

Findings from the DuWigata¹ Project

A multicentre study conducted by iKK and ILAG on the effects of using horticultural therapy for residents of nursing homes with dementia examined two main questions: on the one hand, how horticultural therapy affects the participating people themselves and, on the other hand, the organisational conditions to be taken into account when implementing garden therapy.

1. Effect of Horticultural Therapy on Emotion, Cognition and Behaviour

The DuWigata study served to implement an innovative approach in research, investigating the effect of horticultural therapy not only in relation to cognitive and behavioural characteristics of residents in nursing homes, but also to their emotional states. Proving the effect of interventions, such as horticultural therapy, is a highly complex procedure when it comes to the target group of residents of nursing homes suffering from dementia.

Differences in the effectiveness of horticultural therapy must be interpreted taking the influencing factors in terms of individual persons and care facilities into account.

With all due caution, we can make the following general statements for the target variables emotion, cognition and behaviour with reference to the study participants:

¹ Study conducted by *Institut für Leistung Arbeit Gesundheit ILAG* (Institute for Performance Work Health): “Conditions of Implementation and Impact Analysis of Horticultural Therapy in Residents of Nursing Homes with Dementia (DuWiGata)“, funded by iKK classic, 2019-2020.

Effect on emotional states

The DuWigata study has proven that participating in a professionally conducted horticultural therapy has a positive effect on the emotional state of residents of nursing homes suffering from dementia. In particular, these effects were shown by:

- a highly level of observable attention during garden therapeutic interventions
- a much higher level of observing feelings of joy compared to perceptible emotions such as fear, sadness or anger.

Effects on cognitive performance

In terms of long-term interventions to be followed by tests to provide information on the state or development of the cognitive performance over a period of time, it should be considered that in persons with dementia, over time, a deterioration of this performance is to be expected. Simultaneously, when starting the examination the level of dementia in a person has to be taken into consideration.

It is therefore all the more remarkable, that the study actually shows a more positive development of cognitive performance in the intervention group. In about 39% of the tested participants of the intervention group, an increase of cognitive performance could be observed upon completion of the horticultural therapy. This development was only observed in 30% of the participants of the control group, who had taken part in the standard offer of the respective facility. This fact is further supported by the result that in the garden therapeutic groups, the percentage of persons expected to show a deterioration of the measuring results, turned out to be 7% lower than in the control groups.

Effects on the behaviour of the examined persons

The subject of this research focused on the agitation behaviour in persons with dementia, in terms of inappropriate verbal, vocal or motor activity. Results showed that behaviours - although not statistically significant - were slightly more distinct in garden therapeutic groups. In comparison, this also applied to individuals who participated in motion exercises or active music offers in the same time period of the study. When assessing agitated behaviour, it goes without saying that the observers are exposed to a multitude of influencing factors when it comes to interpretation, as a result of which this finding should be treated with care.

2. Impact of the implementing conditions regarding the horticultural therapy effects

The methodology of the study also represented a new approach. By using several qualitative and quantitative evaluation methods, a variety of influencing factors related to individuals and facilities could be taken into account. This provided interesting insights about the correlation between the findings of the horticultural therapy effects on cognition, agitation and emotions, the organisational quality of therapeutic interventions and the resources of a facility.

- Facilities in which good results have been achieved regarding the development of emotional, cognitive and behavioural characteristics of participants are distinguished by **a good organisation of the horticultural therapy**. In addition to providing a professional therapist and appropriate materials, it is important that the therapist is supported by the staff. The constructive interaction between nursing, social service, housekeeping and technical support (e.g., caretakers) is more important than the installation of a fully equipped therapy garden. It makes sense to ensure that all areas of work are fully aware of the significance of the horticultural therapy, so that the interventions can reach their full potential.
- In this context, it was interesting to see that the way in which the staff deals with stress and demands also plays an important role in the respective facilities. As a result, attention must also be paid to the concrete **work design in the facilities** when introducing horticultural therapy. Facilities in which the employees evaluate their work situation positively and do not feel overloaded by everyday stress are more likely to conduct the horticultural therapy with good results. In order to achieve the best possible conditions for implementing horticultural therapy in a facility, it is important to include the facility in the planning and implementation of the horticultural therapy. To this end, we recommend a systematic introduction to horticultural therapy, for example, on the basis of iKK's present **Good Practice Guide on Horticultural Therapy**.
- Finally, horticultural therapy as an intervention for nursing homes residents (with dementia) can equally offer the **opportunity for organisational development**. In line with section 20b of the German Social Code (SGB V), preventive measures for patients

in in-patient care are allowed to be combined with measures of occupational health and safety in the nursing home.

Conclusion:

We recommend introducing horticultural therapy as an offer to small groups of residents with dementia in elderly care facilities. In addition to other activities and taking into account the present Good Practice Guide on Horticultural Therapy, it is suitable to slow down the decrease in cognitive performance, to increase general attention and to positively influence emotional sensations! Horticultural therapy offers a broad range of possible activities, from rather passive to rather active levels of participation. Compared to other intervention measures, horticultural therapy has the advantage of being a really low-threshold offer for personal work. Likewise, introducing and designing horticultural therapy can lead to positive effects on the organisational development of the respective facility.

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