

A Study on Effectiveness of Horticulture Therapy in Enhancement of Motor Skills, Socialization and Reduction of Problem Behavior in Adults with Multiple Disabilities

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Abstract: *An attempt was made to find out the effectiveness of Horticulture therapy in enhancing motor skills, socialization and reduction of Problem Behaviors among adults with Multiple Disability aged between 18 to 55 years who are undergoing vocational training in GHARAUNDA centre of Jankalyan Divyang Punarwasan Kendra, Latur, Maharashtra. They have been under training of Horticultural activities from 22 June 2016 till date. Qualitative research design was used for the study and it is based on observation technique. Telephonic interview was conducted to elicit the feedback of the trainers of regarding the outcome of these horticultural activities. Questions were posed regarding the condition of the trainees when they joined, activities they provided and progress after receiving the training. The trainers revealed that after every 15 days of training period, they observed progress in fine motor, socialization, communication skills. They also observed that there was an improvement in their desirable behavior and reduced problem behavior. The study concluded that horticulture activities are not only in income generation programme but also act as therapy in improving adaptive skills.*

Keywords: Horticulture Therapy, Motor skills, Behavior problems, Socialization, Multiple Disability

1. Introduction

"Multiple Disabilities" means concomitant impairments (such as mental retardation blindness, mental retardation-orthopedic impairment, etc.), the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf blindness.(I.D.E.A)

Children with Multiple Disabilities will have a combination of various disabilities that may include: speech, physical mobility, learning, mental retardation, visual, hearing, brain injury and possibly others. Along with Multiple Disabilities, they can also exhibit sensory losses and behavior and or social problems. Children with Multiple Disabilities - also referred to as multiple exceptionalities will vary in severity and characteristics. These students may exhibit weakness in auditory processing and have speech limitations. Physical mobility will often be an area of need. These students may have difficulty attaining and remembering skills and or transferring these skills from one situation to another. There are often medical implications with some of the more severe multiple disabilities which could include students with cerebral palsy and severe autism and brain injuries.

Young Children with Multiple Disabilities have unique needs and challenges. Impairments may occur in cognition, motor, and sensory functions and occur in combination with each other. Many of these young children struggle to communicate their wants and needs, to freely move their body to access and engage their world, and to learn abstract concepts and ideas. The intensity of their needs means that delays are likely to have a pervasive impact on the child's

development and are likely to continue to impact the family and the child well beyond the early childhood years (Chen, 1997). In addition, however, these young children are a widely heterogeneous group in terms of their characteristics, capabilities, and learning needs. They may share some attributes, but they possess their own uniqueness as well. Thus as professionals and families plan for children with Multiple Disabilities, an approach that considers the special needs each child exhibits and necessary supports required to meet the needs must drive the process.

Four areas of need – medical, physical, learning, and social emotional needs - should be addressed in developing interventions for young children with Multiple Disabilities. Given that young children with Multiple Disabilities often have chronic health needs that may require substantial effort by adults, professionals and families must work together to help improve the child's experiences and learning opportunities. Young children with Multiple Disabilities often exhibit motor development delays, which can result in difficulties with mobility, sitting, and standing. As with all young children, the learning outcomes for young children with Multiple Disabilities center on the development of skills, membership, and relationship (Snell & Brown, 2011). To achieve these outcomes, professionals must implement additional supports to provide for a meaningful and individualized curriculum within the context of fully inclusive and natural environments. Given that children with Multiple Disabilities may need assistance in engaging in interactions with others and other individuals may need assistance in understanding the communicative behaviors of these children, positive social interactions opportunities must be created.

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1.1 Horticulture Therapy

Horticultural therapy was developed in the United States to provide psychological care and social rehabilitation for disabled soldiers and war veterans diagnosed with Post-Traumatic Stress Disorder (PTSD) following World War II. The studies have suggested that horticultural therapy has cognitive (Cimprich, 1993) Herzog TR et al (1997), psychological Rodiek S (2002) Waliczek et al (1996), social Langer EJ, Rodin J (1976) Nicole M, Perrins Margalis MS, Rugletic J (2000), and physical Van Den Berg AE1, Custers MH (2011) effects.

Bailey, in his "standard encyclopedia of horticulture (1963)" defines horticulture as "the growing of flowers, fruits and vegetables, and of plants, of ornament and includes all types of plant breeding, variation of plants under domestication, the bearing and applications of many biological and physical sciences, and the manufacture of many products.

Horticultural therapy is an emerging field of clinical practice based on proven benefits to the physical, mental and emotional wellbeing that accrues from gardening as a healing or therapeutic process. The psychological impact of gardening is that it is considered a serene occupation, an oasis of calm, a grounding experience. The physical impact is such that gardening not only provides fitness via calorie burning and muscle toning activities but offers opportunities to improving strength, endurance and flexibility in legs, arms and hands. It has been shown to help with hand to eye coordination and improved motor skills, not to mention that the process of gardening stimulates appetite and fosters a good night's sleep. The latter two being the key benefits to rehabilitation of the infirm, those in recovery or those coming to terms with trauma or cognitive difficulties. Gardens stimulate, they engage all of our senses not just the sights, sounds and smells around us, but touch too; the textures of soil tell a story, and feeling; the emotional satisfaction of a harvest or a successful cutting. Gardening can offer strides in the development of social and intellectual skills, especially those required for social inclusion or rehabilitation. Gardening involves personal initiative, personal effectiveness, a nurturing responsibility to living things. It can involve team work and encourage dialogue. It reveals our capacity to become involved and offers opportunities for accomplishment. Gardening is also a form of self-expression; creativity builds confidence while enabling a healthy outlet for emotions. Furthermore gardening can assist with fundamental skills like literacy (labeling a plant, reading seed sowing instructions) and numeracy (measuring planting distances, counting seeds) etc, building more confidence and self esteem. While the spiritual and holistic side of horticultural therapy sees value in gardening as meditation.

2. Review of Literature

K.Y.Bo et al (2012) conducted a study to determine the effects of horticultural therapy program for the improvement of attention and sociality in children with intellectual disability. The sample for the study were 24 Korean children with intellectual disability. It was an experimental research design with control group. Conner's teacher rating scales-

revised and the social skills rating system assessments were conducted by parents/caregivers or teachers for each of the children. Analysis of covariance (ANCOVA) and chi square tests were used to compare differences between the two groups. The results revealed that the HT program improved the sociality of children with intellectual disabilities.

C.Mark, T. Michaela et al conducted a study to explore the efficacy of a horticultural therapy intervention for the enhancement of subjective health and wellbeing in male service users with a dual diagnosis of personality disorder and intellectual disability in a medium secure unit in the north of England, UK. In the present study Service users (n=7) were involved in three focus groups. It was proved that Immersion in horticultural activity may thus be an effective treatment modality in promoting positive health benefits to service users.

Yuka Kotozaki and Taeko Shishido (2014) conducted a study to describe a psychological support method that involves the use of horticultural therapy for people with intellectual disabilities living in the Great East Japan Earthquake disaster area. The participants were five adults with intellectual disabilities and were undergoing treatment at this facility and attended horticultural therapy sessions. Horticultural therapy sessions were conducted by one Horticultural Therapist (TS) and seven support staff. In this study a psychological support method using horticultural therapy for people with intellectual disabilities living in the disaster area was described. The horticultural therapist observed and evaluated the participants, as the participants found it difficult to reply to questionnaires. Results showed that all of the participants were smiling and appeared excited once they had completed the potted flower arrangements. They also appeared relaxed when touching the plants. Further, participants took the initiative with respect to the work and became involved in conversations with other participants.

3. Objectives of the Study

The objective was to find effectiveness of horticulture therapy in enhancement of motor skills, socialization and reduction of problem behavior in adults with Multiple Disabilities.

4. Research Method

The research method was qualitative research method, Telephonic interview was conducted to elicit the feedback of the trainers regarding the outcome of these horticultural activities. Questions were posed regarding the condition of the adult trainees before and after giving the training in horticulture activities based on their observation.

5. Sample

The sample for the study was a vocational instructor of GHARAUNDA project at Jankalyan Divyang Punarwasan Kendra, Latur, Maharashtra who was giving training to 10 students with different disabilities among them- 3 of them are adults with multiple disability and rest of them were

adults with Intellectual Disability who possessed behavior problem.

6. Procedure

To find out the effectiveness of the horticulture therapy, researcher had given telephonic call to the vocational instructor at Jankalyan Divyang Punarwasan Kendra, at Latur, Maharashtra, which is under gharaunda project. Researcher has asked few simple questions related to horticulture therapy and its effectiveness in treating the Persons with Multiple Disability. The questions were as follows:

Sno.	Questions	Answers
1.	Do you have any agricultural field?	Yes
2.	What do you grow?	Flowers like roses, jasmine, marigold apart from flowers we also have ground nuts, onions
3.	Who gets training in this project?	Adults with Multiple Disability aged between 18 to 55 years. We have four adults with cerebral palsy, three with intellectual disability, two with autism and three adults having multiple disability.
4.	Do you follow any time table or schedule?	Yes, We follow a schedule. Every morning from 9 to 11AM we train them in horticulture activities like watering the plant, fill the pot with mud, remove the weeds, cut the blossomed flower or ripen fruit or vegetable.
5.	What technique you follow in teaching these activities?	We follow modeling as well as prompts with easy instructions are given to the trainees.
6.	What do you do with the end product?	We sell it in the market and we get financial income from it, from the flowers we give aroma therapy to the trainees
7.	How was the condition the adult trainees before giving horticulture training?	Trainees before undergoing had very poor motor skills, poor in grasping the objects, inability to comprehend things, poor communication skills, limited socialization.
8.	How is horticulture therapy benefiting your adults trainees?	We observed that due to these horticulture activities there is lot of change seen in the adults who are undergoing training. Socialization improved they started communicating with others, fine motor skills enhanced apart from that problem behavior was also reduced in the trainees who showed behavior problem before giving horticulture therapy. They started discriminating the different flowers, vegetables and fruits. This not only served as a income generating source but also showed certain changes in behavior, socialization and fine motor skills

7. Findings and Conclusion

This proves that horticulture therapy is the best and natural way of giving treatment to children with Multiple Disability as it increase fine motor skills, socialization and reduces the

problem behavior. It is the natural way to treat the person with Multiple Disabilities. Horticulture therapy not only serves as the source of income but also enhances the motor skills, eye hand coordination increases. The activities like planting, watering the plant, removing the weeds from the farm makes the persons get engaged in the activities and reduces the problem behavior. The persons with disabilities while performing the horticulture activities interact with each other, help each other and in turn the socialization also increases Kim et al(2012). Therefore the horticulture activities can be used as a therapy to enhance the quality of life of person with Multiple Disabilities.

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