

Effect of Horticultural Therapy on the Community Consciousness and Life Satisfaction of Elderly Individuals

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Abstract

This study was conducted to clarify the effect of horticultural therapy on the community consciousness and life satisfaction of elderly individuals with a history of living alone who are currently living in a facility for the elderly. The horticultural therapy (HT) program was implemented once a week for a total of 23 sessions from Apr. 14 through Sep. 27, 2001. The participants included 8 elderly individuals who lived in a group home which belongs to a Buddhist social welfare association located in Daegu, Korea. According to the results, HT was found to be effective in increasing the community consciousness and life satisfaction of these elderly individuals. After HT, the scores of community consciousness, life satisfaction, and horticultural activity evaluation were increased as compared to the levels found before HT. All items rated by the horticultural activity evaluation have been improved generally by HT, especially the scores for participation, interest and assistance, self-concept and identity, need-drive adaptation, cognition, and problem-solving. The participants showed various reactions to the plant materials used. They preferred fragrant materials such as lily and chrysanthemum, and flower colors of orange and violet. When these were used in HT, the elderly individual's concentration during an activity and satisfaction after an activity improved. With these results, it is considered that the HT is effective in increasing the community consciousness, life satisfaction, and general activity level of the elderly in this situation, and it is important to develop more effective HT programs which are suitable for this group of individuals.

INTRODUCTION

With continual improvements in the standard of living and advances in the development of health care and medical treatment, people's average life span continues to increase. Over decades, the implementation of continuous family planning has decreased the birth rate, greatly changing the population structure in Korea. The population of elderly individuals reached 7.1% of the total population of Korea in 2000, and is expected to grow to 13.2% in 2020, making Korea an aging society (The National Statistical Office, 1998). Although the population of older adults is increasing, the support structure for this population is weakening. The number of the older individuals living alone has reached 430,000, and for this reason providing support for problems for the elderly has become a major social issue (Shin, 1999).

One of the approaches in community care is the use of small group homes for older people who are disabled or weakened. The elderly living in these facilities have difficulties such as clashes of interests, and changes in roles and private life caused by incorporation into group life after long period of living alone. This situation is further aggravated by a reduction in socialization caused by the loss of previous roles that frequently occurs with old age. This loss of roles or life meaning is one reason for conflict and dissatisfaction with life, as it aggravates feelings of fear and anxiety.

This study was conducted to research the influence of horticultural therapy on the community consciousness and life satisfaction of the elderly in this situation.

METHODS

Clients

The test group included eight elderly individuals living in a group home that belongs to Buddhist social welfare association located in Daegu, Korea. Table 1 shows the characteristics of the clients. These individuals were divided into three groups based on gender and similarities in character. Ten elderly individuals who belong to a Noah social welfare association in Daegu were selected as a control group.

Horticultural Therapy (HT) Program Research Plan

The HT program plan consisted of an overall goal, subdivided into monthly goals and specific goals for each meeting. Each program was designed from preparation to completion by increasing from easy activities to more difficult activities, creating a continuous process of change (Table 2). The HT program consisted of two sections. In order to raise community consciousness, the first part of the HT program was composed of a group vegetable cultivating program and related activities. The second section consisted of a flower decoration program to raise life satisfaction with this specific group. The vegetable cultivating program used leafy vegetables such as lettuce and radishes and fruit-vegetables such as tomatoes, red peppers, and eggplant since they are easily cultivated and quick to show results. The flower decoration program used flower materials which have bright colors and fragrance such as lilies, roses and chrysanthemums.

The HT program was implemented once a week for a total of 23 sessions (April 14, 2001 through September 27, 2001). The program activities were executed for one hour each session. The first section of the HT program was April 14 through June 26 at 9:00 a.m. on Saturdays and the second section was July 19 through September 27 at 2:00 p.m. on Tuesdays.

To evaluate the effect of horticultural therapy, the opinions of staff who work at the welfare association, the changes in community consciousness and life satisfaction at pre- and post-HT program, and horticultural activity evaluations were measured at every HT program session.

RESULTS

Evaluation of the Control Group and the Test Group between Pre- and Post-HT Program

1. Change of Community Consciousness. Table 3 shows the change in community consciousness of the control group and the test group pre- and post-HT program. In the test group, intimacy scores and consideration scores were improved +5.5 and +9.0 respectively. In total score of community consciousness, the control group's community consciousness level was decreased -9.7, but the test group's level improved +15.5.

2. Change of Life Satisfaction. Table 4 shows the change in life satisfaction of the control group and the test group pre- and post-HT program. There were differences in life satisfaction pre- and post-HT program in both the control group and the test group; the control group's life satisfaction level was decreased -6.6, while the test group's level was improved +9.2.

Evaluation of Each Group Pre- and Post-HT Program

1. Change of Community Consciousness. As Fig. 1 indicates, the community consciousness level of group B was raised relative to groups A and C, probably because group B had many existing problems such as poor relationships, difficulty recognizing others' role, and difficulty depending on each other. As a result, the horticultural therapy program was more effective with the group with an increased level of social problems. Groups A and C also had an elevated community consciousness level, as these groups also have a number of social difficulties.

2. Change of Life Satisfaction. As Fig. 2 indicates, life satisfaction levels in each group were changed. This result was similar to community consciousness results.

3. Change of Each Item of Horticultural Activity Evaluation. As Fig. 3 indicates, all items rated by the horticultural activity evaluation were generally improved. Scores on the following items were more significantly improved: participation, interest and assistance, self-concept and identity, need-drive adaptation, cognition, and problem solving. Participation, interest and assistance were believed to improve community consciousness, while self-concept and identity, need-drive adaptation, cognition and problem solving may have improved group life satisfaction.

DISCUSSION

Group B's level of community consciousness was improved more than groups A and C after the HT program was executed (Fig. 1), probably because the HT program led to an improvement in community consciousness by engaging participants in joint tasks which allowed them to exchange opinions, cooperate, and recognize each other's role. The HT program provided the opportunity for increasing group consciousness by allowing residents to meet with the same individuals each meeting and speaking with those same individuals about their work after the activity. The horticultural activity evaluation improved for participation, interest and assistance (Fig. 3). This result was similar to Chun's research (1993) with cerebral palsy students who displayed improved cooperation by performing joint tasks.

Results for life satisfaction were similar to the result for community consciousness, as group B showed the most significant improvement (Fig. 2). The various activities of the HT program were presumably sufficient to meet clients' desire by facilitating harmonious personal relationships, improving common life satisfaction. The expansion of harmonious personal relationships plays an important role in mental health and life satisfaction (Chung, 1999). The results of various gerontological studies reach a unanimous conclusion: social support facilities are efficient for older people to reduce mental stress and loneliness, while increasing life satisfaction (Rice, 1989; Robert et al., 1994; Li et al., 1997).

According to Park's experiment (2000), leisure activities in old age increase health and pleasure in life and add vitality. Many gerontological studies emphasize the importance of leisure activities that are effective at raising the quality of life or affirm successful aging (De Carlo, 1974; Graney, 1975; Kelly and Steinkamp, 1986; Won, 1989; Lee, 1992; Kim, 1996; Lee, 1996). The HT program is believed to be an effective program for older people, as it is a leisure activity that provides social interaction, health benefits, and happiness. During the course of the study, some of the clients who had bad health conditions concentrated on the work and forgot their health conditions or disputes during the HT program activity (Fig. 3). Considering these results, an HT program appears to improve the life satisfaction of older adults effectively, a finding which is supported by similar studies, including a study of horticultural therapy for older individuals (Park et al., 2000) and a study of horticultural therapy for elderly people in sanitarium (Kim et al., 2001), both of which show decreased depression and improved life satisfaction through the use of a horticultural therapy program.

Clients' reaction to the plant materials used in this experiment varied. During the flower decoration program, the clients preferred fragrant materials such as lilies and chrysanthemums, probably because the fragrances provided a pleasurable experience for the clients. Clients showed no preference for herb plants, probably because the fragrance of herbs was fragile compared to lilies or chrysanthemums. Clients preferred orange and violet flowers during activities, and when these colors were used in the HT program, the participants' concentration and scores on activity and satisfaction indicators were improved following the activity.

Birren reported that the universal color preference order for adults is blue, red, green, violet, orange and yellow (Kim, 1990). Our result did not support this previous finding, perhaps due to the differences between the colors of living plants and artificial colors.

Considering these results, it is believed that an HT program is effective in increasing

the community consciousness and life satisfaction of elderly individuals with a history of living alone who are currently living in a group home, and it is necessary to develop more effective HT programs which are suitable for this population.

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Tables

Table 1. Characteristics of the clients in this experiment.

Group	Ct. ^z	Sex	Age	Health	Period of residency	Characteristics
A	A1	F	85	De ^y	Less than 1 year	Stubbornness, feels annoyed during all activities, not social with A3.
	A2	F	81	H ^x	Less than 1 year	Assumes the role of leader.
	A3	F	73	Di ^w	Less than 2 years	Angry occasionally, arthritis, not friendly with others.
	A4	F	68	H	Less than 1 year	Rational and informal character.
B	B1	F	82	De	Less than 1 year	Rational character, assumes the role of leader.
	B2	F	81	Di	Less than 1 year	Diligent, not friendly with others, recent deterioration of health.
C	C1	M	81	De	Less than 2 years	Individual, feels annoyed during all activities, evades personal relationships
	C2	M	70	H	Less than 2 years	Active, positive, occasionally petulant.

^zCt.: Client, ^yDe: Decrepitude, ^xH: Health, ^wDi: Disease

Table 2. Horticultural therapy program used in this experiment.

Section	No. of times	Horticultural activity
First	1	Orientation & making a wreath
	2	Making a raised planter & seeding (vegetable) Making a flower basket
	3	Planting (tomato, pepper, eggplant)
	4	Joint flower arrangement
	5	Cutting herbs
	6	Preparation of potpourri
	7	Transplanting herbs & managing raised planter
	8	Making potpourri
	9	Flower packing
	10	Water culture (parlor palm, arrow-head vine)
	11	Harvesting (vegetable)
	12	Cleaning raised planter
	13	Tea time & evaluation
Last	14	Preparation of pressed flower
	15	Flower arrangement using a bamboo
	16	Making a fan using pressed flower
	17	Making flower frame
	18	Seed harvesting (sunflower) & seeding (Chinese cabbage)
	19	Joint flower arrangement
	20	Flower packing
	21	Preparation of 'Lovely frame'
	22	Flower arrangement (Hand-tied)
	23	Making 'Lovely frame'

Table 3. Differences in community consciousness of the control group and the test group between pre- and post-HT PROGRAM.

Item	Control group			Test group		
	Pre	Post	Difference	Pre	Post	Difference
Intimacy	27.3±0.27 ^z	24.3±0.23	-3.0	21.4±0.50	26.9±0.41	+5.5
Restraint	11.0±0.27	11.1±0.13	+0.1	14.1±0.26	13.4±0.34	-0.7
Consideration	27.7±0.25	24.9±0.25	-2.8	19.5±0.68	26.5±0.45	+9.0
Affection	18.4±0.16	14.4±0.23	-4.0	15.1±0.62	16.8±0.35	+1.7
Total	84.4±0.28	74.7±0.46	-9.7	70.1±1.75	83.6±0.98	+15.5

^zMean ± standard error

Table 4. Differences in life satisfaction of the control group and the test group between pre- and post-HT PROGRAM.

Item	Control group			Test group		
	Pre	Post	Difference	Pre	Post	Difference
Past	21.9±0.20 ^z	15.0±0.32	-6.9	13.9±0.54	15.8±0.21	+1.9
Present	24.5±0.16	27.9±0.41	+3.4	22.1±0.80	28.4±0.63	+6.3
Future	18.8±0.19	15.7±0.43	-3.1	14.5±0.61	15.5±0.24	+1.0
Total	65.2±0.36	58.6±0.70	-6.6	50.5±1.71	59.7±0.92	+9.2

^zMean ± standard error

Figures

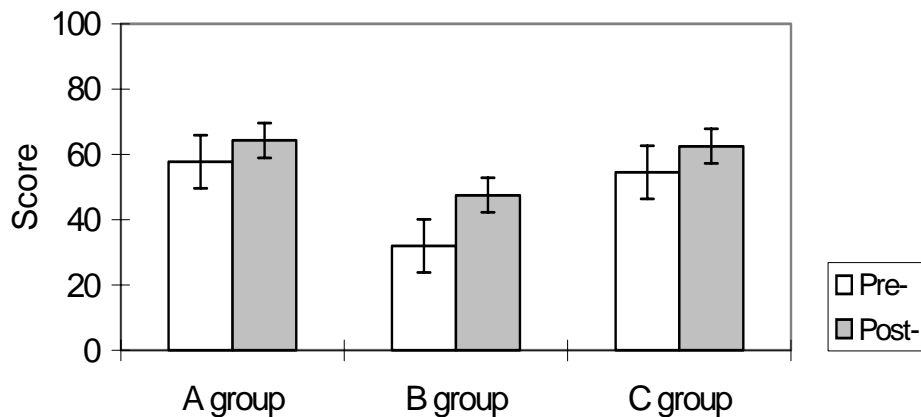


Fig. 1. Changes in community consciousness of each group between pre- and post-HT PROGRAM. Bars represent ± standard error.

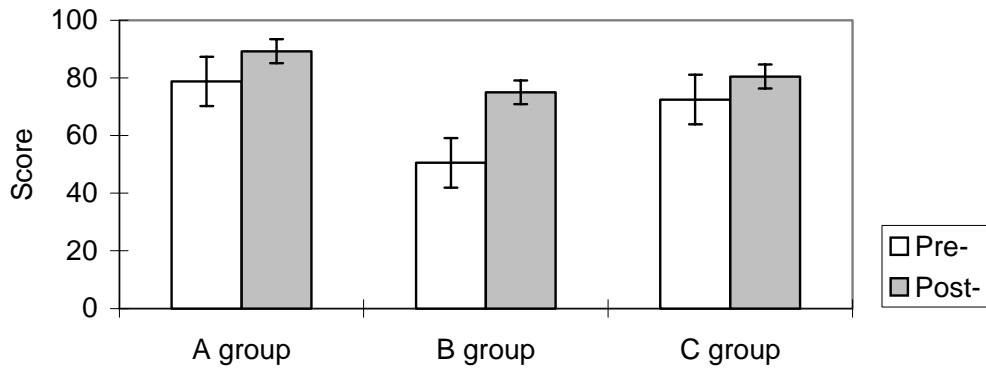


Fig. 2. Changes in life satisfaction of each group between pre- and post-HT PROGRAM. Bars represent \pm standard error.

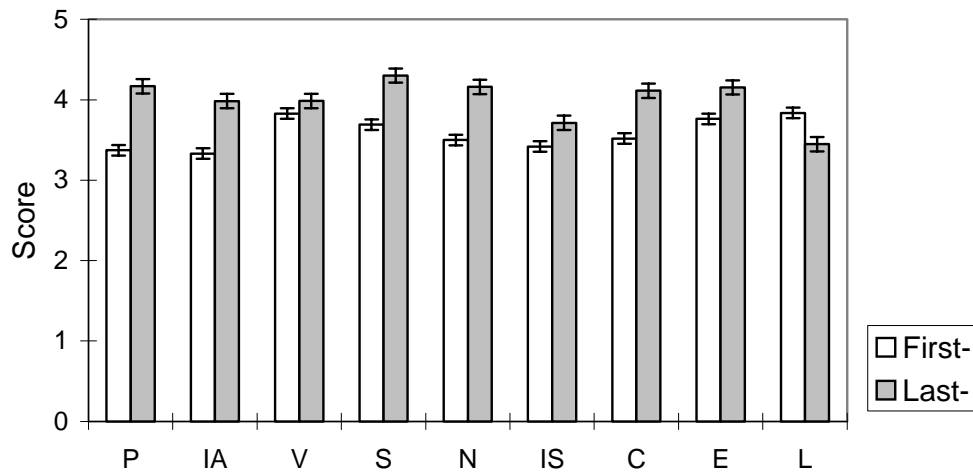


Fig. 3. Changes in each item of horticultural activity evaluation between first period and last period of HT PROGRAM. P: Participation, IA: Interest and assistance, V: Verbal interaction during activity, S: Self-concept and identity, N: Need-drive adaptation, IS: Interpersonal and social relations, C: Cognition and problem solving, E: Exercise perceptivity, L: Life-task skills and vocational adjustment. Bars represent \pm standard error.