Towards person-centred rehabilitation in dementia - a narrative synthesis

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Towards person-centred rehabilitation in dementia – A narrative synthesis

Purpose: The aim of this study was to identify and synthesize person-centred principles and components as described in rehabilitation intervention studies which target home dwelling people with mild to moderate dementia.

Materials and methods: A narrative synthesis was carried out which included 19 rehabilitation intervention studies targeting people with mild to moderate dementia. The analysis was guided by an initial program theory about person-centredness in rehabilitation, which was developed for this purpose.

Results: Person-centred principles and components were identified and synthesised. Person-centred rehabilitation practice in dementia includes: 1) a focus on the needs, preferences and cultural values of the individual and consideration of his/her life history and biography ; 2) the cooperation of professionals and people with dementia, including specific tools and methods such as goal-setting, holistic assessment and methods to activate and empower the individual, and building relationships; 3) organisation and structure.

Conclusion: Compared to the principles of Kitwood, person-centredness in rehabilitation for people living with dementia also includes goal-setting and empowering principles. There is a need for developing the theoretical and philosophical foundation for person-centredness in rehabilitation in relation to people with dementia.

Keywords: Person-centredness, Rehabilitation, Dementia, Narrative synthesis

Introduction

Rehabilitation is an emerging discipline in dementia care [1-4] and has been recommended in dementia care internationally, both as an intervention and as a guiding philosophy [1,5-7]. Rehabilitation involves persons: human beings with whom rehabilitation professionals interact. In dementia, however, notions of 'the person' and questions of what constitutes a person are debated by professionals and philosophers alike, as dementia raises crucial issues about personhood.

Person-centredness has been linked to rehabilitation in dementia [1,8]. According to Clare (2017) [1], *'The rehabilitation philosophy is genuinely person-centred and reflects important values underpinning good dementia care. Rehabilitation involves working with people to achieve the goals that are important to them. It is based on individual formulations and not a one-size-fits-all approach, acknowledging each individual´s experiences, values, motivations, strengths, and needs'*. According to Bryden (2002) [8] and Clare (2017) [1], person-centred rehabilitation in dementia refers to the core principles in dementia care as outlined by Kitwood. Person-centredness, as described by Kitwood, is considered an essential humanistic, dignified and ethical element in care [9]. Kitwood emphasizes that every individual has an absolute value, and highlights our obligation to treat each individual person with respect. According to Kitwood, the principle of person-centredness implies considering the person and emphasising communication and relationship in order to foster and maintain a sense of personhood [9].

Kitwood's principles of person-centredness were developed in the context of dementia care. We suggest that in the context of rehabilitation in dementia person-centredness might entail additional principles and components. Person-centredness has been

articulated as a key principle in generic rehabilitation literature [9-14], yet a description and operationalisation of the concept is not clearly stated [12]. Compared to health and social care in general, person-centredness may have some unique particularities in the context of rehabilitation [12]. According to Leplege et al. [11] and Pryor and Dean [14], person-centredness in rehabilitation implies paying specific attention to the person's subjective experiences, emotions and personal history [11, 14] which correspond with Kitwood's principles. But in rehabilitation person-centredness also entails involving the person and families in goal-setting and decision-making, individualising and tailoring interventions in order to respond to the individual's needs, and viewing the person as an expert regarding their own needs [11]. Person-centred rehabilitation has also been associated with empowerment and autonomy and with the recognition of carers and family members as crucial actors in rehabilitation [14].

Thus, there seem to be some overlaps but also some differences in the principles of person-centred dementia care introduced by Kitwood and the principles and components of person-centredness in rehabilitation. Kitwood does not address autonomy and empowerment and while mutual collaboration on goal-setting centred on the patient's needs are important in rehabilitation [11-13] this is not included in Kitwood's original work [9]. Thus, person-centredness in rehabilitation seems to encompass additional principles and components than person-centredness in dementia care as outlined by Kitwood [12,15].

An ongoing study develops a rehabilitation intervention for home dwelling people living with mild to moderate dementia [16]. To develop a dementia rehabilitation intervention that considers the complexity of how to address issues of individuality and notion of the person we need to draw not only on Kitwood's principles. It is important

to review literature on rehabilitation within the context of dementia and identify how these issues have been addressed internationally.

To our knowledge, so far, no studies have provided an overview of person-centred principles and components of rehabilitation interventions targeting people living with dementia. The aim of the review presented here was to identify and synthesise the principles and components underpinning person-centredness in rehabilitation interventions aimed at home dwelling people living with mild to moderate dementia . Findings from this review will contribute to the future development of person-centred rehabilitation for people living with dementia.[8]

Method

A narrative synthesis inspired by the framework outlined by Popay et al. was carried out [17]. Narrative synthesis is, according to Popay et al., the process of synthesising findings from multiple studies and relies primarily on words and text to summarise and explain their findings [17].

Narrative synthesis involves four stages: the development of an initial theory of how, why and for whom the intervention works (initial program theory); development of a preliminary synthesis of findings; exploration of relationships in the data; and assessment of the robustness of the synthesis [17]. All these elements were organised and synthesised narratively.

The material drawn on in this review constitutes a subgroup of person-centred studies, which were identified in a previous scoping review of intervention studies in rehabilitation for people with dementia [18]. The scoping review aimed to identify the specific characteristics and extent of rehabilitation interventions targeting people living

with dementia and further identify processes and outcomes, including aspects of person-centredness. A systematic literature search was conducted in PubMed, CINAHL, PsychINFO, Embase, and Cochrane databases from 2005 – November 2018. The search utilised the following search terms: (Alzheimer's disease [Title/Abstract] OR "Alzheimer Disease" [Mesh] OR "Dementia" [Mesh:NoExp] OR dementia [Title/Abstract] OR senile) AND (Rehabilitation [Mesh:NoExp] OR rehabilitation [Title/Abstract] OR reable∗) NOT (brain injury OR stroke [MESH Major Topic] OR surgery NOTdown syndrome OR postoperative OR "Postoperative Period"[Mesh:NoExp]). In the scoping review interventions were categorised as person-centred if they were individualised and tailor-made, and the activities were guided by personally relevant goals [18]. A total of 19 studies fulfilling these criteria are analysed further in this study.

Stage 1: Theory development – Initial program theory

Since person-centredness has not been fully conceptualised in relation to rehabilitation, an initial program theory was developed to outline person-centred rehabilitation in generic rehabilitation. The initial program theory should serve as a framework for analysing the included intervention studied. It was developed on the basis of the person-centred principles and components outlined in the book *Interprofessional Rehabilitation – A Person-Centred Approach* by Dean et al.[13], to our knowledge the only textbook explicitly addressing a person-centred approach to rehabilitation and edited by internationally acknowledged researchers in the field of rehabilitation. Two chapters served as primary reference and were read by all authors as they in particular addressed a person-centred approach and its implications for rehabilitation principles and practice. The chapters were *The person in context [14]* and *Conclusion: Rethinking rehabilitation*

[19]. Data extraction was guided by the following keywords: *person, subjectivity, life history, meaning, agency, autonomy, self, identity, spirituality, individuality, needs, family, and relations* and by the generic program theory components: Target group *(who),* aim *(why),* and practice *(how).* All excerpts relating to the target group, the aims, and the practices were noted on post-it-notes which served as material for further analysis.

Following the guidelines by Braun and Clarke (2006) [20], the analysis was completed in five steps: (1) Developing familiarity with the data, (2) generating initial codes, (3) searching themes, (4) retrieving themes, and (5) defining and naming themes. All authors read, generated initial codes and searched for and retrieved themes. The first author (JT) compiled the initial program theory. To ensure that all relevant themes were included, other pertinent papers were consulted [11-13].

The initial program theory developed from the literature [11-14,19] identified theoretical elements related to the target group for person-centred rehabilitation (*who*), aim of person-centred rehabilitation *(why)* and practice *(how).* The target group for person-centred rehabilitation *(who)* was identified as the person with disability and might also include family members and peers. The identified aims of person-centred rehabilitation *(why)* were to sustain personhood, empower individuals and increase coping and motivation. At the level of practice *(how)* three overall principles and components were identified, each of which was further separated into subgroups of principles and components: ***1: Professional approach,*** including *ethical principles, existential support of the person and supporting personhood;* ***2: Cooperation of professionals and the person with a disability,*** including *professional tools and methods, holistic assessment, activation and empowerment of the individual,* and

building relationships; ***3: Organisation and structure*** included no subthemes. The initial program theory is depicted in Figure 1.

[Inset figure 1]

Stage 2: Preliminary synthesis

The included studies were organised and an initial description of the aim *(why),* participant information *(who),* intervention *(how),* study design and summary main findings was generated. All studies were read and the main findings from the studies were extracted and synthesised, including tabulation and narrative synthesis [17]. The tabulation was structured according to the principles and components of the initial program theory; new principles and components were also identified and merged. All authors were involved in this stage, and the first author compiled the final version of the preliminary synthesis.

Stage 3: Exploring relationships in the data

All authors explored the key findings in the preliminary synthesis. The relationships between the data are presented in the discussion.

Stage 4: Quality assessment of the robustness of the synthesis

The robustness of the synthesis was assessed with reference to the quality of the included studies and by critically reflecting on the review and synthesis process. The quality assessment of the robustness of the synthesis is presented in the result section.

Results

The aim of the study was to identify and synthesise the theoretical and empirical

principles and components underpinning person-centredness in rehabilitation interventions which target people with dementia. Nineteen studies were identified and narratively analysed.

Stage 2: Preliminary synthesis

The preliminary synthesis of the empirical studies was structured according to the principles and components of the initial program theory identified as a result of stage 2 of the analysis: Target group for person-centred rehabilitation in dementia *(who)*, aim of person-centred rehabilitation in dementia *(why)*, and practices of person-centred rehabilitation in dementia *(how)* in relation to professional approaches, the cooperation of professionals and people with dementia, and organisation and structure. The analysis of the included intervention studies is depicted in Supplementary Table S1.

Target group for person-centred rehabilitation in dementia (who)

Person-centred rehabilitation in dementia involves not only people with dementia but also their relatives, as spouses are involved in supporting professional activities and in monitoring their relatives' activities at home [21-26]. Spouses also serve as informants regarding the history, interests, needs and symptoms of the person with dementia, thus acting as a kind of proxy [26-28]. People with dementia and their spouses are considered to be 'dyads' and co-workers [28,29]. Moreover, spouses may have separate psychosocial needs to be addressed in the rehabilitation [30].

Aim of person-centred rehabilitation in dementia (why)

Activities and level of assistance are adapted to an individual's needs in order to anticipate and avoid task failure as much as possible [27,31]. The expected effect is that the participants will regain a desire for life and their self-respect [32].

Person-centred rehabilitation in dementia in practice (how)

1. *Professional approach*

Ethical principles, existential support of the person and supporting personhood

Person-centred rehabilitation in dementia is tailored to individual needs, preferences and personally meaningful goals; that is, it is an individualised goal-oriented approach [22-26,28-31,33,34]. Self-confidence and self-respect are supported by person-centred rehabilitation in dementia [32,35]. Person-centred rehabilitation in dementia also provides pleasant and enjoyable activities that match the level of cognitive function of the individuals, and includes focusing on resources and retained skills [29,31,35-37]. Person-centred rehabilitation in dementia takes place in an atmosphere underpinned by values of acceptance, and possible task failure is to be avoided [32,35]. The life history and identity of the individual is also taken into consideration [32,35]. People with dementia are encouraged to talk about the past and person-centred rehabilitation in dementia includes developing positive prospects, goals and plans for the future [21,28,37]. Biographical work is an aspect of person-centred rehabilitation in dementia [37]. Person-centred rehabilitation in dementia is culturally sensitive, whereby activities and training respond to the cultural background and habits of the person [36].

2. *Cooperation of professionals and people with dementia*

Professional tools and methods

Individualised questionnaires and outcome measures are used to ensure that the problem areas being measured are specific to each individual and tailored to individual needs [26,31,38]. The Canadian Occupational Performance Measure (COPM) can be used to

enable participants to identify personally relevant and meaningful goals, and to tailor the intervention to the participant's personal difficulties in daily life [22,26,29,33,34]. COPM is also used for self-rated outcomes as regards performance and satisfaction [26,34]. Other tools used are: Direct Measure of Training (adapted version) mood questionnaire, unspecified individual functional profiles, unspecified individualised outcome measures, Goal Attainment Scale and shared decision-making [26,29,30]. Problem areas are identified by the individual, the health professionals, or through a shared decision [26,34,38].

Holistic Assessment

In two studies, person-centred rehabilitation in dementia is based on an initial assessment of individual problems regarding functioning and personal and environmental factors [21,37].

Activation and empowerment

The individual may be encouraged to work on and practice strategies, techniques and exercises in between sessions, independently or with the assistance of a relative [22,25,29]. Health professionals also praise the individual in order to enhance his/her motivation regarding rehabilitation [32,35]. Moreover, person-centred rehabilitation in dementia aims to enhance empowerment, self-efficacy and mastery over one's own life and one's ability to manage living with dementia [28]. People with dementia are given the opportunity to give feedback to the staff or to invite experts in [28]. Social roles and social functioning are addressed [32,35].

Building relationships

Activities are implemented in a partnership between people with dementia and professionals [23]. The professionals encourage and praise the individual as a form of positive reinforcement [23]. Empathetic two-way communication is supported between professionals and people with dementia [35].

3. *Organisation and structure*

The organisation and structure of person-centred rehabilitation in dementia includes a flexible structure where activities, content and length of sessions are tailored to an individual's needs and cognitive state [21,23,29]. Person-centred rehabilitation in dementia is structured as a group-based or individual intervention [28,30]. In group-based rehabilitation group size is limited to ensure individualised attention [21,25]. Regarding setting, some or all activities, assessments and evaluations can be conducted in the person's home [21-24,26,28-30].

Stage 4: Quality assessment of the robustness of the synthesis

The narrative synthesis presented here is based on nineteen intervention studies. All included studies represented research at high level of evidence [18]. The studies were identified in a previous scoping review of intervention studies of rehabilitation for people with dementia that not solely aimed to address person-centred rehabilitation in dementia. Therefore, not all included intervention studies address the components in the program theory framework as seen in Supplementary Table S1.

Including studies which directly addressed person-centred rehabilitation in dementia might have produced a more comprehensive synthesis. However, a recent study by Christensen et al. has shown that, so far, no studies have evaluated person-centredness in rehabilitation in dementia [39].

The initial program theory guiding the narrative analysis was constructed on the basis of a limited number of sources only. The inclusion of additional literature may have expanded the initial program theory. There is a risk of not addressing potentially important issues due to lack of available data [40]. However, the principles and components included in the initial program theory seemed relevant as a framework for analysing intervention studies within person-centred rehabilitation in dementia.

The method used in the review is based upon the guidelines set out by Popay et al. [17]. The guidelines provide structured tools and techniques for conducting a narrative synthesis in reviews, and increase the transparency of the method. The chosen guidelines provided us with a systematic tool, but a risk remains of overseeing potential bias when constructing program theories [17]. However, we tried to address the potential bias during the construction of both program theories by involving all authors actively in the analysis. Involving patients and the public in developing the program theories were not part of the guidelines followed and this might have qualified the synthesis further [41].

Discussion

The study identified and synthesised the principles and components underpinning person-centredness in rehabilitation interventions that target people living with dementia. The findings emerging from the study contributes with knowledge which supports and furthers the development of person-centred rehabilitation interventions for people living with dementia. Nineteen intervention studies categorised in a previous review as representing a person-centred approach were included and analysed within a program theory framework. A program theory framework includes focusing on target group, aim, and practice, including both principles and components. An initial program

theory about person-centredness in generic rehabilitation was produced as a framework to guide analysis and narrative synthesis.

Findings from the analysis show that the target group for person-centred rehabilitation in dementia is comprised of both the person with dementia and their relatives. Different roles of relatives are described: spouses can support professional activities, and may serve as informants e.g. as a proxy, and they may have their own psychosocial needs which require professional attention. Thus, the roles of spouses and relatives might be rather complex and multi-layered. This has been widely discussed outside the field of rehabilitation [42], both in terms of the caregiver burden [43] and the positive aspects of the caregiving journey with dementia [44]. To our knowledge the roles of relatives have not been explored previously in relation to person-centred rehabilitation in dementia.

The aim of person-centred rehabilitation in dementia is sparsely addressed in the reviewed studies. It is mentioned that a person-centred approach may strengthen self-respect and a desire for life. Moreover, the literature emphasises that task failure must be avoided. The aims described in relation to the initial program theory might apply to person-centred rehabilitation in dementia as well; indeed, they seem especially relevant in relation to dementia. Sustaining personhood is a key issue in dementia care in general [45] as is the empowerment of individuals, since dementia challenges personal agency [46].

At a practice level, a person-centred approach entails specific principles and components. The professional approach encompasses existential support of the person, specific ethical principles and supporting personhood. The cooperation between professionals and the person with disability includes specific tools and methods, holistic assessment, activation and empowerment and building relationships. This is how a

person-centred approach in rehabilitation in dementia differs from the principles of Kitwood as suggested in the introduction. Kitwood [9] does not mention goal-setting nor empowering principles; assessment is only briefly mentioned [9]. Some components need specific attention; these include the use of COPM in collaborative goal-setting, biographical work, and shared decision-making which will be discussed below.

Five studies mention the use the Canadian Occupational Performance Measure (COPM) in person-centred rehabilitation in dementia [22,26,29,33,34]. COPM is a framework for client-centred practice developed within occupational therapy [47]. The studies which used COPM did not reflect upon the use of the framework or experiences with using the tool. Other research has addressed the clinical problems related to using COPM with individuals with cognitive dysfunction [48-50]. However, the use of COPM as an element in person-centred rehabilitation in dementia has been explored scarcely.

Biographical work is mentioned as another element in person-centred rehabilitation in dementia and so are elements focusing on identity, life history, talking about the past and developing positive prospects, plans and goals for the future. While referring to different theoretical frameworks these elements all reflect aspects of narrative and identity, which have been addressed in rehabilitation literature outside the field of dementia. The work by the American anthropologist Cheryl Mattingly from 1998 is one example of this [51]. Narratives and identity are well addressed in relation to dementia [52] and dementia care [53]. To our knowledge narratives and identity have not been addressed in the dementia literature in relation to rehabilitation. This calls for a more consistent theoretical focus on narratives and identity in relation to dementia rehabilitation studies.

Shared decision-making is also mentioned in the included studies without being further

explored. Previous research on shared decision-making in dementia care has found it challenging. People living with dementia are often excluded from shared decision-making, and additional research is needed, especially concerning the processes underpinning decision-making processes [54]. The implementation of shared decision-making as an essential component of person-centred rehabilitation in dementia needs to be further developed.

The results of this study highlight important principles and components of person-centred rehabilitation in dementia. However, it does not represent a consistent theory. This highlights the need for further research into the development of models and theories on person-centred rehabilitation in dementia, and for discussions of the meaning of theory in relation to rehabilitation. The term 'program theory' relates to a 'theory of change' [17]. As it appears, both the studies constituting the initial program theory and the analysed intervention studies draw on different theoretical and philosophical frameworks without further unfolding the theoretical foundations. Leading scholars have emphasised the need for theory to drive knowledge and practice in rehabilitation [55,56]. The results of the analysis reveal the need for a more careful consideration of the philosophical and theoretical foundations of person-centred rehabilitation within or without the field of dementia. In particular, understandings of 'the person' need to be further developed in rehabilitation. Philosophers have discussed different understandings of the person [45] and we need to discuss what constitutes a person and how personhood is supported in rehabilitation in dementia.

Based on our study, the development of one single consistent theory of person-centredness was not possible. However, the program theory on person-centred rehabilitation in dementia developed in this review provides an overview of principles

and components in rehabilitation in mild to moderate dementia as outlined in research literature. This might inspire future research and help address and unfold specific principles and components of person-centred rehabilitation in dementia. In the meantime, the results will help to develop a person-centred rehabilitation intervention in dementia.

Conclusion

Nineteen intervention studies were analysed and principles and components of a person-centred rehabilitation approach in mild to moderate dementia were synthesised.

Person-centred rehabilitation in dementia targets both the person living with dementia and spouses and relatives. A person-centred approach aims to sustain personhood and a sense of self. The practices of person-centred rehabilitation in dementia include specific professional approaches, specific tools and the building of relationships. Person-centred rehabilitation in dementia must be sustained by organisations which allow tailor-made interventions.

The study suggests that a person-centred approach in rehabilitation in dementia includes principles and components which expands on the person-centred approach described by Kitwood. This highlights that the theoretical and philosophical foundations of person-centred rehabilitation in dementia need to be developed, including understandings of the person in person-centred rehabilitation.

Disclosure of conflicts of interest

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Supplementary Table S1.

Analysis of the *who, why and how* of the included intervention studies.

Author and year	Intervention	Who	Why	How					
		Target group	Aim of person-centred rehabilitation	Ethical principles, existential support and supporting personhood	Professional tools and methods	Holistic assessment	Activate and empower the patient	Building relationships	Organization and structure
Amieva et al., 2016 [31]	Individualized cognitive rehabilitation therapy	Dementia and his/her caregiver. The caregivers received weekly telephone contact during which he/she could discuss particular difficulties or ask questions	The psychologist had to adapt the program according to participants' cognitive abilities in order to anticipate and avoid as much as possible failures.	Sessions (individual) dedicated to select meaningful activities. The psychologist had to adapt the program according to patients' cognitive abilities in order to anticipate and avoid as much as possible failures.	The activities (activities of daily living or leasure activities) to be trained selected according to goals of personal relevance to patients.				
Brueggen et al., 2017 [21]	Cognitive rehabilitation - an integrative	To monitor activities at home,		The order of the modules varied flexibly		Identification of problems and definition			The order of the modules varied flexibly in response

	multimodal intervention (CORDIAL)	caregivers were called by phone once a week.		in response to the participants' needs. Sessions were extended from a one–hour session per week to one two–hour session per week, allowing sufficient time to address individual needs despite the group setting. Organization and implementation of pleasurable and meaningful activities. Evaluation of achieved goals and planning of future procedures.		of treatment goals. This included determining obstacles to independent living e.g., the inability to utilize cooking devices, and aspects that reduce the quality of life.			to the participants' needs. Sessions were extended from a one–hour session per week to one two–hour session per week, allowing sufficient time to address individual needs despite the group setting. The complexity of the worksheets was reduced according to the cognitive state of the participants.
Brunelle-Hamann et	Cognitive rehabilitation	When a caregiver	The level of assistance was						Home setting either in the community or

al., 2014 [27]		agreed to participate as an informant, he/she had to be available and sufficiently involved in the patient's care to provide reliable information about the patient's history, symptoms and his/her own burden and distress.	provided according to the performance of each participant, in order to limit potential mistakes (per the errorless learning paradigm).						in homes for the elderly.
Chew et al., 2015 [30]	Multimodal cognitive and physical rehabilitation	Patient and caregiver. Caregivers as informants on caregiver burden.		Based on individual goal-setting. Identified problems were translated into goals, without restriction on the types of goals that can be set. Tailored individualized activities delivering person-centred	Goal attainment scaling was a tool for measuring treatment effects relevant to the individual, defining individual treatment goals at the outset and monitoring for goal attainment.				Group therapy sessions. Regular feedback on progress was provided to the participant and his/hercaregiver in the form of a progress card during the program, with advice to continue the learned activities at home between therapy sessions.

				care.					
Clare et al., 2010 [22]	Cognitive rehabilitation	People with dementia Carers, where available, were invited to join the last 15 minutes of each session to support between-session implementation.		Individualized intervention addressing personally meaningful goals.	The Canadian Occupational Performance Measure was used to enable all participants to identify up to five personally relevant goals in areas relating to self-care, leisure, and productivity.		Participants were encouraged to work on goals, and practice strategies, between sessions.		Assessments and interventions were conducted in participants' homes.
Fernandez-Calvo et al., 2015 [23]	Multicomponent cognitive stimulation program	Patients and informal caregivers were involved in the training at home.		These activities (cognitive tasks, daily problem-solving strategies, learning or re-learning information, or compensatory strategies) were implemented in partnership with patients, taking into account their needs and motivation.				The activities were implemented in partnership with patients. The therapists provided encouragement as a form of positive reinforcement during the session, focusing on positive outcome and feelings.	Implemented in the patients' homes by occupational therapists. The difficulty of the tasks used in the sessions were progressively increased from an easier level to maintain a perception of control over performance while ensuring the tasks eventually became sufficiently challenging.

Kim et al., 2015 [33]	Cognitive rehabilitation	Patient		An individualized intervention focusing on a personally meaningful goal	The individual sessions for the Cognitive rehabilitation approach involved an individualized intervention focusing on a personally meaningful goal indicated by The Canadian Occupational Performance Measure.				
Lee et al., 2013 [57]	Computer errorless learning-based memory training program			The level of difficulty of questions was set appropriate to the level of cognitive function of the subjects. The programs were designed using a culturally relevant training program with familiar daily					

				life training content, and gradation of training was based on the level of functioning, habits, and interests of older Chinese adults with early Alzheimer's disease.					
Laakkonen et al., 2016 [28]	Self-management group rehabilitation	Couples were advised to do homework together between sessions. Offered people with dementia and their spouses possibilities for shared information and support		All activities and discussions were adjusted according to participant preferences. Participants were able to invite experts to group sessions. To provide positive prospects and goal-setting for the future.			Empowerment, self-efficacy and mastery over one's own life with better ability to manage living with dementia. Participants were encouraged to give anonymous feedback on their experiences.		Group facilitators visited couples' homes before the first session and encouraged them to express their preferences for topics in the group sessions. Principles guiding the group facilitators were respecting participant autonomy, enhancing their empowerment, use of own resources, problem-solving skills, and mastery of

									everyday life.
Ochmann et al., 2017 [37]	Cognitive rehabilitation			Identifying individual problems, defining personal goals, biographical work, implementation of pleasant activities and external memory aids, concluded by an evaluation session with individual plans for the future		Identifying individual problems, defining personal goals, biographical work, implementation of pleasant activities and external memory aids.			
Regan et al., 2017 [29]	Individualized face-to-face cognitive rehabilitation	Delivered to client–supporter dyads		The focus of strategies was on positive resources, intact functions, retained skills, and activities clients could still take part in Individualized intervention addressing personally	The Canadian Occupational Performance Measure was used to assist clients to identify up to five personally relevant goals in areas relating to self-care, leisure, and productivity. Questionnaires		Clients were encouraged to practice techniques with assistance from their supporter between sessions. Clients and supporters were encouraged to help brainstorm and select the most appropriate strategies.		All sessions were conducted in participants' homes. Although the basic structure of sessions was prescribed in a manual, their content could be adapted flexibly to meet specific client goals.

				meaningful goals.	assessing mood, illness adjustment, quality of life, and carer burden were also administered.				
Schiffczyk et al., 2013 [24]	Short-Term inpatient rehabilitation	Patient and caregiver.		Tailored to the individual needs					The study was conducted in the families' households to identify the impact of disease in their familiar environment.
Tanaka et al., 2017 [32]	The five principles of brain-activating rehabilitation were categorized as cognitive rehabilitation and involved reminiscence therapy, reality orientation, and physical activity.	Patients in a group setting and individually.	The primary expected effect was that participants will regain a desire for living as well as their self-respect.	Enjoyable and comfortable activities in an accepting atmosphere. The primary expected effect was that participants will regain a desire for living as well as their self-respect.			Through this process, participants were expected to regain their self-confidence and to take on the social function of passing on knowledge to younger generations. When the participants did so, the intervention staff praised them naturally.		
Tay et al.,	MINDVital	Accompanied by		All participants			Regular feedback		To ensure each

2016 [25]	rehabilitation	a reliable caregiver.		and their caregivers attended a brief interview at the beginning of the program to define their individual treatment goals.			on participant's progress was provided to the participant and caregiver in the form of a progress card during the program, with advice to continue the learned activities at home between therapy sessions.		participant receives individualized attention, group sizes were limited to 10 participants.
Thivierge at al., 2014¨[26]	Cognitive rehabilitation	Patient and caregiver.		The instrumental activities of daily living to be trained was chosen in collaboration with the patient and his/her caregiver in order to target the patient's needs and interests.	The performance on the instrumental activities of daily living to be trained was assessed by a Direct Measure of Training (DMT), an observational instrument adapted from the well validated activities of daily living. Situational Test.31.				All evaluation and training sessions were carried out at the patient's home.
Toba et al.,	Intensive				First, the				

2014 [38]	rehabilitation				individual functional profiles were assessed with regard to both abilities and disabilities to evaluate how to enhance the abilities and compensate for disabilities. Second, training activities were selected; the decision was shared between therapists and participants.				
Tsuchiya et al., 2016 [35]	Brain-Activating rehabilitation			Enjoyable and comfortable activities to be performed in an atmosphere underpinned by values of acceptance. Brain-activating rehabilitation			The patients should be praised to enhance their motivation. The patients to be offered social roles that enhance their remaining abilities; and supportive care	The activities should be associated with empathetic 2-way communication between the staff and the patients as well as between the patients.	

				were also considered to enable participants to recover both a desire for life and their self-respect. Various activities were selected based on the patients' physical function, cognitive function, life history, and preferences. The patients should be offered social roles that enhance their remaining abilities; and supportive care should be provided to prevent task failure that causes confusion.			should be provided to prevent task failure that causes confusion.		

Van Paasschen et al., 2013 [34]	Cognitive rehabilitation			All participants initially learned and practiced all 3 strategies (strategies for acquiring new information, including verbal and visual mnemonics, semantic elaboration, and expanding rehearsal) and then chose 1 preferred strategy to implement in daily life.	The cognitive rehabilitation intervention was tailored to each participant's personal difficulties in daily life as identified by the Canadian Occupational Performance Measure. One or 2 rehabilitation goals were selected to work on during the intervention. Participants identified up to 5 personally relevant goals. Participants rated their performance and their satisfaction on each goal prior to and				

					following the intervention period.				
Werheid et al., 2015 [58]	Cognitive rehabilitation and cognitive-behavioral-treatment.								