

# OPP: DEMENTIA & TECHNOLOGY

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## Digital cognitive stimulation therapy for people with dementia

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**Purpose** Digital cognitive stimulation therapy (DKST) for people with dementia represents an innovative approach that uses modern technologies to promote cognitive abilities and positively influence the course of dementia. DKST enables personalised and adaptive therapy content that is tailored to the patient's individual interests and current level of ability. Through the use of tablets, stimulating and interactive tasks can be offered to promote memory, attention and executive function, which contribute to cognitive activation. DKST not only offers a flexible and location-independent application, but also enables the automatic adjustment of difficulty levels and the tracking of therapy progress. It also supports social interaction through the possibility of networking with other users. The integration of DKST into the care concept of people with dementia can improve therapy adherence as it is available anytime and anywhere, which is particularly beneficial in rural or underserved areas. Overall, DKST helps to make cognitive stimulation more effective, accessible and engaging, making it a valuable tool in the care of dementia patients. **Method** This study investigated the effectiveness of digital cognitive stimulation therapy for people with dementia, which has been offered since 2019 as part of a joint care programme run by the Alzheimer Gesellschaft Hamm and the Telemedizinzentrum Hamm. Nineteen participants received one hour of targeted training per week from specially trained co-therapists. The intervention included digital exercises to strengthen memory, attention and executive functions. Additional auditory training was integrated for those patients who had hearing loss in addition to dementia. The methodology of the study focussed on the use of practical, digital tools for cognitive support and at the same time took sensory impairments into account in order to ensure a holistic care concept. **Results and Discussion** The current study provided significant results regarding the use of digital cognitive stimulation therapy in people with dementia. All 19 participants showed improvements in working memory, attention span and executive functions, although the improvements were minor. One notable aspect, however, is the demonstrably positive impact on social participation and the general quality of life of those affected. In the case of one person with bipolar disorder in particular, it was possible to achieve considerable stabilisation by participating in the therapy within a dementia residential community, which made it possible to avoid an otherwise usual stay in a geriatric psychiatric clinic. The Quality of Life questionnaire was used as part of the study. This questionnaire is a standardised instrument for recording quality of life, which includes physical health, psychological well-being, social relationships and the ability to function in everyday life. It is used to assess treatment effects and to create individualised treatment plans in clinical studies, healthcare and public health. By using a Likert scale, the QoL questionnaire enables a quantitative analysis of the respondent's subjective quality of life. In this study, a t-test was used to analyse the differences in quality of life scores between the treatment group and the control group. By applying this statistical procedure, it was shown that the participants in the treatment group who received the intervention had significantly higher quality of life scores, as a t-value of 1.74 was calculated. The result shows that the hypothesis that the intervention improves the quality of life of the people analysed is statistically significantly supported. These promising, albeit preliminary, results point to the need for further research. A more comprehensive study is already in preparation to evaluate the effectiveness and potential of this therapy method on a broader scale.

### References

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