with very simple modifications of common articles when necessary.

2. **Plant Materials** - When selecting the appropriate plant materials, the following should be considered:

   a. The availability of light;
   b. The availability of space; and
   c. The plants should be colorful, fast growing, flowering, and easy to care for. 7

3. **Supplies** - The following is a list of commonly used supplies in horticulture therapy programs:

- bags (paper, plastic)
- bone meal (for superphosphate)
- bottles (Windex for sprayer, milk, or water bottles)
- brushes
- buckets (plastic)
- burlap
- chalk
- charcoal
- cheesecloth
- cigar boxes
- clay (molding)
- clips (paper)
- contac paper (clear)
- cups (plastic, styrofoam)
- egg cartons
- felt
- fertilizer (5-10-5, 20-20-20)
- flats (plastic or wooden)
- floral picks
- forks
- glasses (plastic)
- gloves
- glue (Elmer's)
- gravel
- hammer
- hardware cloth (wire mesh)
- hose (garden)
- jars, jugs
- knives
- Label marker, tapes
- labels (plastic and wooden)
- lights (florescent)
- oasis

7Ibid.
- oil cloth
- peat moss, sheet moss
- pencils (drawing, waterproof)
- perlite
- PH kit
- picks (floral)
- pipe cleaners
- plastic sheets
- pots (clay, plastic, styrofoam, peat)
- rubber bands
- rulers
- salt
- scissors
- seed tapes
- shears
- shellac
- shovels
- soil
- spices
- sponges
- spoons
- string
- tacks
- tags
- tape (floral, clear)
- timer
- tooth brushes
- towels (paper)
- trays (plastic, styrofoam)
- trowels
- twine (garden and macrame)
- twist’ems
- vermiculite
- water can
- wax (grafting)
- Windex
- wind box
- wood (plywood, lattice)

VII. Other Related Areas

A wealth of benefits can be cultivated from a well planned horticulture program. It can give one the needed self-esteem and confidence to explore other related adventures. These activities can also allow

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8Olszowy, adapted from pp. 21-25.
people to develop a sense of accomplishment and pride in their work. They are not only fun, but present an avenue for creativity.

- artificial flowers
- aquarium plants
- birds and animals
- bird attractors
- block prints (leaves, flowers)
- book markers (pressed flowers)
- building a library
- bulletin board displays
- corsage making
- dish gardens
- drying fruit
- experiments (light, water, temperature, fertilizer)
- field trips (flower shows, arboretums, botanical gardens, nurseries, orchards, etc.)
- funny figure designs (seed pods, apples, sweet potatoes, etc.)
- gardening shortcuts
- herb sachet bags
- herbariums
- holiday nature crafts
- insect collection
- jewelry making
- landscape maintenance
- model gardens
- oriental cooking (fresh vegetables)
- outside activities
- plaques (dried flowers, seeds, pods)
- plaster of paris casts (wild flowers, ferns, etc.)
- posters (life cycles)
- sprouting seeds in jars
- stepping stones
- weaving (with material from garden)
- wind chimes
- wood projects (containers, trellises, benches, tables, duckboards, sawhorses)

SPROUTING SEEDS

I. **Introduction** - Sprouting is taking a seed from dormancy into a live state with the addition of water and air to promote life-giving properties.

II. **Project** - Sprouting Alfalfa Seeds (Jar Method).
III. **Materials** - Large glass jar, cheesecloth, rubber band, seeds, dish drainer.

IV. **Procedure** -

1. Soak seeds (3 Tbsp. Alfalfa seed to quart jar) in plenty of water overnight.
2. Drain water from jar (through the cheesecloth) and rinse seeds well.
3. Turn jar upside down (in a bowl or wire stand) and put in dark, warm place.
4. Rinse seeds through screen 2 times a day (3 in summer). Keep jar inverted. (Gently shake seeds evenly to distribute around wall of jar.)
5. Most sprouts are ready to use when they are 1/4 to 1/2 inch long. Alfalfa sprouts are best a little longer. After two days, put in sun to develop bright green color (Vitamin A and Chlorophyll).

V. **Objectives** - To introduce sprouts as being:

1. a clean, easy, inexpensive way of raising food;
2. live enzymes that aid in food digestion;
3. highly nutritious and rich in vitamins and minerals; and
4. beneficial during a food shortage.

VI. **Follow-Up** - Can be used in fresh salads, sandwiches, and oriental cooking.

VII. **Comments** - Other methods can be used for sprouting seeds. Almost any seeds can be sprouted (corn, barley, alfalfa, lentils, mung beans, soybeans, rye, peas, millet, lima beans, sunflowers).

**HYDROPONIC GARDENING**

I. **Introduction** - Hydroponic Gardening is a method used to cultivate vegetables, plants, and flowers. It is a soilless technique which
consists of feeding plants with a chemical plant food dissolved in water.

II. Project - Growing Plants in Water (Hydroponic Gardening).

III. Materials - Container (anything except copper, brass, or lead), 20-
          20-20, plant, charcoal.

IV. Procedure -

1. Clean container thoroughly (preferably with bottle brush).

2. Place a few pieces of charcoal on the bottom of the container
   to keep the water fresh.

3. Add plain water to cover the roots and part of the stem of the
   plants.

4. After a few days replace the plain water with nutrient
   solution.

5. When the nutrient solution evaporates, always add plain water.
   Change the solution at least once a month.

V. Objectives - To introduce a type of gardening that alleviates
problems such as -

1. over watering;

2. under watering; and

3. soil diseases

VI. Follow-up - There are different alternatives in hydroponic garden-
ing that participants can experiment with.

VII. Comments - Some plants need support other than the support of a
container, until they develop roots. (Use aquarium gravel, sea
glass, broken crockery, stones, pebbles, colored marbles.) Various
house plants can be easily grown in nutrient solutions: Chinese
evergreens, dumb canes, English ivy, German ivy, miracle plant,
Oleander, Philodendron, Periwinkle, Pothos, Pussy Willows, Swedish ivy, Umbrella plant, Wandering jew, Spiderworts, Piggy-back plant, and Sweet potato.

**PROPAGATION OF HOUSE PLANTS BY CANE CUTTINGS**

Dffenbachia, Dracaena, Aglaonema and other similar plants which form cane-like stems can be propagated by cane cuttings. The exact method may differ slightly according to type of plant.

Cut Dffenbachia canes into two inch sections, with one eye per section. Cuttings from the top part of the bare stem usually produce the largest plants, but any stem section can be used. Make Dracaena cane sections one to four inches long. Cane sections of most other plants should be two to four inches long, with two eyes per section. Dust the ends of the cane with charcoal.

After allowing them to dry for several hours, lay the cane cuttings horizontally just beneath the soil surface, with the eye facing upward and protruding slightly. Dracaena and Cordyline cuttings are often placed in the media vertically, but this may produce a root system that can't support the new shoot. Use a sandy or other light rooting medium, keeping it warm and slightly moist. Store in a warm, humid location.

The cuttings will root in two to three weeks, and the eyes will sprout new shoots about two weeks later. The young plants of most species may then be potted. New shoots of Dracaena and Cordyline, however, are often cut off and rooted in sand to form a better root system.

If only stem tip cuttings were taken, the stock plant will sprout
new shoots. If lower cane cuttings were taken and the stem tip remains, it may be rooted in sand or another light, porous rooting medium.\(^9\)

Jane

Jane has had a tragic past. She has been in several foster home placements where she had been severely physically and mentally abused. She has a very low IQ as well as below average verbal and social skills. Jane was treated as a deaf mute for several years. When she was six years old it was discovered that they could open up her ear canals which would allow her to hear. She now has normal hearing and is involved in intensive therapy for her speech.

Jane has shown a great deal of interest in the horticulture program. She has been able to use the plants as a media to express her feelings, as well as to exhibit appropriate ways of caring for them. She has discussed her feelings related to how you should care for a child like you should care for your plants and animals. "It takes a lot of time and it's fun to watch them grow up safely!" "Even after they grow up, they still need to be watched and loved, like me." She has also increased her social interactions. She uses the plants as a media to socialize. When new people arrive, she introduces them to her plants. The change in Jane has been amazing according to her new foster mother. "I've been trying to get her involved in anything, I'm so proud of her!"

"We thought about a pet, but we were fearful for the animal. But now we can give Jane what she needs and wants so she can continue to grow and become a healthy young lady."

CHAPTER IV

Observations Regarding Participants

Jane

Jane has had a tragic past. She has been in several foster home placements where she had been severely physically and mentally abused. She has a very low IQ as well as below average verbal and social skills. Jane was treated as a deaf mute for several years. When she was six years old it was discovered that they could open up her ear canals which would allow her to hear. She now has normal hearing and is involved in intensive therapy for her speech.

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When Jane is discharged, she will take her plants with her. But she will also plant new ones in their place for a new participant.
John was difficult, he could only speak broken English. He knew a few words but not enough to explore sharing his feelings, other than "Yes, man," "I feel sad, man." I spent several group sessions thinking and exploring different media that might be appropriate for John to express and share his feelings. One afternoon John and I were sitting on the patio attempting to explore why he was so upset and tearful.

He began to cry and he sat in the middle of the patio and began to speak Spanish and fixing the plants on the patio. He began to repeat, "My garden, my garden!" That afternoon I met with his son and he explained some tragedies that had happened to his father. Some teenagers mugged John and destroyed his mobile home and garden, a garden he loved and used some vegetables from for his daily cooking.

The next morning I went to the unit and John and I went to the activity center to see how John would respond to my horticulture project. He began to yell, "Wonderful! Wonderful!" He grabbed the water can and began watering and grooming the plants. John worked for the horticulture project for five weeks. When he was discharged, he came to the Center and hugged me good-bye and touched every plant and wished them well. John also gave me a hot pepper plant with a card (written by his son) saying, "Thank you and I leave with you a little something because you gave me a lot. I'm no longer sad. Go with God. Thanks. John."
Jean

Jean came to the hospital after a very serious suicide attempt, which almost succeeded. In this last serious attempt, she experienced some irreversible brain damage. At times Jean still has some very serious thoughts about killing herself. We are working very hard with Jean in establishing some appropriate self-esteem and coping skills. We have spent several hours working together on setting up and maintaining the plant bedding area for her personal project. While she is working she is able to talk and personally experience personal satisfaction with her project and get her mind off hurting herself. She says at home she can think about something other than hurting herself, she can feel really good about herself and her personal abilities.

For example, she feels really proud of putting her time and effort into growing something rather than feeling like killing something. Jean will be discharged in a few months. We will continue to work together and set goals. It is so important for her to have positives in her life - the feeling of knowing she can do something on her own. Plant therapy has allowed that reality to stay about her physically. She attends to her plants' needs daily and in turn it meets her needs to feel good about herself as well as her abilities. Each day she stays alive, the stronger she gets and her prognoses increases.

Jerry

Jerry has been readmitted two times in the last six months. On his first admission Jerry didn’t want to have anything to do with the horticulture project. He would isolate himself from his peer group and
make negative statements about the project and himself. Jerry was discharged after 12 days. He had managed to convince his parents he was ready for discharge. Six weeks had gone by and Jerry was readmitted. He had attempted suicide by cutting both wrists. Jerry had changed. He was very sad but more willing to share his feelings and be with his peers. Jerry shared his experience about being very close to death. He was very afraid that he might repeat a suicide attempt. He reflected on his past admission: "I remember you and the kids working with the plants. I really wanted to be part of your group. I really liked the plants and you were willing to give me my own and trust me. I didn't even like myself so how could I believe you could like me or how could I take care of a plant? I couldn't even take care of myself." Jerry was given his own personal project and he has become a very important part of this project. He has developed a systematic system in watering the plants as well as developing a lighting system which turns on and off daily to give all the plants their needed light.

Jerry has developed a positive attitude about himself and his abilities, as well as taking on the main leadership role in overseeing the project on a daily basis.

Jerry was with us for two months and has been discharged. He is now working at a local nursery and daycare center and is doing well.
CHAPTER V

Discussion

Horticulture has proven to be an interesting media to support a therapeutic environment. Horticulture has provided a new attitude towards a sense of mastery of one’s surroundings so that one can have some control over what happens around his or her environment.

The results of the study suggest the need for a program which will allow patients the support to become independent and enhance their self-esteem. The object of this study was restricted by city rules that made it impossible to house animals on the premises.

Pet therapy has proven that animals reduce anxiety, loneliness and decrease physical symptoms, and actively motivate and improve prognoses of the patients involved.

Following a review of pet therapy literature, it was decided to introduce horticulture as a media.

Everyone involved has really enjoyed all the ups and downs of this project. If I had to do it over again, I would have selected a larger work area.

The interest in this project was unexpected. I started out with six patients and ended up with twice as many involved, as well as an expanded range in age groups. The age group ranged from twelve to eighty-seven.

We have really enjoyed watching patients obtain enhanced self-esteem and become independent and acknowledge their personal abilities.

This project is still continuing on a daily basis. The plants and interest continue to grow.
Conclusion

This project has been very successful for me as well as for the participants.

At first the project was designed for adolescents. Over these few months my ideas and focus have changed. These changes have come about due to overwhelming interests of all. It was wonderful watching the interests grow, as well as the plants. Everyone was protective of the project area and the plants. I actually had to make a rotating list for caretakers to maintain the plants over the weekends. It was wonderful to see how important all this had become to everyone involved.

It has been a very successful media, enhancing communication, self-esteem and responsibility. We have developed some very positive relationships with our patients.

There has been a strong statement made by this select group of patients in combating depression, loneliness, isolation, low self-esteem, and poor socialization.

It has given the patients a safe media to enhance their ability to want to become successful. It has allowed them to focus on other things and allow a therapeutic healing process to begin.

It has enhanced their ability to want to get better. It has allowed them a media where they could forget about their illness and focus on something else and allow the healing process to occur. It has also allowed them the confidence to help others and support growth which is not only visible, but also physically observed on a daily basis.

As the reviewer of this project, I feel it has met all goals and
objectives set. It has provided an alternate means for expressing feelings and emotions, to identify leisure skills and creative talents, to provide informal socialization opportunities and to improve self-concept through successful task completion, as well as provide effective work behaviors and skills.

Recommendations

Direction for Future Programs

The following are recommendations for future programs. The horticulture therapy program, after being deemed successful, could be further expanded in conjunction with other off-grounds leisure pursuits. The activities available for alternatives in the program sessions can be a collaboration of the participant’s as well as the therapist’s ideas.

These (outdoor) leisure activities could give greater meaning to the abstract knowledge the participants receive through first-hand learning experiences. The processes taking place in this program could be carried over to the patients’ "everyday" life situations. Outdoor education would help the participant to develop an appreciation for his/her environment and how man and nature are interrelated. Also, through being in an open situation to others’ ideas, thoughts, and opinions, participants would gain a wide variety of interests. Experiences could be provided to the patients, enabling them to expand their knowledge of skills and develop appreciations in a less restricted atmosphere.

A program of this sort may also motivate individuals to seek knowledge through independent study and experience the pleasure of
discovery. After the application and learning of horticultural techniques on the hospital grounds, the individuals might participate in other outdoor activities. Field trips to arboretums, botanical gardens, lectures on gardening, etc., and/or going on sketch walks (drawing the plant forms) or interpretive hikes are good examples.

Volunteers

Many volunteers possess unique skills that can be used to expand and enrich the services already available to the patient. These people give the patients new faces to look at and add refreshing ideas and approaches to activities.

Volunteers may be involved either directly or indirectly with their services to the program. They may be:

1. individuals or groups from nurseries, garden clubs, florist shops, etc., willing to give lectures on topics of interest;
2. willing to donate certain materials needed for the program;
3. available for assistance during the actual gardening or related activities to support the one-on-one system; or
4. representatives from local branches of the horticulture industry may be:
   - willing to serve on a horticulture advisory committee;
   - able to make recommendations on the contents of horticulture sessions;
   - able to advise on the purchase of supplies and equipment; or
   - able to act as public relations persons, familiarizing the community with the needs of the horticulture program.

The following are recommendations for future support of similar programs:

1. Activities should be programmed to meet the needs of a particular group (adolescent, adult, and geriatric patients).
2. Activities and projects should be varied (active and passive) for both indoor and outdoor programs.

3. The size of group should be limited to the ratio of leaders to participants, depending on the program to be implemented.

4. A weekly schedule should be determined (M, W, F), including a time limit (45 minutes) for the sessions. Time should be allowed for cleanup.

5. There is a special need for long-range planning and preparation for certain sessions.

6. Community resources should be used for available materials: books, films, slides, botanical gardens, arboreta, museums, and garden experts.

7. Participants should be involved in the planning of activities.

8. Other therapists should be informed of the program's progress; be willing to collaborate with others and to expand and enrich the sessions when beneficial.

9. The program should be evaluated and revised when necessary. Evaluations of both the patients and the staff should be assessed according to the objectives originally selected.
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