DYNAMICS OF HORTICULTURE THERAPY
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Observations by professionals can be utilized effectively to analyze the current understanding of the mechanisms by which horticultural activities bring about beneficial change. For purpose of discussion, these mechanisms can be divided into three categories: (a) Interaction, which is concerned with how people interact within the horticultural setting, (b) Action, which is concerned with persons actively working with plants, and (c) Reaction, which is concerned with peoples' response to passive involvement with plants.

Interaction

Several researchers have found evidence that a horticultural setting provides an atmosphere in which it is easier for people to relate to one another. According to Charles Lewis, the plant world is nonthreatening and nondiscriminatory. Rachel Kaplan reports that a majority of the respondents gave "peacefulness and tranquility" as the most important satisfactions gained from gardening. The Menninger Clinic reports a reduction in tension and anxiety in horticultural programs that enhances the patient's receptiveness to being approached by another person. In addition, horticulture provides opportunities for human relationships by providing common interests and shared experiences.

The potential interactions between individuals are limitless. The interactions can be ones that naturally evolve from a situation and allow the client the opportunity to explore new relationships or they can be structured and guided by the therapist to reach a desired goal.

There are three types of interactions that may be important in successful treatment programs: therapist-client, client-client, and client-nonclient.

In the therapist-client relationship, the plant world may be used to establish a nonverbal relationship to open communications on subjects that the patient finds extremely threatening, or to face and deal with subjects with which the patient may not be consciously aware are disturbing in nature.

Practitioners have reported that in the more severe emotional disturbances, such as schizophrenia, patients often have a long-standing fear of people that is believed to have developed at a point in their lives before words were used to communicate. They report that the "task orientation of horticultural therapy is ideal for such a patient, for it allows him to enter gently into a relationship with another person in a non-verbal way without the threat of being confronted with interpersonal closeness too soon as may occur in a one-to-one verbal psychotherapy."

Two subjects that in many contexts are perceived as threatening are death and sex. However, death--whether a flat of seedlings lost to damping-off or a flower fading from its peak of beauty--is an integral part of horticulture and must be dealt with on a continuous basis. Likewise, plant propagation, both sexual and asexual, is a part of many horticultural activities. Encountering these topics in horticultural therapy may bring forth opportunities for discussions that can ultimately lead to communications and insights in the far more complex areas of human death and human sexuality.

Appropriate interaction between patients or clients can be an essential step toward their integration into the community or certainly toward a fuller, more socially active life within a residential facility. Many clients may benefit from a group task in horticultural therapy. This provides the opportunities for emotional growth found in most group settings: the chance to work as a member of a team, to experience sibling rivalry and other competitive feelings, and to experience group support as well as confrontation.
In working with clients who have specific problems in interacting with others, the therapist can structure horticultural activities to provide the ideal setting for acquiring needed social skills. For example, the potting up of houseplants can be an individual/isolated activity. It can also be a parallel activity where two individuals work beside each other but independent in responsibilities. Or, it can be a cooperative activity in which three or more persons have defined roles that are dependent on the others: one fills the pots with soil, one inserts the plant, and one waters the pot. Each must complete this task for the others to continue.

Successful interaction between patients or clients and the rest of the community is critical for persons with disabilities to function at their highest level. The nature of the interaction may vary considerably from one program to another.

In one program, mentally retarded young adults raise foliage plants in a modern greenhouse. These are taken to plant sales in the lobby of various federal buildings in Washington, D.C. While the public shops, they make positive comments about the high quality of the plants. These comments not only enhance the retarded person's self-esteem, but also reinforce the public's increasingly positive image of the abilities of disabled people.

Another program reports that over the years the their vegetable garden has served a variety of community needs: help in feeding flood victims, providing the vegetables for emergency kitchens, feeding tornado relief workers, and supplying tomatoes to the adult's and children's hospital as well as several youth homes. By sharing the produce with people less fortunate, clients see themselves as productive members of society.

Horticulture also provides opportunities for competition with members of the general community. A well-cared-for plant entered in a local flower show will have an equal chance of winning regardless of any impairment its grower may have. People do like to compete and plants are an equalizer among people.

Action: Working with Plants

The essence of horticulture is action. As gardeners people are active, working with plants doing things to them to modify and enhance their growth. This action of gardener with plants brings about many of the therapeutic benefits of horticultural programs. One explanation for the positive response that people have to working with plants may be that it deals with life cycles, and most people make a ready translation between the life cycle of plants and their own human life cycle.

In examining the dynamics of horticultural therapy, specific functions and experiences that can be activated and rehabilitated by direct action with plants have been identified:

Integration of biological and psychological factors. According to researchers at the New York University Institute of Rehabilitation Medicine, newly disabled persons frequently have major problems in integrating the physical disability to the rest of the individual's personality. A physical activity that simultaneously deals with aspects of the disability itself, the emotional meaning of that disability, and the possibility that the consequences of the disability are not inevitably dire may foster integration of mind and body. For example, the woman who has paraplegia as a result of a car accident thinks of herself as a helpless cripple who "can't even stand up." In horticultural therapy, she learns to stake the plants and comes to see concretely that she can do something useful. In addition, she experiences three things symbolically: she learns that other things need support, she has an interest in supporting a plant—thereby being useful to another living thing, and she (and by implication, others) feels it is genuinely worthwhile to aid in the support of others who literally cannot stand alone.

Mastery of the environment. Persons in a nursing home or a hospital or those with limited ability to leave their homes often feel helpless to control their life or environment. Rules and regulations, or simply lack of money, prevent redecoration.
However, a geranium in a sunny window may not only brighten the room, it may also act as a signal of individuality. This response has been particularly well-recorded in inner-city gardening programs that have resulted in neighborhood clean-up projects, as the individuals discover that their actions can change their surroundings.

Work substitute. In our society it is widely held that when one works, one has a contributing place in society and that work is a major social device for identification as an adult. Unfortunately, many individuals do not have the opportunity to participate in the modern work world, due to disabilities, age, or other limiting conditions. However, horticultural activities can provide a substitute for some of these work needs. By growing a vegetable garden, persons with disabilities may provide for some of their own and other people’s physical needs. Growing flowers can be a gift of beauty to others. The products of growing plants have value that is recognized the same as money and may in fact be sold or traded. In some situations the horticultural activity may lead to self-employment, sheltered employment, or a job in the community.

Responsibility. The feeling of responsibility and the dependency of the plant for care are important therapeutic elements for many. In research conducted by Langer and Rodin, one group of elderly residents of a nursing home were given the freedom to make choices and personal responsibility for care of plants. A second group had the decision made for them and the plants taken care of by the staff. The first group showed a significant improvement in alertness, active participation, and general sense of well-being.

Creativity. Creativity is a means of self-expression that is often frustrated among the persons with disabilities. Horticulture offers the opportunity for many creative experiences, such as flower arranging, bonsai, and landscaping. On another level, plants also offer a creative experience in life and growth. By making a simple cutting or planting a seed, one creates an entirely new plant. This concept is expressed by Carol, a young heroin addict, writing about her garden as part of her drug rehabilitation program: "It is especially great when we can just sit and watch it all grow in the warm evening, giving a feeling of having accomplished something good."

Frustration tolerance. When dealing with living, growing plants, things will go wrong despite the best of plans. Disease, insects, and weeds will take their toll and erratic weather will complicate the problem. Learning to cope with inevitable frustrations in gardening may help prepare the patient to deal with other frustrations in everyday life.

Intense concentration. According to Rachel Kaplan, psychologist at the University of Michigan, one of the benefits of gardening is that it is a source of fascination that sustains involuntary attention. That is, gardeners become completely absorbed in their work and do not have to put forth the effort required of voluntary attention; therefore, they have a rest from the normal efforts of the day. Also, since attention by definition excludes other thoughts, gardeners have a break from the normal worries and cares of the day.

Transference of skills. The garden can be an effective and less demanding/demeaning place to re-learn daily life skills after a stroke or accident. This technique has proven effective for example as a man with quadriplegia learns to use special tools for potting plants that he can later use to feed himself.

While not exhaustive, this list indicates some of the ways in which working with plants has a beneficial effect. In addition, working with plants has a positive influence from a purely physical standpoint. It can provide excellent exercise that is important in toning muscles.

Reaction: The presences of plants
The hypothesis has been put forth that man has a
basic psychological need for plants in the environment. There is sufficient cause to give some consideration to this theory. Man is physically dependent on plants for food and for much of his shelter, clothing, and energy. Man evolved with plants in his environment. It has only been in recent years that he has spent many hours of the day in buildings devoid of plants. It is not unreasonable to theorize that the environment that has had a significant impact on man's physical, social, emotional, and intellectual development as a species would be one with which he would continue to respond.

There are several theories to explain how and why being around plants can be beneficial. The simplest theories, the overload/ arousal theories, maintain that in the modern world, we are bombarded constantly with so much noise, movement and visual complexity that our surroundings can overwhelm our senses and lead to damaging levels of psychological and physiological excitement. Environments dominated by plants, on the other hand, are less complex and have patterns that reduce arousal and, thus, our feelings of stress.

Another theory maintains that people's responses to plants are a result of their early learning experiences or the cultures in which they were raised. According to this theory, those individuals, for example, who grow up in western Texas will have a more positive attitude toward flat lands with sparse, natural vegetation and cultivated crops, such as sorghum and cotton, than someone from the mountains of Virginia. Along the same line, this theory could be used to explain why Americans seem to prefer foundation plantings in their front yards even though the style of architecture has changed, and these plants are no longer needed to hide unattractive foundations; or why Americans desire broad expanses of lawn that urban water systems cannot readily maintain. According to Ulrich, this theory also holds that modern, Western cultures condition people to like nature and plants and to have negative feelings about cities. However, this theory does not take into account the similarities in responses to nature found among people from different geographical and cultural backgrounds, or historical periods.

The final theory maintains that our responses to plants are a result of evolution; that is, since we evolved in environments comprised primarily of plants, we have a psychological and physiological response to them. This evolutionary response is seen in an unlearned tendency to pay attention and respond positively to certain combinations of plants and other natural elements, such as water and stone. The most positive types of responses researchers found have been to the settings resembling those most favorable to survival for early humans. For example, one researcher has linked preference for certain tree forms to a high probability of finding food and water in nature near similarly shaped trees. Another researcher has shown that many features we particularly enjoy in the modern landscape, such as pathways that gently curve into the woods, were important to early man in terms of safety and exploration. This evolutionary perspective links settings high in vegetation with intuitively and cognitively based preferences and restorative influences. Other researchers put forth a theory that the first level of response to natural scenes including vegetation is emotional. This "psychoevolutionary" perspective holds that this emotional response to nature is central to all subsequent thoughts, memory, meaning and behavior as related to human environments.

According to Charles Lewis, from being around plants, from observing their growth, man acquires an understanding of life and the rhythms that maintain it. From plants man derives a sense of "dynamic stability through change." Without continuous change, plants could not survive. A plant must flower in order to set seed; it must go dormant to survive the winter. There is a natural rhythm, a time and a season for all things, and nothing can be forced out of its natural order and still survive.