Case Report

Progressive Cognitive Improvement in an Elderly Female with Dementia Attending Day-care Services

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Abstract

This case study presents the clinical course of an 84-year-old female diagnosed with cognitive decline and associated comorbidities, who was enrolled in a day-care facility at Vatavriksh Senior Care. The intervention focused on psychosocial engagement, structured activities, and medical monitoring. Serial cognitive assessments were conducted using the Montreal Cognitive Assessment over a period of 5 months. The patient demonstrated measurable cognitive improvement, with scores rising from 8/30 at baseline to 24/30 by the fifth assessment. This case highlights the potential benefits of day-care-based interventions in managing dementia and enhancing quality of life.

Keywords: Cognitive stimulation, day care for seniors, dementia, elderly care, Montreal Cognitive Assessment, psychosocial intervention, senior care

Introduction

Dementia is a progressive neurocognitive disorder characterized by deterioration in memory, executive functioning, and activities of daily living.[1] Globally, over 55 million people live with dementia, and the prevalence continues to rise with aging populations.[2] While pharmacological interventions remain limited in efficacy, psychosocial and supportive care strategies have demonstrated promise in delaying functional decline and improving well-being.[3]

Day-care services for elderly parents (seniors) provide structured environments that encourage cognitive stimulation, social interaction, and emotional support, all of which are linked to improved outcomes in dementia care.[4] This case study explores the impact of day-care engagement on the cognitive and emotional well-being of an elderly woman with multiple comorbidities.

Review of Literature

Nonpharmacological interventions have gained increasing attention in dementia care due to their role in improving cognitive functioning, emotional well-being, and quality of life. Cognitive stimulation therapy (CST), structured activities, and psychosocial engagement have consistently demonstrated positive effects on memory, attention, and communication skills in individuals with mild-to-moderate dementia.[5,6]

The 2020 Lancet Commission on dementia emphasized the importance of multidimensional interventions, including social participation, mental stimulation, physical activity, and emotional support, in slowing functional decline and enhancing quality of life.[3] Similarly, Orrell *et al*. reported that CST led to significant improvements in global cognition and quality of life compared to standard care.[7]

Day-care and community-based programs provide structured environments that promote social interaction, reduce loneliness, and offer meaningful engagement for elderly parents (seniors). Brodaty and Donkin found that such services significantly reduce caregiver burden while improving emotional stability in individuals with dementia.[8] Gitlin *et al*. further demonstrated that tailored activity programs improved daily functioning and reduced behavioral symptoms.[9]

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Physical activity and physiotherapy have also shown benefits in maintaining mobility, reducing pain, and supporting cognitive health in dementia populations.[10,11] Yoga and relaxation-based interventions have been associated with reduced stress, improved emotional regulation, and enhanced overall well-being in older adults.[12]

Psychological interventions, including anxiety management, reminiscence therapy, and supportive counseling, have been found to improve mood, self-esteem, and social connectedness in people with dementia.[13,14] Reminiscence therapy, in particular, has been shown to enhance autobiographical memory and emotional well-being.[15]

It is also essential to differentiate dementia from depression-related cognitive impairment, commonly referred to as pseudodementia. Pseudodementia can mimic neurocognitive disorders but often improves with appropriate treatment for depression.[16] Careful assessment using standardized mood scales and clinical interviews is therefore crucial in dementia workups.[17]

Overall, existing literature supports the use of structured, multidomain, nonpharmacological interventions in dementia care. These approaches not only enhance cognitive performance but also address emotional well-being and functional independence, reinforcing the relevance of comprehensive day-care-based programs.

Case Report

Patient information

The patient was an 84-year-old female graduate who was brought to the facility by her daughter for day-care enrollment. The primary concerns reported were stress, anxiety, and forgetfulness.

Her past medical history included hypertension, type 2 diabetes mellitus, thyroid disorder, and chronic joint pain.

The initial referral was for psychosocial support, with an emphasis on evaluating memory-related challenges, as cognitive decline is common among people with such comorbidities.[18]

Assessment and methods

Cognitive functioning was assessed using the English version of the Montreal Cognitive Assessment (MoCA), a validated screening tool for mild cognitive impairment and dementia.[19] Permission for using MoCA was requested through its website. Assessments were conducted across multiple sessions to establish baseline status and monitor progression.

MoCA scores across time points: October 17, 2024 (08/30), January 24, 2025 (18/30), January 31, 2025 (20/30), February 14, 2025 (22/30), and March 23, 2025 (24/30).

Evaluation for pseudodementia

To rule out depression-related cognitive impairment (pseudodementia), the patient underwent psychological and clinical evaluation. Geriatric depression scale-15 was administered, and the patient scored within the mild range for depressive symptoms. Clinical interviews revealed no major depressive episode, suicidal ideation, or psychomotor retardation. Medical causes of reversible cognitive impairment were also reviewed, including thyroid dysfunction, uncontrolled diabetes, vitamin deficiencies, and medication effects. Thyroid levels and blood glucose were under regular monitoring and remained within controlled ranges. No acute metabolic abnormalities were noted. The pattern of cognitive deficits, particularly in delayed recall, executive function, and visuospatial domains, along with gradual functional decline, was more consistent with a neurocognitive disorder than pseudodementia.[16,17]

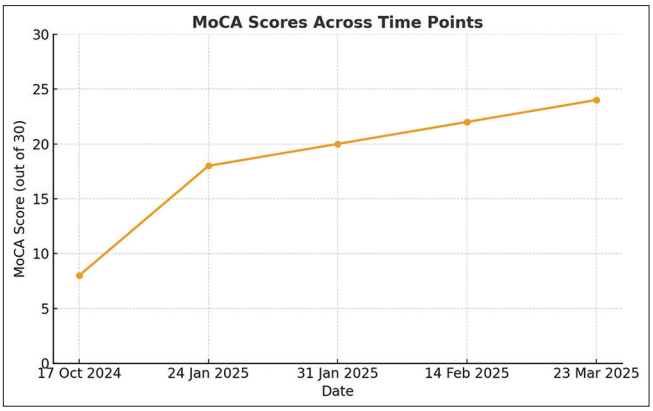

Figure 1: Trend of Montreal Cognitive Assessment (MoCA) scores across assessment periods showing cognitive improvement

Intervention

The patient was enrolled in a structured day-care program that combined cognitive, psychosocial, physical, and therapeutic interventions. These included daily cognitive stimulation activities such as orientation exercises, memory games, puzzles, and storytelling[20] along with group social interaction sessions to reduce isolation and anxiety.[21] Physiotherapy was provided to address joint pain and support mobility,[10] and regular health monitoring was conducted for blood pressure, blood glucose, and thyroid levels.

Psychological support consisted of individual psychotherapy and anxiety management counseling,[13] complemented by yoga-based relaxation and breathing exercises to improve emotional regulation and stress resilience.[22] Additional cognitive and emotional interventions included individual cognitive training (memory recall and attention tasks), reminiscence therapy, reality orientation exercises, group storytelling, music therapy, and family psychoeducation.

Collectively, these interventions aimed to enhance cognitive engagement, reduce emotional distress, and promote overall well-being.

Results

Over 5 months, the patient demonstrated progressive cognitive improvement, with MoCA scores increasing by 16

points (from 08/30 to 24/30) [Figure 1]. Caregivers reported reductions in stress and anxiety, greater participation in group activities, and improved communication. These findings align with research suggesting that psychosocial interventions can improve cognitive functioning and delay the progression of dementia symptoms.[3]

Discussion

This case (nonneurodegenerative dementia) highlights the potential benefits of day-care-based interventions for dementia management. Factors that may have contributed to improvement include the following: cognitive stimulation through structured activities, psychosocial engagement, reducing loneliness and distress, holistic monitoring of comorbidities, preventing complications that exacerbate cognitive decline,[18] yoga-based practices, which promotes parasympathetic activation, reduces cortisol levels, and enhances brain regions associated with memory and attention,[22] and supportive psychotherapy, enhancing emotional resilience.

Although dementia typically follows a progressive course, improvement in cognitive scores has been reported in patients receiving structured cognitive stimulation, social engagement, and emotional support.[5,6] In this case, the initial MoCA score was obtained during a period of high stress and anxiety, which may have temporarily worsened performance. Subsequent improvements likely reflect reduced anxiety, familiarity with the testing process, improved engagement, and consistent participation in cognitive activities. Practice effects and improved test-taking confidence may also have contributed to score gains, although functional improvements reported by caregivers support genuine cognitive benefits rather than test familiarity alone.

Conclusion

Day-care services can play a pivotal role in dementia care by combining structured psychosocial interventions with medical monitoring. This case demonstrates significant improvement in cognitive outcomes and quality of life. Future longitudinal and controlled studies with larger samples are required to validate these findings.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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