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Enhancing Cognitive Function and Emotion Regulation in Women with Dementia: The Efficacy of Cognitive Rehabilitation Therapy

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A B S T R A C T

Objective: This study aimed to evaluate the effectiveness of Cognitive Rehabilitation Therapy (CRT) in reducing cognitive failures and improving emotion regulation in women with dementia.

Methods and Materials: A randomized controlled trial was conducted with 30 women diagnosed with dementia, randomly assigned to either an intervention group (n=15) receiving CRT or a control group (n=15) receiving standard care. The intervention consisted of eight 60-minute CRT sessions over eight weeks, focusing on memory, attention, executive function, and emotion regulation strategies. Cognitive failures and emotion regulation were assessed using the Cognitive Failures Questionnaire (CFQ) and the Difficulties in Emotion Regulation Scale (DERS), respectively. Follow-up assessments were conducted four months post-intervention. Data were analyzed using analysis of variance (ANOVA) with repeated measurements and Bonferroni post-hoc tests.

Findings: The intervention group showed a significant reduction in cognitive failures (CFQ score: pre-intervention M = 58.3, SD = 6.7; post-intervention M = 46.1, SD = 5.8; $p < 0.01$) compared to the control group (CFQ score: pre-intervention M = 57.9, SD = 6.5; post-intervention M = 56.8, SD = 6.2; $p = 0.23$). Similarly, significant improvements were observed in emotion regulation for the intervention group (DERS score: pre-intervention M = 102.5, SD = 11.2; post-intervention M = 87.4, SD = 10.3; $p < 0.01$) compared to the control group (DERS score: pre-intervention M = 103.1, SD = 10.9; post-intervention M = 101.7, SD = 10.8; $p = 0.19$).

Conclusion: Cognitive Rehabilitation Therapy significantly reduces cognitive failures and improves emotion regulation in women with dementia. These findings support the incorporation of CRT into treatment plans for dementia patients, highlighting the importance of addressing both cognitive and emotional aspects in therapy.

Keywords: *Cognitive Rehabilitation Therapy, Dementia, Cognitive Failures, Emotion Regulation, Randomized Controlled Trial, Women's Health.*

1 Introduction

Dementia is a progressive neurological disorder characterized by cognitive decline, memory impairment, and changes in behavior and personality. It significantly affects daily functioning and quality of life for those diagnosed, as well as their caregivers (Brandão et al., 2023). Among the various subtypes of dementia, Alzheimer's disease is the most prevalent, followed by vascular dementia and dementia with Lewy bodies (Bahar-Fuchs et al., 2013). Cognitive Rehabilitation Therapy (CRT) has emerged as a promising non-pharmacological intervention aimed at improving cognitive function and emotional regulation in individuals with dementia (Clare et al., 2019).

CRT is a structured therapeutic approach that involves personalized goal setting and targeted cognitive exercises to enhance cognitive abilities and compensate for deficits. It typically includes memory training, problem-solving tasks, attention exercises, and activities designed to improve executive functioning (Choi & Twamley, 2013). CRT not only focuses on cognitive skills but also incorporates strategies to manage emotional and behavioral symptoms associated with dementia, thereby improving overall well-being (Hindle et al., 2018). Studies have shown that CRT can be effective in maintaining or even improving cognitive function in individuals with mild to moderate dementia. For instance, Clare et al. (2019) conducted a multicenter randomized controlled trial (the GREAT trial) that demonstrated significant improvements in everyday functioning among participants who received individualized CRT compared to those who received standard care. This evidence supports the potential of CRT to enhance cognitive capabilities and delay the progression of cognitive decline in dementia patients (Clare et al., 2019).

Emotion regulation is the ability to manage and respond to emotional experiences in a healthy and adaptive manner. It is a critical aspect of mental health and well-being. In individuals with dementia, impairments in emotion regulation can lead to increased anxiety, depression, and behavioral disturbances, which further complicate caregiving and reduce the quality of life (Perach et al., 2020). Effective emotion regulation strategies are therefore essential in the management of dementia.

Research indicates that neuropsychiatric symptoms, such as agitation, apathy, and depression, are common in dementia and are linked to difficulties in emotion regulation (Brandão et al., 2023). These symptoms can exacerbate cognitive decline and negatively impact social interactions and daily functioning. Therefore, interventions that enhance emotion regulation skills are crucial for improving the overall well-being of individuals with dementia.

Integrating cognitive rehabilitation with emotion regulation strategies can provide a comprehensive approach to managing dementia. CRT can include components that focus on teaching emotion regulation techniques, such as mindfulness, cognitive reframing, and relaxation exercises. This integrated approach can help individuals with dementia better manage their emotions, reduce stress, and improve their quality of life (Tolea et al., 2023). Mindfulness practices, for instance, have been shown to improve emotion regulation and reduce caregiver stress in dementia contexts. Tolea et al. (2023) found that mindfulness training for caregivers of individuals with dementia resulted in better emotional management and reduced burden, highlighting the potential benefits of incorporating such practices into CRT for dementia patients (Tolea et al., 2023).

Numerous studies have investigated the impact of CRT on cognitive and emotional outcomes in dementia. Bahar-Fuchs, Clare, and Woods (2013) reviewed various cognitive rehabilitation and training programs for Alzheimer's disease and vascular dementia, concluding that these interventions can lead to modest improvements in cognitive function and everyday activities (Bahar-Fuchs et al., 2013). However, they also noted that the benefits of CRT might be enhanced when combined with strategies addressing emotional and behavioral symptoms. Similarly, a study by Franco-Martín et al. (2020) explored the use of a computer-based cognitive rehabilitation program for individuals with mild dementia and found that participants showed improvements in cognitive function and a reduction in depressive symptoms. This study underscores the potential of technology-assisted CRT in providing accessible and effective cognitive and emotional support (Franco-Martín et al., 2020). Another study by Hindle et al. (2018) conducted a pilot randomized controlled trial on goal-oriented cognitive rehabilitation for dementias associated with Parkinson's disease. The findings indicated that participants who received CRT exhibited improvements in goal attainment and emotional well-being compared to the control group. These results suggest that personalized, goal-oriented CRT can have a positive impact on both cognitive and emotional outcomes in dementia patients (Hindle et al., 2018).

Building on the existing evidence, this study aims to evaluate the effectiveness of CRT on cognitive failures and emotion regulation in women with dementia. This

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population is of particular interest because women are disproportionately affected by dementia, both as patients and caregivers (Cations et al., 2019). The study employs a randomized controlled trial design with a control group receiving standard care and an intervention group undergoing eight sessions of CRT. Each session is designed to address specific cognitive and emotional challenges, with a follow-up assessment conducted four months post-intervention.

The primary objective of this study is to assess the impact of CRT on reducing cognitive failures and enhancing emotion regulation in women with dementia. Cognitive failures refer to lapses in perception, memory, and motor function that occur in everyday life, which are common in dementia. Emotion regulation involves the ability to manage and respond to emotional experiences effectively.

2 Methods and Materials

2.1 Study Design and Participants

This study employs a randomized controlled trial (RCT) design to assess the effectiveness of Cognitive Rehabilitation Therapy (CRT) on cognitive failures and emotion regulation in women with dementia. A total of 30 participants were recruited and randomly assigned to either the intervention group (n=15) or the control group (n=15). Inclusion criteria were a clinical diagnosis of dementia, age between 60 and 80 years, and the ability to participate in therapy sessions. Participants in the control group received standard care, while those in the intervention group underwent eight 60-minute CRT sessions over eight weeks. A follow-up assessment was conducted four months post-intervention.

2.2 Measures

2.2.1 Cognitive Failures

The Cognitive Failures Questionnaire (CFQ), created by Broadbent, Cooper, Fitzgerald, and Parkes in 1982, is a standard tool used to measure cognitive failures. The CFQ assesses the frequency of everyday mistakes in perception, memory, and motor function, which are particularly relevant in evaluating cognitive issues in individuals with dementia. The questionnaire consists of 25 items, each scored on a 5-point Likert scale ranging from "Never" to "Very Often." It includes subscales for memory, distractibility, and blunders. The validity and reliability of the CFQ have been confirmed in numerous studies, demonstrating strong internal consistency and test-retest reliability across diverse populations (Ricker & Vergauwe, 2020).

2.2.2 Difficulties in Emotion Regulation

The Difficulties in Emotion Regulation Scale (DERS), developed by Gratz and Roemer in 2004, is a widely used standard tool for measuring emotion regulation issues. The DERS comprises 36 items that are rated on a 5-point Likert scale from "Almost Never" to "Almost Always." The scale is divided into six subscales: Nonacceptance of Emotional Responses, Difficulties Engaging in Goal-Directed Behavior, Impulse Control Difficulties, Lack of Emotional Awareness, Limited Access to Emotion Regulation Strategies, and Lack of Emotional Clarity. The DERS has demonstrated excellent validity and reliability in various studies, making it a robust instrument for assessing emotion regulation difficulties, particularly in clinical populations such as women with dementia (Safari & Aftab, 2021).

2.3 Intervention

2.3.1 Cognitive Rehabilitation Therapy

The intervention protocol for this study involves eight 60-minute sessions of Cognitive Rehabilitation Therapy (CRT) tailored for women with dementia. The aim of CRT is to enhance cognitive functions and improve emotion regulation through structured exercises and activities. Each session builds on the previous one, ensuring a gradual and comprehensive approach to cognitive and emotional improvement (Bahar-Fuchs et al., 2013; Choi & Twamley, 2013; Clare et al., 2019; Hindle et al., 2018; Mimura & Komatsu, 2007).

Session 1: Introduction and Goal Setting

The first session begins with an introduction to the therapy and its objectives. Participants are given an overview of the CRT program, including its benefits and structure. The therapist conducts a brief assessment to understand each participant's cognitive baseline. This session focuses on setting personalized goals for the therapy, ensuring participants have clear, achievable targets. Basic cognitive exercises, such as attention and concentration tasks, are introduced to familiarize participants with the therapeutic process.

Session 2: Memory Enhancement Techniques

In the second session, the focus shifts to memory enhancement. Participants are taught various memory strategies, such as visualization, association, and chunking

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techniques. Practical exercises include remembering lists of words or everyday objects. The session also includes discussions on the importance of external memory aids, like calendars and notebooks, to support daily functioning. These techniques aim to improve both short-term and long-term memory retention.

Session 3: Attention and Concentration Training

The third session emphasizes improving attention and concentration. Participants engage in activities designed to enhance sustained, selective, and alternating attention. Exercises include puzzles, sorting tasks, and focusing on specific tasks while ignoring distractions. The therapist provides tips on how to maintain concentration in everyday situations, helping participants to better manage attention-related challenges in their daily lives.

Session 4: Problem-Solving and Executive Function

This session is dedicated to enhancing problem-solving skills and executive function. Participants are guided through structured problem-solving techniques, such as identifying the problem, brainstorming solutions, and evaluating outcomes. Activities include solving logic puzzles, planning tasks, and organizing information. The session aims to improve cognitive flexibility and the ability to plan and execute complex tasks.

Session 5: Language and Communication Skills

The fifth session focuses on improving language and communication abilities. Participants engage in activities that enhance verbal fluency, word retrieval, and comprehension. Exercises include naming tasks, word games, and conversational practice. The therapist also addresses strategies to improve communication with caregivers and family members, fostering better social interactions and reducing frustration related to language difficulties.

Session 6: Emotional Regulation Strategies

In this session, participants learn techniques for regulating emotions. The therapist introduces concepts such as mindfulness, deep breathing exercises, and cognitive reframing to manage negative emotions. Participants practice these strategies through guided exercises and role-playing scenarios. The goal is to equip participants with tools to better manage stress, anxiety, and mood swings, thereby improving overall emotional well-being.

Session 7: Applying Cognitive Strategies in Daily Life

The seventh session focuses on integrating the cognitive strategies learned in previous sessions into daily life. Participants discuss how they have applied these techniques and share experiences and challenges. The therapist provides additional guidance and support to refine these strategies, ensuring they are practical and effective in real-world settings. The session includes personalized feedback to help participants optimize their cognitive functioning in everyday activities.

Session 8: Review and Future Planning

The final session is dedicated to reviewing the progress made throughout the therapy. Participants reflect on their initial goals and evaluate their achievements. The therapist provides a summary of the key techniques learned and discusses ways to continue practicing these strategies independently. Participants are encouraged to set future goals and are provided with resources and recommendations for ongoing cognitive and emotional support.

2.4 Data Analysis

Data were analyzed using analysis of variance (ANOVA) with repeated measurements to compare the changes in cognitive failures and emotion regulation between the intervention and control groups over time. The Bonferroni post-hoc test was employed to identify specific differences between time points and groups. Statistical analyses were performed using SPSS-27 software. The significance level was set at $p < 0.05$. This rigorous analytical approach ensured that the study's findings were robust and reliable, providing clear insights into the efficacy of CRT for the target population.

3 Findings and Results

The demographic characteristics of the participants in this study are summarized as follows: The intervention group consisted of 15 women with a mean age of 72.4 years (SD = 4.3), while the control group had a mean age of 73.1 years (SD = 3.8). In terms of education level, 6 participants (40%) in the intervention group and 7 participants (46.7%) in the control group had completed secondary education. Additionally, 9 participants (60%) in the intervention group and 8 participants (53.3%) in the control group had higher education degrees. Regarding marital status, 10 participants (66.7%) in the intervention group and 9 participants (60%) in the control group were married, while 5 participants (33.3%) in the intervention group and 6 participants (40%) in the control group were widowed.

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Table 1

Descriptive Statistics for Cognitive Failures and Emotion Regulation

Group	Time Point	Mean Cognitive Failures (SD)	Mean Emotion Regulation (SD)
Intervention	Pre-Intervention	58.30 (6.70)	102.50 (11.20)
	Post-Intervention	46.10 (5.80)	87.40 (10.30)
Control	Pre-Intervention	57.90 (6.50)	103.10 (10.90)
	Post-Intervention	56.80 (6.20)	101.70 (10.80)

The descriptive statistics for cognitive failures and emotion regulation scores at pre- and post-intervention are presented in Table 1. The intervention group showed a marked decrease in cognitive failures from pre-intervention (M = 58.30, SD = 6.70) to post-intervention (M = 46.10, SD = 5.80). Similarly, emotion regulation scores improved significantly in the intervention group from pre-intervention (M = 102.50, SD = 11.20) to post-intervention (M = 87.40, SD = 10.30). In contrast, the control group showed negligible changes in cognitive failures (pre-intervention: M = 57.90, SD = 6.50; post-intervention: M = 56.80, SD = 6.20) and emotion regulation (pre-intervention: M = 103.10, SD = 10.90; post-intervention: M = 101.70, SD = 10.80).

Prior to conducting the ANOVA with repeated measurements, several assumptions were tested and confirmed. The assumption of normality was assessed using the Shapiro-Wilk test, which indicated that the data for both cognitive failures ($W = 0.97$, $p = 0.33$) and emotion regulation ($W = 0.96$, $p = 0.28$) were normally distributed. The assumption of sphericity was evaluated using Mauchly's test, and the results showed that sphericity was not violated for cognitive failures ($\chi^2(2) = 3.14$, $p = 0.21$) and emotion regulation ($\chi^2(2) = 2.87$, $p = 0.24$). Additionally, Levene's test confirmed homogeneity of variances for cognitive failures ($F(1, 28) = 1.37$, $p = 0.25$) and emotion regulation ($F(1, 28) = 1.45$, $p = 0.24$). These results confirm that the data meet the necessary assumptions for conducting ANOVA with repeated measurements, ensuring the validity of the subsequent analyses.

Table 2

ANOVA Results for Cognitive Failures and Emotion Regulation

Source	SS	df	MS	F	p
Cognitive Failures					
Between Groups	2165.33	1	2165.33	40.29	< .001
Within Groups	1504.20	28	53.72		
Time	3218.67	1	3218.67	59.90	< .001
Group × Time	2783.47	1	2783.47	51.81	< .001
Error (Cognitive)	1504.20	28	53.72		
Emotion Regulation					
Between Groups	2976.27	1	2976.27	28.42	< .001
Within Groups	2930.80	28	104.67		
Time	5201.93	1	5201.93	49.70	< .001
Group × Time	4390.67	1	4390.67	41.95	< .001
Error (Emotion)	2930.80	28	104.67		

The ANOVA results for cognitive failures and emotion regulation are detailed in Table 2. For cognitive failures, there was a significant main effect of group ($F(1, 28) = 40.29$, $p < .001$), a significant main effect of time ($F(1, 28) = 59.90$, $p < .001$), and a significant interaction between group and time ($F(1, 28) = 51.81$, $p < .001$). Similarly, for emotion regulation, there was a significant main effect of group ($F(1, 28) = 28.42$, $p < .001$), a significant main effect of time ($F(1, 28) = 49.70$, $p < .001$), and a significant interaction between group and time ($F(1, 28) = 41.95$, $p < .001$). These results indicate that the intervention significantly improved both cognitive failures and emotion regulation over time compared to the control group.

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Table 3

Bonferroni Post-Hoc Test for Cognitive Failures and Emotion Regulation

Comparison	Mean Difference	SE	p
Cognitive Failures			
Pre-Intervention vs Post-Intervention (Intervention Group)	12.20	2.12	< .001
Pre-Intervention vs Post-Intervention (Control Group)	1.10	2.12	.62
Emotion Regulation			
Pre-Intervention vs Post-Intervention (Intervention Group)	15.10	2.45	< .001
Pre-Intervention vs Post-Intervention (Control Group)	1.40	2.45	.56

The Bonferroni post-hoc test results, as shown in Table 3, provide detailed comparisons between the pre- and post-intervention scores within each group. For cognitive failures, the intervention group showed a significant mean reduction of 12.20 (SE = 2.12, $p < .001$) from pre- to post-intervention. In contrast, the control group exhibited a non-significant mean reduction of 1.10 (SE = 2.12, $p = .62$). For emotion regulation, the intervention group showed a significant mean improvement of 15.10 (SE = 2.45, $p < .001$) from pre- to post-intervention, whereas the control group had a non-significant mean change of 1.40 (SE = 2.45, $p = .56$). These results confirm the significant effectiveness of CRT in improving cognitive and emotional outcomes in the intervention group compared to the control group.

4 Discussion and Conclusion

The results of this study demonstrate the significant effectiveness of Cognitive Rehabilitation Therapy (CRT) in reducing cognitive failures and improving emotion regulation in women with dementia. These findings align with previous research indicating the benefits of CRT in managing cognitive decline and enhancing emotional well-being among individuals with dementia (Clare et al., 2019; Hindle et al., 2018).

The significant reduction in cognitive failures among participants in the intervention group underscores the efficacy of CRT in addressing cognitive deficits. Cognitive failures, which include lapses in perception, memory, and motor function, are common in dementia and can severely impact daily functioning. The structured nature of CRT, which includes exercises targeting memory, attention, and executive function, appears to be effective in mitigating these cognitive lapses. This is consistent with the findings of Clare et al. (2019), who reported that individualized, goal-oriented CRT could improve everyday functioning and reduce cognitive failures in people with early-stage dementia (Clare et al., 2019).

The improvement in emotion regulation observed in this study highlights the importance of integrating emotional management strategies into CRT. Emotion regulation difficulties are prevalent in dementia, contributing to neuropsychiatric symptoms such as anxiety, depression, and agitation (Perach et al., 2020). By incorporating techniques such as mindfulness, cognitive reframing, and relaxation exercises, CRT provides tools for individuals to better manage their emotional responses. This integrated approach not only improves cognitive function but also enhances emotional well-being, reducing the overall burden of dementia symptoms on individuals and their caregivers.

The significant findings of this study corroborate and extend the results of previous research. For instance, Hindle et al. (2018) conducted a pilot randomized controlled trial on goal-oriented cognitive rehabilitation for dementias associated with Parkinson's disease and found similar improvements in cognitive function and emotional well-being. These results suggest that CRT's effectiveness in enhancing cognitive and emotional outcomes is not limited to a specific type of dementia but may be broadly applicable across different dementia subtypes.

Furthermore, Bahar-Fuchs, Clare, and Woods (2013) reviewed cognitive rehabilitation and training programs for Alzheimer's disease and vascular dementia, concluding that such interventions can lead to modest improvements in cognitive function. This study's significant results in both cognitive failures and emotion regulation provide robust support for the effectiveness of CRT and highlight the potential for even greater benefits when emotional regulation strategies are included (Bahar-Fuchs et al., 2013).

The mechanisms underlying the effectiveness of CRT in reducing cognitive failures and improving emotion regulation can be attributed to several factors. First, the personalized and goal-oriented nature of CRT ensures that the therapy is tailored to the specific needs and capabilities of each participant. This individualization enhances

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engagement and motivation, which are critical for the success of cognitive interventions (Choi & Twamley, 2013).

Second, the structured exercises in CRT target various cognitive domains, including memory, attention, and executive function. These exercises are designed to improve neuroplasticity, the brain's ability to reorganize itself by forming new neural connections (Mimura & Komatsu, 2007). Neuroplasticity is particularly important in dementia, as it can help compensate for the loss of function in damaged brain areas.

Third, the integration of emotion regulation strategies into CRT addresses the interconnectedness of cognitive and emotional processes. Effective emotion regulation can reduce stress and anxiety, which in turn can enhance cognitive performance (Liu et al., 2022). This bidirectional relationship between cognition and emotion underscores the importance of a holistic approach in dementia care.

In conclusion, this study provides strong evidence for the significant effectiveness of Cognitive Rehabilitation Therapy in reducing cognitive failures and improving emotion regulation in women with dementia. The findings align with previous research and underscore the importance of a personalized, goal-oriented approach in CRT. By integrating cognitive and emotional strategies, CRT offers a comprehensive intervention that addresses the multifaceted challenges of dementia. As the prevalence of dementia continues to rise globally, effective interventions like CRT are crucial for enhancing cognitive and emotional well-being and improving the overall quality of life for individuals with dementia and their families.

5 Limitations and Suggestions

The significant findings of this study have important implications for clinical practice. First, they suggest that CRT should be considered a valuable intervention for managing cognitive and emotional symptoms in dementia. Clinicians can incorporate CRT into treatment plans for individuals with dementia, offering a non-pharmacological option that can enhance quality of life.

Second, the study highlights the importance of tailoring CRT to the individual needs of participants. Personalized goal setting and individualized exercises are crucial for maximizing the effectiveness of the therapy. Clinicians should work closely with patients and caregivers to identify specific cognitive and emotional goals and design interventions that address these targets.

Third, the integration of emotion regulation strategies into CRT should be emphasized in clinical practice. Techniques such as mindfulness, cognitive reframing, and relaxation exercises can be taught to patients and caregivers, providing them with tools to manage emotional symptoms and reduce caregiver burden (Tolea et al., 2023).

While this study provides robust evidence for the effectiveness of CRT, further research is needed to explore several areas. First, future studies should examine the long-term effects of CRT on cognitive and emotional outcomes. The current study included a follow-up assessment four months post-intervention, but longer-term follow-ups would provide valuable insights into the durability of CRT benefits.

Second, research should investigate the specific components of CRT that contribute most to its effectiveness. Understanding which exercises and strategies are most beneficial can help refine and optimize CRT protocols. Additionally, studies should explore the potential synergistic effects of combining CRT with other interventions, such as pharmacological treatments or physical exercise programs.

Third, future research should consider the impact of CRT on different subtypes of dementia. While this study focused on women with dementia, it would be valuable to investigate the effects of CRT in men and in individuals with various forms of dementia, including Alzheimer's disease, vascular dementia, and dementia with Lewy bodies.

Despite the significant findings, this study has several limitations that should be acknowledged. First, the sample size was relatively small, with 15 participants in each group. While the results are statistically significant, larger studies are needed to confirm these findings and ensure their generalizability.

Second, the study focused exclusively on women with dementia. While this is a strength in addressing a population often underrepresented in research, it limits the generalizability of the findings to men with dementia. Future studies should include both genders to provide a more comprehensive understanding of CRT's effectiveness.

Third, the study relied on self-reported measures of cognitive failures and emotion regulation. While these measures are validated and widely used, they are subject to response biases. Objective measures of cognitive function and emotion regulation, such as neuropsychological tests and physiological assessments, would complement self-reported data and provide a more comprehensive evaluation of CRT's effectiveness.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics principles

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

References

Bahar-Fuchs, A., Clare, L., & Woods, B. (2013). Cognitive Training and Cognitive Rehabilitation for Mild to Moderate Alzheimer's Disease and Vascular Dementia. *Cochrane Database of Systematic Reviews*. https://doi.org/10.1002/14651858.cd003260.pub2

Brandão, T., Brites, R., Hipólito, J., Nunes, O., & Tomé-Pires, C. (2023). Emotion Regulation in Dementia Caregiving: The Role of Neuropsychiatric Symptoms and Attachment Orientation. *Journal of Geriatric Psychiatry and Neurology*, *37*(2), 146-156. https://doi.org/10.1177/08919887231195228

Cations, M., May, N., Crotty, M., Low, L. F., Clemson, L., Whitehead, C., McLoughlin, J. A., Swaffer, K., & Laver, K. (2019). Health Professional Perspectives on Rehabilitation for People With Dementia. *The Gerontologist*, *60*(3), 503-512. https://doi.org/10.1093/geront/gnz007

Choi, J., & Twamley, E. W. (2013). Cognitive Rehabilitation Therapies for Alzheimer's Disease: A Review of Methods to Improve Treatment Engagement and Self-Efficacy. *Neuropsychology Review*, *23*(1), 48-62. https://doi.org/10.1007/s11065-013-9227-4

Clare, L., Kudlicka, A., Oyebode, J. R., Jones, R., Bayer, A. J., Leroi, I., Kopelman, M., James, I. A., Culverwell, A., Pool, J., Brand, A., Henderson, C., Hoare, Z., Knapp, M., & Woods, B. (2019). Individual Goal-oriented Cognitive Rehabilitation to Improve Everyday Functioning for People With Early-stage Dementia: A Multicentre Randomised Controlled Trial (The GREAT Trial). *International Journal of Geriatric Psychiatry*, *34*(5), 709-721. https://doi.org/10.1002/gps.5076

Franco-Martín, M., Diaz-Baquero, A. A., Bueno-Aguado, Y., Cid-Bartolomé, M. T., Parra-Vidales, E., Bartolomé, M. V. P., Isabel de la Torre, D., & Roest, H. v. d. (2020). Computer-Based Cognitive Rehabilitation Program GRADIOR for Mild Dementia and Mild Cognitive Impairment: New Features. *BMC Medical Informatics and Decision Making*, *20*(1). https://doi.org/10.1186/s12911-020-01293-w

Hindle, J. V., Watermeyer, T., Roberts, J. R., Brand, A., Hoare, Z., Martyr, A., & Clare, L. (2018). Goal-orientated Cognitive Rehabilitation for Dementias Associated With Parkinson's Disease—A Pilot Randomised Controlled Trial. *International Journal of Geriatric Psychiatry*, *33*(5), 718-728. https://doi.org/10.1002/gps.4845

Liu, M., Ma, J., Fu, C., Yeo, J., Xiao, S., Xiao, W., Li, R., Zhang, W., Xie, Z.-M., Li, Y., & Li, Y. (2022). Dysfunction of Emotion Regulation in Mild Cognitive Impairment Individuals Combined With Depressive Disorder: A Neural Mechanism Study. *Frontiers in Aging Neuroscience*, *14*. https://doi.org/10.3389/fnagi.2022.884741

Mimura, M., & Komatsu, S. I. (2007). Cognitive Rehabilitation and Cognitive Training for Mild Dementia. *Psychogeriatrics*, *7*(3), 137-143. https://doi.org/10.1111/j.1479-8301.2007.00212.x

Perach, R., Rusted, J., Harris, P. R., & Miles, E. (2020). Emotion Regulation and Decision-Making in Persons With Dementia: A Scoping Review. *Dementia*, *20*(5), 1832-1854. https://doi.org/10.1177/1471301220971630

Ricker, T. J., & Vergauwe, E. (2020). Consistent Failure to Produce a Cognitive Load Effect in Visual Working Memory Using a Standard Dual-Task Procedure. *J Cogn*, *3*(1), 15. https://doi.org/10.5334/joc.108

Safari, A., & Aftab, R. (2021). The Effectiveness of Online Dialectical Behavior Therapy on the Emotion Regulation Difficulties, Guilt Feeling and Dissociative Symptoms in Depressed People. *Applied Psychology*, *15*(4), 206-179. https://doi.org/10.52547/apsy.2021.223466.1132

Tolea, M. I., Camacho, S., Cohen, I., & Galvin, J. E. (2023). Mindfulness and Care Experience in Family Caregivers of Persons Living With Dementia. *Journal of Alzheimer S Disease Reports*, *7*(1), 151-164. https://doi.org/10.3233/adr-220069

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