

# INNOVATION AND TECHNOLOGY IN ELDERLY AND REHABILITATION CARE

Technology-Enhanced Horticultural Activity  
Supporting the mental health of the elderly and caregivers



# Technology-Enhanced Horticultural Activity

## Supporting the Mental Well-being of the Elderly and Caregivers

The issue of population aging in many places in the world is becoming increasingly severe, leading to a rise in mental health needs among the elderly. Dealing with behavioral and psychological symptoms of dementia (BPSD) in elderly individuals poses significant challenges. Consequently, caregivers are also experiencing escalating work pressures. In the absence of a definitive pharmaceutical cure, what non-pharmacological treatment methods are available to improve this situation? Through our innovative

technology-enhanced horticultural activities, we are dedicated to improving the current situation for the elderly and caregivers by slowing down the progression of degeneration and the impact of BPSD, while providing enhanced mental health support.

In a recent pilot study conducted in collaboration with the School of Nursing at The Hong Kong Polytechnic University, we successfully improved patients' and caregivers' social relationships and increased positive emotions.

### Pilot Study

Mental Wellbeing Program: Utilization of technology-enabled horticulture

intervention for supporting older people with cognitive problems and their family caregivers

### Research Objectives

#### Improving Behavioral and Psychological Symptoms

- Utilizing horticultural activities to enhance mood and reduce stress

#### Building Positive Relationships

- Engaging in games based on the interests of the elderly, fostering shared moments of joy and happiness.

#### Games with Training Elements

- Using games that stimulate the sensory functions of the elderly as a medium to incorporate training

#### Leveraging Strengths

- Uncovering the remaining abilities of the elderly to increase self-confidence

### Research Activity – Training in Community Centers



### Research Results – Elderly



Increased their cognitive functions  
Improved their happiness index  
Decreased Behavioral and Psychological Symptoms (BPSD)

### Research Results – Caregivers



Improved their happiness index  
Reduced their work stress  
Reduced their depressive symptoms  
Decreased their stress level brought by BPSD

# Technology-Enhanced Horticultural Activity

## aspara® Nature aspara® Stylist Lite

- Year-round planting indoors
- Pesticide-free
- Easy to clean
- Notifications from the app
- Designated plant programs



aspara® Nature



aspara® Stylist Lite



## Seed Kits

Over 25 varieties, including leafy greens, herbs, fruits and edible flowers

## Mobile app Smart control



## Advantages of the aspara® Technology-Enhanced Horticultural Activity Program:

- Conducts at home, involving both the elderly and caregivers
  - Provides activities that stimulate all five senses (visual, auditory, olfactory, gustatory, and tactile)
  - Offers a seamless and successful planting journey for patients
  - Simplifies management and monitoring for nurses and caregivers
  - Assists doctors and researchers in diagnosis, and improves treatment efficacy through digital data tracking of patient progress
- Through our patented indoor smart growers and technology-enhanced horticultural activities, we aim to improve the mental well-being of the elderly (especially those with cognitive impairments) and their caregivers.

Backed by Growgreen, the aspara® journey began in 2016 with the aspiration to redefine the gardening experience by combining technology with the joy of growing fresh food indoors all year round. Today aspara® is present across the United States, Europe and Asia with a growing portfolio of award-winning smart gardens and an extensive range of seed kits.



## aspara® Indoor Smart Grower – Patents and Awards



**gia** global  
innovation  
awards  
home + housewares  
product design excellence  
— 2023 FINALIST —



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