

A research overview of three recent art intervention and therapy projects targeted at patients living with dementia

Kunstinterventionen und Kunsttherapie für Demenzpatienten: eine Übersicht dreier aktueller Projekte

Abstract

Three art-based projects for people with dementia – *ARTEMIS*, *Transformation*, and *Hortus Signorum* – have been developed, and tested for effectiveness, since Germany adopted the evidence and consensus-based S3 guideline on dementia in 2016. The *ARTEMIS* project, conducted in a museum, was evaluated by means of a randomized study to assess the impact of interactive, art-based interventions on emotional well-being, quality of life and communication behavior of people with mild and moderate dementia and their relatives. The *Transformation* project explored the potential for people with dementia of art education in a museum setting in order to create a didactic handbook for an experience-oriented, art mediation practice. The sculpture project *Hortus Signorum*, developed for male dementia patients, investigated the effects of woodcarving in an experimental study. All three studies showed that people with dementia can successfully participate in art programs thereby improve their quality of life and well-being.

Keywords: dementia, art interventions, art therapy, art projects for people with dementia

Zusammenfassung

Seit der Verabschiedung der evidenz- und konsensusbasierten S3 Leitlinie Demenz im Jahre 2016 wurden drei kunstbasierte Projekte (*ARTEMIS*, *Transformation*, *Hortus signorum*) für Menschen mit Demenz entwickelt und auf Effektivität überprüft. Das Projekt *ARTEMIS*, welches im Museumsraum stattfand, wurde mittels einer randomisierten Studie evaluiert, um den Einfluss interaktiver, kunstbasierter Interventionen auf das emotionale Wohlbefinden, die Lebensqualität und das Kommunikationsverhalten von Menschen mit leichter und mittelschwerer Demenz sowie auf die Beziehung zu ihren Verwandten zu erfassen. Im Projekt *Transformation* wurden spezifische Potenziale für die Kunstvermittlung im Museum für Menschen mit Demenz erforscht, um ein didaktisches Handbuch für eine erfahrungsorientierte Kunstvermittlungspraxis zu erstellen. Das Bildhauerprojekt *Hortus Signorum*, welches speziell für männliche Demenzerkrankte entwickelte wurde, wurde mit einer experimentellen Studie begleitet, um die Wirkung von Holzbildhauerei auf dementielle Patienten zu erfassen. Die drei Studien zeigen, dass Menschen mit Demenz erfolgreich an Kunstprogrammen teilnehmen können, und dadurch die Lebensqualität und das Wohlbefinden der Erkrankten verbessert werden kann.

Schlüsselwörter: Demenzerkrankte, Kunstinterventionen, Kunsttherapie, Kunstprojekte für Menschen mit Demenz

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Introduction

Art therapy as a modality has developed on the back of a very eventful history. With origins dating back to the 1920s, today art therapy is increasingly establishing itself in the academic field, in Germany and elsewhere [1]. Art therapy uses design processes and art-making (painting, drawing, sculpture, photography etc) psychotherapeutically to promote body-soul integration. It is employed as an intervention in clinical areas, such as psychiatry, psychosomatics, oncology and geronto-psychiatry, and in applied educational fields. Art therapy in geriatric psychiatry occupies a special position due to the complexity of the relevant psychiatric disorders and their proximity to neuro-degenerative diseases [2]. A relevant scientific research base is indispensable for optimal patient care. This article provides an overview of current research in art projects and art therapy for dementia. In addition, newly developed treatment programmes, including efficacy studies, are presented.

State of art therapy research in dementia post-2014

German medical guidelines list art therapy as a psychosocial intervention. The guidelines are systematically developed, obligatory treatment agreements for optimal patient care in Germany. Clinical decisions to employ specific therapies are based upon their recommendations and the guidelines are regularly revised by a panel of experts and adapted to the most current state of research. The Association of the Scientific Medical Society (AWMF), founded in 1962, organises and publishes the medical guidelines; there are now 178 in total [3]. The medical guidelines require relevant research evidence employing criteria of evidence based medicine (EBM) for inclusion of studies in treatment recommendations.

The S3 guideline for *Dementia*, which aims for optimal care of dementia patients and their relatives, was adopted in 2016 by two of the foremost professional societies, the German Society of Neurology (DGN) and the German Society for Psychiatry and Psychotherapy, Psychosomatics and Neurology (DGPPN), and is binding until 2021 [3]. The most recent version was updated in 2014 and 2015. The S3 guidelines list art therapy, along with dance movement, music and occupational therapy, under the umbrella of *psychosocial interventions*. Psychosocial interventions serve, among other things, to increase and improve quality of life, activity levels, cultural participation, cognitive abilities, personal identity, social coexistence, and well-being of those affected and their relatives [4]. The latest guideline describes them as “a central and necessary part of caring for people with dementia and their relatives [...]” [3].

The well-being of family caregivers is increasingly coming to the attention of health care research because, as recent studies indicate, 70% of the 1.6 million people with dementia in Germany are cared for by a loved one at

home. This is predominantly done by partners (more often the female partner) and daughters. It is a problem that fewer younger people will be available in the future to take care of those suffering from dementia [5].

Little evidence-based research on arts therapies for dementia exists and no relevant high quality RCTs (randomised controlled studies) were available at the time the guideline was adopted. Consequently, art therapy is not provided with an evidence level in the S3 guideline for dementia [3]. However, the S3 guideline emphasises that dementia sufferers, whether artists or lay persons, can be artistically active and have zest for life [6].

An overview of existing research can be found in two reviews: a narrative review by Tesky, Schall, and Pantel [7] and a systematic review, *Art Therapy for Alzheimer's Disease and Other Dementias*, from Chancellor, Duncan, and Chatterjee [8]. The latter lists all qualitative and quantitative studies published in the period from 1980 to 2013, among them four randomised trials, but was excluded from the revised S3 dementia treatment guideline.

Developments after 2015

The three artistic projects that are the focus of this paper were developed and carried out on the basis of the aforementioned research along with previous practical experience. The project leaders were not trained art therapists however. Two museum projects were intended to increase cultural participation and social integration of dementia sufferers. The sculpture project was created and implemented by a professional artist in a retirement home.

The ARTEMIS project (2017)

In the *ARTEMIS* project (**ART** Encounters, **M**useum **I**ntervention **S**tudy), the initiators Schall, Tesky, und Pantel (Goethe-University Frankfurt am Main, Department of Geriatric Medicine), examined, by means of a randomized control study with a waiting list control group, the influence of interactive, art-based interventions on the emotional well-being, quality of life and communication behaviour of people with mild and moderate dementia as well as their relationship with relatives. The intervention program was based on a presentation project, *Meet me at MoMA*, by Francesca Rosenberg [9].

People with dementia and their close relatives participated in weekly small group tours (60 mins) for six weeks on various topics at the Frankfurt Städel Museum. After each group tour, there was a joint artistic activity (60 mins). The persons in the control group visited exhibitions independently, with no artistic activity afterwards. In the mixed-methods design, 44 affected persons and 44 relatives were examined. The pre-test revealed no significant differences concerning age or cognitive and depressive status between the control and intervention groups. The accompanying relatives were on average 62

years old and more than two-thirds of them were female. The average care duration was 3½ years at 7 hours a day.

The pre-post evaluation showed significant improvements in the self-assessment of the quality of life ($t=-3.15$, $p<.05$), while the evaluation of the patients of the waiting list control group showed only slight improvements.

In a situational assessment of the emotional well-being immediately before and after each of the museum sessions, statistically significant positive changes in the mean effect size range ($d_{corr}=.74-.77$) were found. In this respect, people with dementia prefer biographical themes such as “family and children” and “Frankfurt”. Relatives felt a greater gain in topics that could contribute to emotional relief through new experiences and the discovery of creative potential in the artistic work.

Additional neuropsychiatric symptoms as measured with the NPI (Neuropsychiatric Inventory) and affective symptoms (depressive mood and anxiety) and apathy subscales were significantly lower after ARTEMIS intervention (tNPI total=2.43; tNPI affektiv=2.24; tNPI apathie=2.52; $p<.05$).

The results show that museum-based art interventions improve the subjective well-being, mood and quality of life for people with dementia, especially when looking at biographical themes such as *families and children* and *Frankfurt*.

These results also showed that the relatives felt a greater gain in well-being on topics that could contribute to emotional relief through new experiences and the discovery of their own potential in the context of creative work. In the final evaluation, the participants were asked which art guides or which kind of art studio work they liked best. The relatives reported to have benefited most from the hitherto untried techniques that made new emotional experiences possible. 96% of all participants rated the project as *very good*; 100% would recommend the project to others. These and other promising results of the pilot study can be found in the publication of Schall and colleagues [10].

The art project Transformation (2016)

The sensory-oriented art education project in the museum space was conducted by the Hamburg Medical School in cooperation with the *Lehmbruck Museum* in Duisburg and *Stuttgart Dementia Support* with a duration from October 2012 to September 2015 [11]. The aim of the accompanying study was to generate specific potentials for teaching art in the museum setting for people with dementia and to create a specific didactic manual for experience-oriented art mediation practice that can be transferred to other museums. Within the framework of this study, 13 guided tours in the Lehmbruck were accompanied by means of formative evaluation and a concept for 11 contrasting museums was evaluated from the data. In the meantime, at least 11 museums were connected throughout Germany.

The respective tours were videotaped. The insights gained entered directly into the development of the methods, resulting in a circular research process (formative evaluation). Afterwards, a guided interview with the art mediator and group discussions were conducted. Central results of the working group Ganß, Kastner, and Sinapius [11] are:

1. People with incipient dementia feel the need to be challenged cognitively and look for opportunities for confrontation (p. 47).
2. Sensory and emotionally-oriented mediation methods are to be preferred over cognitive-oriented methods (p. 49).
3. In art mediation, contents anchored in procedural memory can be used if well-known texts, songs or movement sequences are integrated into the mediation process (p. 51).
4. In the case of guided tours with people with dementia, no referrals are possible if they refer to what has happened previously. Comparisons are possible only if the phenomena compared are immediately accessible to intuition (p. 55).
5. Visual and hearing impairments limit communication during the tour. It is helpful to seek eye contact with the participants, to speak clearly and well-articulated and to ensure the participants can see the work well from their seat (p. 59).

Sculpture project Hortus Signorum (2017)

In retirement homes, only a few sculptural-artistic activities are offered in drawing, painting and collage building. There are hardly any male-specific jobs offered in this area. From this knowledge, the sculptor Rudolf Schneider developed the project *Hortus Signorum*, which has been held regularly since 2011. Based on this practical experience, a first, experimental pilot study was prepared and conducted in 2015. This was the first time that the effectiveness of sculpture for male dementia patients was recorded. The collection of data ($n=12$) took place in two separate homes for the elderly. Both standardized (MMSE: Mini-Mental-Status-Examination and NPI: Neuropsychiatric Inventory) and specifically-developed questionnaires were used for the evaluation. For the specifically-developed questionnaires, the following psychological components were operationalised and then measurably listed according to the discrete visual analogue scale:

- Feeling/attention/flow
- Body memory
- Autarky/self-reference
- Appreciation
- Facial expression/physical characteristics

The questionnaire was reviewed with non-psychiatric patients. The data was collected three times a week: on the day before the project, on the project day, and on the day

after the project approximately 6 hours after the cycle, by a nurse who was not involved in the project.

As a secondary goal, the influence of sculpture on cognitive status was examined. For this purpose, the MMSE-test (t-test: $p=.1223$; U-test: $p=.0776$) and the NPI-test (t-test: $p=.5110$; U-test: $p=.5144$) were used and evaluated in the pre-post procedure.

The results of the study showed the following:

The weekly active participation in the 13-week project results in demonstrably improved effects. The mental condition of dementia patients can be positively influenced by sculpting.

Significant improvements were found in the main aspects:

- Feeling/attention/flow
- Body memory
- Autarky/self-reference
- Appreciation
- Facial expression/physical characteristics

To secure the results, further investigations need to follow. There is clearly an increase in the graph representation of the memory performance in the category of interest (see Figure 1). In the graph you can see the mean changes, that is to say the differences of the groups over a two-day period (project day and the previous day) in the respective week. The study was conducted over 13 weeks. The sculptors remembered earlier work and garden work, in addition to family members.

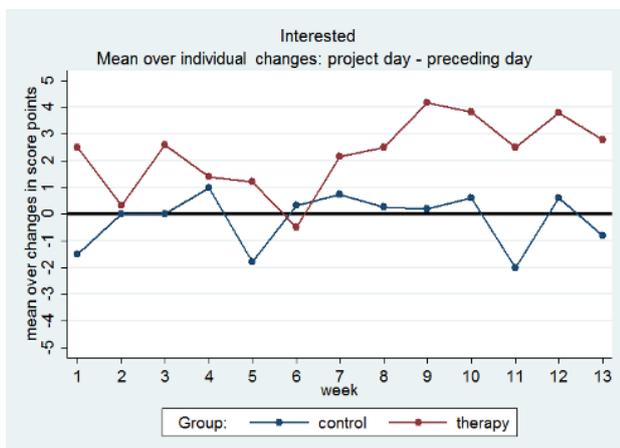


Figure 1: Average changes in the control and therapy group in the category of interest over course of the therapy [8]

Artistic work thus influences memory systems: aspects of the patients' life history became current and the project participants remembered previous years of life, memories of their job and/or their hobbies and developed very strong interest (see Figure 2) [2].

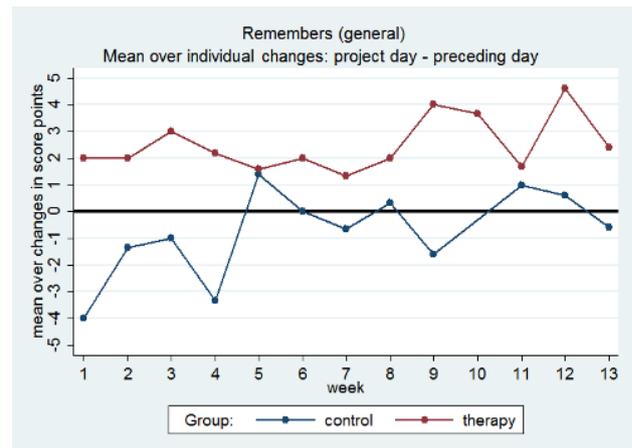


Figure 2: Average changes in the control and therapy group in the category general remembering over course of the therapy [8]

Conclusions

Holistic, comprehensive patient care requires art therapy modalities to develop continuously and achieve scientific credence. Art therapy is specified as a therapeutic measure in the S3 guideline Dementia. The medical guidelines are updated every five years. Since the adoption of the latest version, three new art-based treatment projects for people with dementia have been developed and evaluated. In the ARTEMIS art project, the influence of interactive art-based interventions on the well-being, quality of life and communication behavior of people living with dementia and their relatives was examined by means of a randomised waiting list control study; a positive result was archived. The Transformation art project generated specific potential art interventions in a museum setting for people with dementia and a manual was created. By means of an experimental field study, the Hortus Signorum project examined the effect of sculpture on efficacy. The three studies show that people with dementia can successfully participate in art therapy/art programs. Meaningful art activities increase quality of life and well-being and can serve to maintain cognitive abilities and social competence, and to improve the relationships of those affected and their relatives. Targeted therapeutic programs, which incorporate adaptation to restrictive physical conditions, make active participation in creative processes possible. As a result, memories of happier times in the lives of the patients can be awakened and shared, and the joy of life can be rekindled.

Notes

Competing interests

The authors declare that they have no competing interests.

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