



EFFECTIVENESS OF REMINISCENCE IN OLDER ADULTS WITH ALZHEIMER'S DISEASE: A SYSTEMATIC REVIEW

EFFECTIVIDAD DE LA REMINISCENCIA EN ADULTOS MAYORES CON ENFERMEDAD DE ALZHEIMER: UNA REVISIÓN SISTEMÁTICA

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Abstract

The worrying increase in the incidence of cases of dementia such as Alzheimer's Disease (AD) has led society to a growing interest in non-pharmacological interventions in the management of these pathologies that allow promoting the maintenance and optimization of mental capacities that are diminished or appeased by the evolution of the disease. The appearance of new interventions, such as reminiscence, has made a great contribution to cognitive intervention teams and could lead to a restructuring of the processes carried out for cognitive rehabilitation with AD. With this type of intervention, the autobiographical memory of patients is stimulated using various themes. These sessions can be carried out individually or in groups and allow experiences to be shared, experiences, as well as interaction between people with dementia when it is carried out in a group. To verify the effectiveness of this type of intervention, a total of 160 articles were analyzed after a duplication process and passing different quality tools, a total of 8 articles remained. The results found indicate that interventions with reminiscence help reduce some symptoms associated with the disease, such as anxiety and depression, and encourage the importance of combining them with traditional therapies.

Keywords: neurorehabilitation, AD, older adults, reminiscence therapy, cognitive stimulation

Resumen

El preocupante aumento de la incidencia de casos de demencia como la Enfermedad de Alzheimer (EA) ha llevado a la sociedad a un creciente interés por intervenciones no farmacológicas en el manejo de estas patologías que permitan promover el mantenimiento y optimización de las capacidades mentales que se ven disminuidas o aplacadas por la evolución de la enfermedad. La aparición de nuevas intervenciones, como la reminiscencia, ha supuesto una gran aportación a los equipos de intervención cognitiva y podría llevar a una reestructuración de los procesos llevados a cabo para la rehabilitación cognitiva con EA. Con este tipo de intervención, se estimula la memoria autobiográfica de los pacientes utilizando diversos temas. Estas sesiones pueden realizarse de forma individual o en grupo y permiten compartir experiencias, vivencias, así como la interacción entre personas con demencia cuando se realiza en grupo. Para comprobar la efectividad de este tipo de intervenciones, se analizaron un total de 160 artículos tras un proceso de duplicación y pasando diferentes herramientas de calidad, quedando un total de 8 artículos. Los resultados encontrados indican que las intervenciones con reminiscencia ayudan a reducir algunos síntomas asociados a la enfermedad, como la ansiedad y la depresión, y fomentan la importancia de combinarlas con las terapias tradicionales.

Palabras clave: neurorrehabilitación, EA, adultos mayores, terapia de reminiscencia, estimulación cognitiva

Introduction

The study of aging is a growing reality not only in Spain but internationally, due to demographic projections that reveal that population aging affects almost all countries in the world. The alarming rise in dementia cases is making it one of the most predominant conditions among individuals over 65 years old, significantly impacting their quality of life. Globally, the number of people affected by dementia is increasing. According to the World Health Organization (WHO), over 55 million people over the age of 65 (8.1% of women and 5.4% of men) are living with dementia. The same source projects that these numbers will rise to 78 million by 2030 and 139 million by 2050. Presently, dementia ranks among the top 10 leading causes of death globally, holding the third position in Europe and the Americas. Notably, women are disproportionately affected, comprising about 65% of those with dementia (WHO, 2021).

Alzheimer's Disease (AD) is the most prevalent type of dementia, representing 60 to 80% of all dementia cases (2022 Alzheimer's disease facts and figures, 2022). In Spain, data from the Spanish Society of Neurology (SEN) indicates that 3 to 4% of individuals aged 75 to 79 are diagnosed with Alzheimer's, with this percentage increasing to 34% in those over 85. Additionally, it is estimated that around 15% of adults over 65 experience mild cognitive impairment, with Alzheimer's Disease being the cause in 50% of these cases (Pérez Menéndez, 2021).

Currently, there is no cure for this neurodegenerative disorder. Existing treatments, both pharmacological and non-pharmacological, aim to enhance cognitive function, slow the disease's progression, and alleviate the psychological and behavioral symptoms that cause significant distress for those affected. These symptoms encompass a broad range of behavioral and mood changes, including delusions, aggression, wandering, anxiety, depression, agitation, apathy, hallucinations, and eating disorders. Additionally, anxiety and depression symptoms are very common, affecting over 50% of individuals with dementia, although only about 5% meet the diagnostic criteria for major depression (Martí-Gil, Marcos Pérez, & Santos Gómez, 2016).

Pharmacological treatment for associated symptoms includes a broad range of medicati-

ons but is limited by their modest effectiveness and potential serious side effects. Symptoms of anxiety and depression greatly affect patients' functional levels, prompting a significant number to use psychotropic drugs. Nonetheless, the effectiveness of both antidepressants and anxiolytics in this population is quite limited, and the use of anxiolytics in people with cognitive impairment is highly debated. Consequently, non-pharmacological approaches should be regarded as the preferred treatment option (Martí-Gil, Marcos Pérez, & Santos Gómez, 2016).

Considering that neuropsychiatric and behavioral symptoms in Alzheimer's Disease (AD) lead to considerable distress for both patients and their caregivers, it is essential to create practical, evidence-based non-pharmacological interventions. These interventions should aim to alleviate behavioral symptoms associated with dementia, enhance patients' quality of life, and provide support to caregivers, thereby promoting effective home care (Park, Perumean-Chaney & Bartolucci, 2022).

The emergence of new non-pharmacological intervention strategies has been a significant contribution to multidisciplinary cognitive intervention teams and could lead to a restructuring of the processes used for cognitive rehabilitation in patients with Alzheimer's Disease (WHO, 2017). Recently, there has been a notable rise in the application of these interventions (Moon & Park, 2020)

Conversely, it's vital to stress that these interventions must be adapted to each patient's unique characteristics, environment, and life stage. Aging is not a uniform process, and professionals should be cognizant of the considerable individual variations (Justo- Hernández, et al. 2022).

In older adults, reminiscence serves as a cognitive exercise that stimulates memory, attention, language, and reasoning, and also improves communication and interaction (Gregorini, et al. 2022).

This review will examine various treatments using reminiscence therapy for individuals with Alzheimer's dementia and assess their effectiveness based on scientifically designed studies.

Objective

The aim of this oral presentation is to show the potential of reminiscence therapy as a neuro-rehabilitation strategy for older adults with Alzheimer's Disease.

Method

Search strategy and exclusion criteria

The studies were identified through searches in the following databases: Dialnet, Medline, Pubmed, Scielo, and Psycinfo. The search used terms such as Alzheimer's Disease, older adults, reminiscence therapy, neurorehabilitation, and cognitive stimulation, combining these terms in each database.

The inclusion criteria for the publications were: articles published in scientific journals, randomized clinical trials, non-randomized interventional studies involving individuals over 60 years old, and published between 2016 and 2022, in English and Spanish.

The exclusion criteria were: articles published before 2016, studies involving individuals under 60 years old or those with a degenerative disease other than the one being studied in this work. Additionally, opinion pieces, reflective articles, narrative reviews, and scientific papers in languages other than Spanish or English were excluded.

Evaluation of articles

For the initial selection of articles, a self-designed tool was created, incorporating the following questions to complement the previously described inclusion criteria:

- Does the study address the effectiveness of reminiscence therapy for treating issues in older adults with Alzheimer's Disease?
- Does the study compare patient data before and after the intervention?

Selection of articles

A total of 160 articles were initially selected based on their titles. After eliminating duplicates, 90 articles remained. Each article was then evaluated using a self-designed questionnaire for screening and subsequent selection. The final articles had to meet these criteria:

- Focus on the effectiveness of reminiscence therapy for older adults with Alzheimer's Disease, with the sample consisting of individuals over 60 years old with Alzheimer's Disease.
- Include data on the progress of the participants, specifically providing information on their condition before and after the intervention, in order to address the question examined in this study: whether reminiscence therapy is effective as a neuro-rehabilitation strategy for individuals with Alzheimer's Disease.

After completing this questionnaire, a total of 50 articles remained, of which only 8 met the quality assessment criteria.

Sample characteristics

The overall sample across all the studies comprised 246 participants. All of them have a diagnosis of Alzheimer's-type dementia and are between the ages of 60 and 90. In all the selected studies, participants underwent various types of reminiscence interventions. Detailed monitoring of the participants' outcomes was conducted throughout the process to evaluate the effectiveness of these new intervention strategies.

Results

After reviewing the articles based on the inclusion and exclusion criteria outlined earlier, a thorough and critical analysis was performed to examine the findings of the different studies.

A summary of the results is presented in Table 1 and in Figure 1.

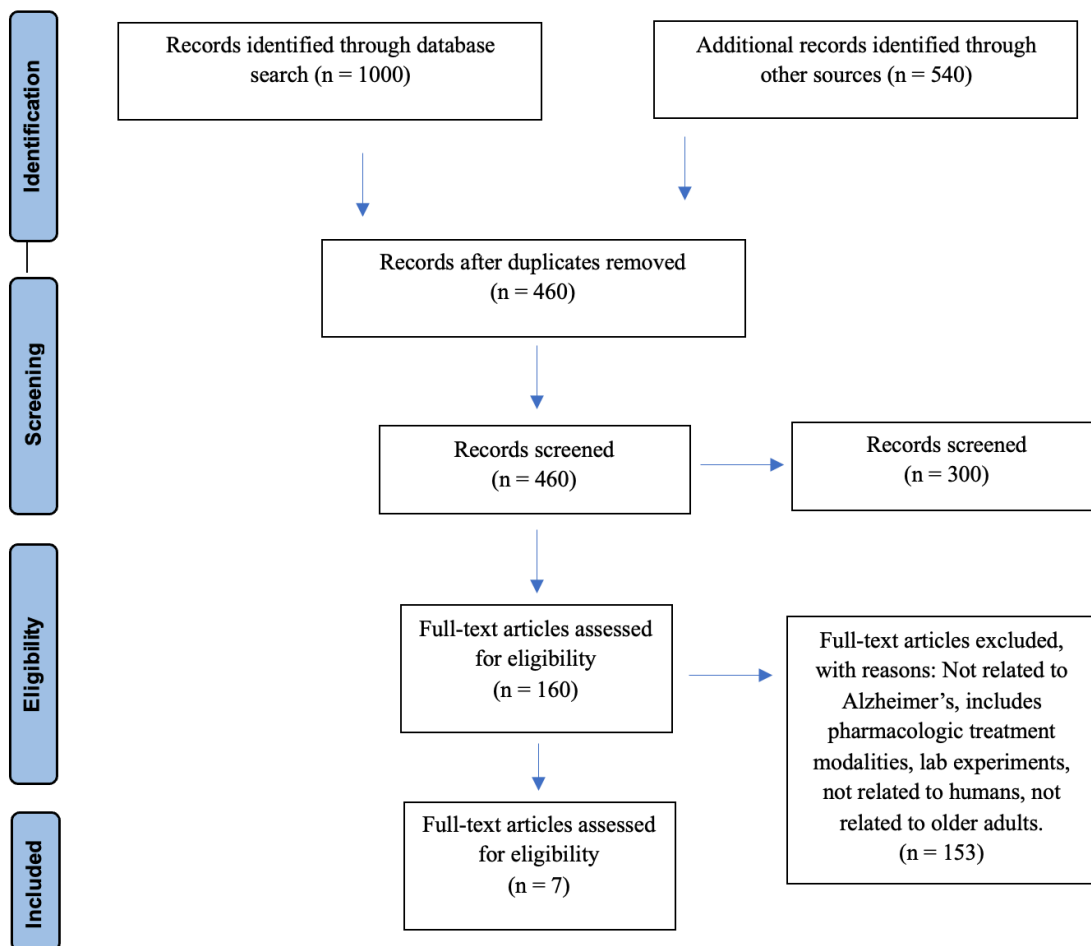


Figure 1. PRISMA 2009 flow diagram.

Table 1. Results of the systematic review

Author, year, title	Treatment and duration	Sample (number, age, sex, degree of impairment, and country)	Type of study	Results	Conclusions	
Van Bogaert et al. (2016) "SolCos model-based individual reminiscence for older adults with mild to moderate dementia in nursing homes: a randomized controlled intervention study"	Reminiscence therapy based on the SolCos model for 8 weeks. 2 sessions per week, each lasting 45 minutes.	N = 60; mean age = 84 years. (Intervention group: 29 females, 80%; Control group: 31 females, 82.8%). Mild to moderate dementia (MMSE between 10 and 24). Two geriatric centers in Belgium.	Randomized controlled study.	MMSE (cognitive area); FAB (Frontal Assessment Battery: conceptualization, mental flexibility, impulse control); SCDD (symptoms of depression in dementia); NPI (behavioral disturbances).	Although not significantly different from the control group, the MMSE delta score for the intervention group increased after the session (0.86, P = 0.238). In the intervention group (GTr), the post-session CSDD score was significantly lower than the pre-session score (-2.48, P = 0.005). Conversely, the control group (GC) experienced a slight increase in the CSDD score (+0.19, P = 0.847). The percentage of individuals with depressive symptoms (CSDD > 7) decreased from 19.4% to 16.1% in the control group and from 24.1% to 6.9% in the intervention group.	Reminiscence therapy using the standardized SolCos model has affected depressive symptoms, though it did not show an impact on behavior or cognitive function in individuals with mild to moderate dementia. This suggests the potential of standardized individual reminiscence therapy, as reflected in the significant improvement in CSDD scores observed in the intervention group.

Author, year, title	Treatment	Sample	(number, Type of study	Results	Conclusions
	and duration	age, sex, degree	of impairment, and	and assessment	
		of impairment, and	country)		
Duru A iret & Ka- pucu, S. (2016) "The Effect of Reminiscence Therapy on Cogni- tion, Depression, and Activities of Daily Living for Pa- tients With Alzhei- mer Disease".	Reminiscen- ce therapy for 12 weeks. Weekly ses- sions lasting 30-35 minu- tes. Groups of 4-5 people.	N = 62 (F: 42; M: 20) Average age (82.1 ± 4.9 years) Mild to moderate Alzhei- mer's Disease from 4 geriatric centers. Ankara, Turkey.	Experimental study. Instru- ments: MMSE, GDS, Daily Living Activities Track- ing Form, and Researcher Data Sheet.	MMSE (Experimental Group): Pretest (15.65 ± 2.49) and posttest (18.54 ± 3.36), showing a sig- nificant improvement with P < .05. (Control Group): Pretest (14.16 ± 2.14) and posttest (14.35 ± 1.99), with no signif- icant change. GDS (Ex- perimental Group): Pre- test (15.61 ± 3.06) and posttest (9.32 ± 2.82), indicating a significant reduction in depressive symptoms. (Control Group): Pretest (15.93 ± 4.35) and posttest (14.35 ± 4.66), showing a non-significant reduction. There were no significant changes between groups in Activities of Daily Liv- ing, although the Exper- imental Group did show a positive change in com- munication skills.	The intervention group showed significant improvements in cog- nitive function and a reduction in depres- sive symptoms. Rem- iniscence therapy has proven beneficial for cognitive abilities and depression in individu- als with mild to mod- erate Alzheimer's Dis- ease.

Author, year, title	Treatment and duration	Sample (number, age, sex, degree of impairment, and country)	Type of study and assessment	Results	Conclusions
Siverová and Bužgová (2018) "The effect of reminiscence therapy on quality of life, attitudes to ageing, and depressive symptoms in institutionalized elderly adults with cognitive impairment: A quasi experimental study"	Group narrative reminiscence therapy for 8 weeks. Weekly sessions lasting 40-60 minutes.	N = 116 (Intervention Group: 59; Control Group: 57). Mean age: 79.6 (ranging from 60 to 98 years). Female: 75%; Male: 25%. Mild to moderate Alzheimer's Disease - Average MMSE: 19.8 (SD = 3.5); GDS: Intervention Group 8.3 (SD = 3.1) indicating mild to moderate depressive symptoms, and Control Group 7.1 (SD = 2.9) indicating mild depressive symptoms. From 2 nursing homes in Ostrava, Czech Republic.	Quasi-experimental study with control groups, including pretest and posttest assessments. Quality of Life: WHO-QOL-BREF - The World Health Organization Quality of Life-BREF and WHO-QOL-OLD; Attitude towards aging: AAQ - The Attitude Questionnaire; Depressive symptoms: GDS scale; Cognitive function: MMSE.	Intervention Group (Gtr) showed significant positive effects on various aspects of quality of life: physical health (P < 0.001), mental health (P < 0.001), environment (P = 0.044), overall quality of life (P = 0.023), past/present/future activities (P = 0.041), and social participation (P < 0.001). There was a notable decrease in depressive symptoms (P = 0.003), an increase in MMSE scores (P < 0.001), and a shift in attitudes towards aging. The Control Group (GC) did not exhibit significant changes, except for overall health (P < 0.001), attitudes towards physical changes (P = 0.050), and MMSE scores (P < 0.001).	Reminiscence therapy has had a positive effect on aspects of quality of life, attitudes towards aging, and depressive symptoms in institutionalized individuals with dementia.
Delhom et al. (2019) "Effectiveness of Reminiscence Therapy in Older Adults with Alzheimer's Type Dementia"	Reminiscence therapy. Twenty sessions of 30 minutes each.	N = 27 (Intervention Group: 14, Female: 64.3%, Mean age: 78.1 ± 11.7) and (Control Group: 13, Female: 69.2%, Mean age: 81.7 ± 7.7). Mild Alzheimer's Disease. MMSE: (Intervention Group: 22.5) and (Control Group: 21.3). Spain.	Experimental study. Measures include MMSE (cognitive function), GDS Reisberg (to evaluate various stages of cognitive decline), and the Psychological Well-Being Scales (Ryff), which cover six dimensions: self-acceptance, mutual trust and empathy; autonomy; environmental mastery; purpose in life; and personal growth.	In the Intervention Group, there were significant increases in self-acceptance (p = 0.006), positive relationships (p = 0.003), environmental mastery (p < 0.001), and purpose in life (p = 0.024).	The treatment group showed a significant increase in psychological well-being, particularly in components of self-acceptance, positive relationships with others, and purpose in life, demonstrating that reminiscence therapy is beneficial for individuals with Alzheimer's Disease.

Author, year, title	Treatment and duration	Sample (number, age, sex, degree of impairment, and country)	Type of study and assessment	Results	Conclusions
Moon and Park (2020) "The effect of digital reminiscence therapy on people with dementia: a pilot randomized controlled trial"	Digital reminiscence therapy (Digital RT) conducted individually over four weeks, using a mobile app and digital content for tablets. A total of 8 sessions, each lasting 30 minutes, twice a week.	N = 49 (Intervention Group: 25; Control Group: 24). Female: 100%. Moderate Alzheimer's Disease: MMSE (10-19). Nine Day centers in South Korea.	Pilot controlled and randomized trial. MMSE-DS (cognitive function assessment) CSDD (Cornell Scale for Depression in Dementia) – measures depressive symptoms. NPI (Neuropsychiatric Inventory) – evaluates BPSD (Behavioral and Psychological Symptoms of Dementia). EP-WDS (Engagement of People with Dementia Scale) – assesses 5 areas: affective, visual, verbal, behavioral, and social.	Depression ($F = 7.62, p = 0.001, \eta^2 = 0.17$) showed a significant decrease between T1 and T2, while engagement ($t = -2.71, p = 0.011$) increased significantly in the final session for the Digital RT group compared to the control group. There were no significant differences in cognition ($F = 0.13, p = 0.821$) or BPSD ($F = 0.67, p = 0.485$) between the groups or across time points.	In the Digital RT group, depression decreased, and engagement improved compared to the control group. Digital RT has the advantage of easily integrating personalized materials during individual sessions. This approach allows for tailored care that aligns with individuals' preferences and needs, promoting person-centered care.
Villasán et al. (2021) "Improvement of the Quality of Life in Aging by Stimulating Autobiographical Memory"	REMPOS therapy combines reminiscence therapy with positive emotions. It consists of 2 sessions per week, each lasting 1 hour, for a duration of 2 months.	N = 77 (over 65 years old) divided into six intervention groups: 26 participants with Alzheimer's disease, 24 with mild cognitive impairment, and 27 with healthy aging. The study was conducted across 6 day centers in Salamanca, Spain.	Experimental study. MEC and MOCA (cognitive area), GDS and LSI-A (emotional area), and TMA (classifying types of positive and negative memories into categorical, extensive, or absence of memories).	Following the intervention, all three experimental groups exhibited enhanced cognitive functioning, a decrease in depressive symptoms (with the exception of the mild cognitive impairment group), and greater recall of specific positive memories (also excluding the mild cognitive impairment group).	This study supports the effectiveness of REMPOS and reminiscence therapy concerning cognitive and emotional factors in older adults with cognitive impairment.

Author, year, title	Treatment and duration	Sample (number, age, sex, degree of impairment, and country)	Type of study and assessment	Results	Conclusions
Justo-Henriques et al. (2022) "Randomized Trial of Individual Reminiscence Therapy for Older Adults with Cognitive Impairment: A Three-Month Responder Analysis"	Individual reminiscence therapy (iTR). A total of 26 sessions of 50 minutes each (twice a week for 13 weeks).	N= 251 (IG: 131, F: 98 and M: 33; GC: 120, F: 84 and M: 36). Mean age: 82 years. From 24 social institutions in Portugal.	Randomized controlled trial. Instruments: MMSE (global cognition), FAB (frontal assessment battery for executive functioning), memory impairment test), GDS-15 (depressive symptoms), QOL-AD (quality of life). Three groups: responders (improvement or no decline in 3 months), expected decliners (decline ≤ 1 point on the MMSE in 3 months), and pronounced decliners (decline > 1 point on the MMSE in 3 months).	The intervention group (GI) had more responders than the control group (GC) across all five criteria, with significant differences observed in cognition and memory. No other criteria showed significant differences. For depressive symptoms, responders in the GI had higher initial GDS-15 scores compared to the GC (7.57 vs. 4.91 points). Regarding quality of life (QOL), responders had higher GDS-15 scores at the start (6.81 vs. 5.33 points) and lower QOL-AD scores initially (27.75 vs. 31.1 points).	Response rates were notably high for both cognition and memory. The greatest benefits from individual reminiscence therapy (iTR) were observed in individuals with lower executive function, mood, and quality of life (QOL) in these areas. iTR proved to be beneficial for cognitive and neuropsychological outcomes, with mood and QOL being key influencing factors.

Discussion

This literature review aimed to evaluate the effectiveness of reminiscence therapies in improving cognitive decline among older adults. The analysis of the articles confirmed that all studies reviewed report reminiscence therapy as effective for individuals with Alzheimer's Disease. Of the eight studies, seven incorporated cognitive stimulation programs that used reminiscence therapy, demonstrating its benefits in enhancing cognitive functions and addressing psychological issues like depression.

Moon and Park (2020) developed an individual program that included a digital application, providing greater convenience for participants, access to more materials, and the ability to convey personal memories. This study aimed to evaluate the impact of this technological approach by comparing it with a traditional reminiscence program. The findings revealed a significant decrease in depressive symptoms and an increase in engagement over time, relative to the control group.

In a recent study, individual reminiscence therapy has confirmed earlier findings, as its implementation led to improvements in cognition, as well as in quality of life and mood in individuals with neurocognitive disorders (Justo-Henriques et al, 2022). This aligns with the results found in this literature review. For instance, Van Bogaert et al. (2016) conducted a study with older adults likely suffering from Alzheimer's Disease, implementing a program of individual reminiscence sessions over four weeks. This group of researchers compared these participants with a control group and found that those who engaged in reminiscence therapy showed positive effects on both depressive symptoms, well-being, and cognitive functions, despite the brief duration of the intervention.

Both Duru and Kapucu (2016), and Siverová and Bužgová (2018) implemented reminiscence sessions with older adults for durations of 8 to 12 weeks. They found that participants showed a significant reduction in depression, which was associated with improved cognitive function.

In recent years, significant studies have been conducted on reminiscence therapy and its effectiveness in both healthy individuals and those with neurocognitive disorders (Pullaguari, 2023; Revuelta, 2022).

The results highlight the effectiveness of reminiscence therapies in addressing cognitive decline, dementia, and Alzheimer's Disease, showing improvements in cognitive functions among older adults. This is supported by Villasán et al. [14], who investigated how Positive Reminiscence Therapy (REMPOS) impacts the well-being of elderly individuals in cognitive and emotional aspects. Their study demonstrated significant improvements in scores from pretest to posttest across all three cognitive groups (healthy aging, mild cognitive impairment, and pre-diagnosed AD), both in experimental and control conditions.

This study highlights the positive outcomes of using and implementing reminiscence therapies in the aging process. It is noteworthy that those with cognitive impairment see the greatest benefits, though the general application of these therapies appears effective for both cognitive and emotional aspects. The findings of this review are highly promising, underscoring the need for further research into these cognitive interventions. Reminiscence therapy has shown significant reductions in depressive symptoms, improvements in cognitive functions, and increased life satisfaction, all of which contribute positively to the psychological well-being and quality of life of older adults.

Conclusions

The results table indicates that rehabilitation programs incorporating reminiscence therapy are highly beneficial and yield promising results compared to traditional cognitive interventions. The studies reviewed demonstrate positive outcomes, highlighting the effectiveness of non-pharmacological therapies in managing symptoms related to Alzheimer's disease, especially in alleviating depressive symptoms and enhancing life satisfaction among participants.

In recent years, there has been a significant rise in non-pharmacological therapies for treating Alzheimer's disease. Globally, new and updated methods are being developed by multidisciplinary teams. Reminiscence therapy has emerged as an effective approach for alleviating depressive symptoms in individuals with Alzheimer's disease. Recent reviews highlight that reminiscence therapy benefits cognitive function, social interaction, quality of life, and mood. Additionally, it is important to note that the therapy tends to be more effective for individuals with mild or moderate dementia (

Woolf, et al. 2021).

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On the other hand, the appeal of non-pharmacological intervention strategies like reminiscence therapy extends beyond cognitive aspects. They also have potential benefits in other areas. As illustrated in Table 1, such strategies can significantly boost user satisfaction and motivation, especially when conducted in a group format.

Although there is increasing scientific evidence on this subject, further research is needed to track participants over the long term to evaluate the broad-scale effectiveness of these interventions.

Given the numerous benefits discussed, it is advisable to apply these non-pharmacological treatments in facilities and residences for individuals with Alzheimer's dementia to boost mood and enhance quality of life. This also aligns with the current trends in scientific literature on the topic.

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