



Horticultural Therapy for Mentally Handicapped Adults

Claudia KY LAI,¹ Yim Wah MAK,¹ Rick YC Kwan,¹ & Connie YY Fung²

¹ School of Nursing (SN), The Hong Kong Polytechnic University (PolyU)

² Registered Horticultural Therapist, HKATH

Background

Horticultural therapy (HT) has been found to be of benefit to different patient populations, but its use in people with intellectual disabilities has not been examined. The clinical experiences of horticultural therapists have revealed that HT can benefit people with intellectual disabilities by improving their self-efficacy and social skills, thereby enhancing their quality of life.

Purpose

The aim of this study was to examine the effects of horticultural therapy (HT) for adults with intellectual disabilities who are often regarded as incapable.

Methods

A mixed methods explorative design was adopted. The quantitative arm was a single group pre- and post-test study of all eligible mentally handicapped adults residing in a managed hostel setting.

Inclusion Criteria

- Age 18 and above
- Able to communicate orally in Cantonese
- Diagnosed as mentally handicapped to a mild to moderate degree (e.g., MMSE >18)

Exclusion Criteria

- Bed-bound
- Have a history of mental illness;
- Allergic to pollen, plants, seeds, soil, and fertilizers
- Concurrently receiving other complementary therapies, e.g., cognitive behavioral therapy
- Those who work on a farm
- Those who have received HT within the last 6 months

The HT program consisted of 12 weekly group sessions, each lasting 75 minutes (60 minutes of HT and 15 minutes of sharing and debriefing). The outcome measures included: (i) the Glasgow Social Self-Efficacy Scale (GSSES; Payne & Jhaoda, 2005), (ii) the Chinese Quality of Life Questionnaire - Intellectual Disability (CQOL-ID; Wong et al., 2011), and (iii) the Non-pharmacological Therapy Experience Scale (NPT-ES; Muniz et al., 2011). Data were collected at baseline (T0), immediately post-intervention (T1), and at 12 weeks post-intervention (T2). Concerning the qualitative arm, trained research personnel observed individual behavior and group dynamics in each session. Semi-structured interviews were conducted for all participants at T1 to explore their perceptions and experiences.

Results - Quantitative

No statistical significance was observed over time except for the dimension of the CQOL-ID Competence subscale at T2. Seventy-one percent of the participants experienced positive outcomes, e.g., in the cognitive (attention), behavioral (took care of own plants), and interpersonal (team work and communication skills) domains. The NPT-ES findings suggested that the participants enjoyed the program.

Results - Qualitative

The participants were mostly happy when engaged in different HT activities, e.g., watering the plants, sowing seeds, making prints, or other kinds of craft work. Changes were seen in various dimensions, e.g., team work, communication skills, attention span, and so on, among different individuals. Based on the field notes, six participants (4F2M; Sample = 5F7M) experienced positive outcomes after taking part in HT. These positive changes included improvements in their interactions with others, improved fine motor muscle coordination, saying that they were happy and smiling more often, being more confident about own abilities, and showing an increased sense of commitment in looking after the plants. More female participants than male participants seemed to have enjoyed HT.



Conclusion

No statistical significance was observed in the effect of HT over time except for the dimension of the CQOL-ID Competence subscale at T2. The qualitative data suggests that HT is a practical and pleasurable intervention for people with intellectual disabilities. It can have a role to play in enhancing their quality of life and not just their self-appraisal of their competency.

Implications for Policy and Practice

1. HT is well tolerated and enjoyed by adults who are intellectually challenged.
2. HT is not beyond their capabilities.
3. HT appeared to be enjoyed by most, if not all, of the participants, and therefore should be promoted to foster a sense of self-efficacy in the target population.

Implications for Research

1. It is impractical to ask mentally challenged participants to rate their own performance. Simpler rating tools, such as the participants' degree of happiness as shown in how often they smile, are more appropriate.
2. The outcomes of HT may not always be tangible or objectively measurable, as in the case of people with intellectual disabilities. More sensitive tools are needed to capture changes.
3. Craft work and some interactive activities may not be useful to delineate the active component of HT that would lead to positive effects.
4. The observed effect may be the result of social interactions or craft work (not unlike occupational therapy), which may or may not be related to HT. Further research will be required to determine the effect of HT on the self-efficacy and well-being of those with intellectual disabilities.
5. A clear definition of HT, the underlying assumptions, and the research questions, are crucial in any future study design.

Table 1. Sample Profile

| | N=12(%) |
|--------------------------------|-----------|
| Age | |
| 20-29 | 1 (8.3) |
| 30-39 | 5 (41.7) |
| 40-49 | 5 (41.7) |
| 50-59 | 1 (8.3) |
| Gender | |
| Female | 7 (58.3) |
| Male | 5 (41.7) |
| Employment status | |
| Employed | 1 (8.3) |
| Receiving vocational training | 10 (83.3) |
| Not working | 1 (8.3) |
| Source of income | |
| CSSA | 12 (83.3) |
| Employment Remaining Bond | 10 (16.7) |
| Monthly Income | |
| \$4000-5000 | 12 (100) |
| Degree of Mental Retardation | |
| Mild | 7 (58.3) |
| Moderate | 5 (41.7) |
| Prevalent Disease | |
| Gynecological | 1 (8.3) |
| Epilepsy | 2 (16.7) |
| Dental Disease | 2 (16.7) |
| Contract | 1 (8.3) |
| Musculoskeletal Disorder | 1 (8.3) |
| Diabetes | 1 (8.3) |
| Hypertension | 1 (8.3) |
| Obese | 2 (16.7) |
| Other | 2 (16.7) |
| Use of medication | 4 (33.3) |
| Participating Other Activities | |
| Less than once per week | 5 (41.7) |
| 1-2 times per week | 6 (50.0) |
| 3-4 times per week | 1 (8.3) |
| Source of Support | |
| Parent | 4 (33.3) |
| Sibling | 1 (8.3) |
| Parent & Sibling | 1 (8.3) |
| Friends | 2 (16.7) |
| Others | 2 (16.7) |
| Community centre staff | 1 (8.3) |
| Consist in mainland | 1 (8.3) |
| Visit per week | |
| Less than one per week | 2 (16.7) |
| 1-2 times per week | 10 (83.3) |

Table 2. Comparing Changes Over Time

| | Pre-Intervention Median (IQR) | Post-Intervention Median (IQR) | 3 month after intervention Median (IQR) | Chi Square ^a | P value ^b |
|------------------------------|----------------------------------|-----------------------------------|--|-------------------------|----------------------|
| Glasgow Self Efficacy Scale | 13 (7) | 15 (14) | 13 (4) | 3.36 | .152 |
| CQOL Satisfaction | 21 (5) | 24 (3) | 21 (4) | 3.85 | .146 |
| CQOL Competence | 19 (4) | 21 (0) | 20 (3) | 6.62 | .037 |
| CQOL Interpersonal relations | 11 (4) | 12 (3) | 11 (2) | 1.00 | .607 |

Table 3. NPT-ES Results

| | Mean (SD) | Minimum score | Maximum score |
|------------------------------|--------------|---------------|---------------|
| NPT-ES (Range of Score 0-15) | 11.87 (1.38) | 9 | 14.5 |

Note: SD, standard deviation

References

- Muniz, R., Olazarán, J., Poveda, S., Lago, P., Peña-Casanova, J. (2011). NPT-ES: A measure of the experience of people with dementia during non-pharmacological interventions. *Non-Pharmacological Therapies in Dementia*, 1(3), 1-11.
- Payne, R., & Jahoda, A. (2004). The Glasgow Social Self-Efficacy Scale - A new scale for measuring social self-efficacy in people with intellectual disability. *Clinical Psychology and Psychotherapy*, 11, 265-274.
- Wong, P. K. S., Wong, D. F. K., Schalock, R. L., & Chou, Y. C. (2011). Initial validation of the Chinese Quality of Life Questionnaire - Intellectual Disabilities (CQOL-ID): A cultural perspective. *Journal of Intellectual Disability Research*, 55(6), 572-580.

Acknowledgment

This is a collaborative study between the Centre for Gerontological Nursing, School of Nursing, The Hong Kong Polytechnic University and the Hong Kong Association of Therapeutic Horticulture (# H-ZJHN).

This poster is presented at the 2015 Annual American Academy of Nursing Conference "Transforming Health, Driving Policy Conference," Washington DC, USA, October 15-17, 2015.

