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Holistic Occupational Therapy Interventions for Mild Cognitive Impairment: A Case Study

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Introduction

Mild Cognitive Impairment (MCI)

MCI is a syndrome that refers to a noticeable decline in cognitive abilities that is greater than expected based on a person's age and education level.

Individuals with MCI may experience problems with memory, language, attention, reasoning, or other cognitive functions while preserving their ability to carry out daily living, which differentiates MCI from dementia.

Introduction

Prevalence:

The global prevalence of Mild Cognitive Impairment among community-dwelling adults aged 50 years and older is estimated to be over 15%. Amnestic MCI accounts for approximately 10% of cases, while non-amnestic MCI represents around 9%, with prevalence influenced by age, gender, education level, and geographic region.

Introduction

Consequently, treating cognitive impairment effectively at an early stage is essential because early detection and intervention may help slow down or even prevent further cognitive decline (Kasper et al., 2020).

Furthermore, treating cognitive impairment promptly may improve the overall quality of life by helping individuals cope with cognitive and emotional challenges that they may experience, such as frustration, anxiety, and depression (Anderson, 2019).

Introduction

Additionally, lifestyle factors such as exercise, diet, social engagement, and cognitive activities may help reduce dementia risk and enhance cognitive function, as they might mitigate neuropathological damage, while promoting cognitive reserve, a protective mechanism that may delay the onset of the cognitive symptoms despite brain pathology (Tortora, et al., 2024).

Introduction

Occupational Therapy with MCI

Occupational therapists play a key role in the non-pharmacological management of Mild Cognitive Impairment by addressing cognitive, functional, and psychosocial dimensions simultaneously.

Literature indicates that OT interventions for MCI focus on maintaining participation in meaningful daily activities, promoting independence, and enhancing quality of life (Gauthier et al., 2006; Clare et al., 2017).

Introduction

Key intervention areas include:

- **Occupation-based cognitive rehabilitation:** Cognitive strategies embedded within meaningful daily activities rather than isolated cognitive drills (Belleville et al., 2018; Giles et al., 2021).
- **Compensatory strategy training:** Use of external memory aids, task simplification, and habit formation to support daily functioning (Clare & Woods, 2004).
- **Environmental modifications:** Adaptation of physical and social environments to reduce cognitive load and support independence (Gitlin et al., 2006).
- **Routine and activity structuring:** Establishing structured daily routines to enhance executive functioning and task initiation (Law et al., 1996).
- **Psychosocial and emotional support:** Supporting coping, self-efficacy, and adjustment to cognitive changes (Clare et al., 2017).

Introduction

Despite growing evidence supporting non-pharmacological interventions for MCI, there is limited literature focusing specifically on holistic occupational therapy approaches that integrate cognition, daily activities, environmental context, and quality of life outcomes.

Most existing studies emphasize isolated cognitive training methods, while fewer examine real-life, occupation-centered interventions delivered by occupational therapists (Giles et al., 2021).

Introduction

This case study was conducted to:

- Demonstrate the application of a holistic occupational therapy framework in an individual with MCI
- Highlight the role of occupational therapy beyond cognitive intervention
- Provide clinical evidence on the sustainability of occupation-based intervention outcomes
- Emphasize the importance of early OT involvement in MCI management

Case Description

77 Year Old Male with Mild Cognitive Impairment

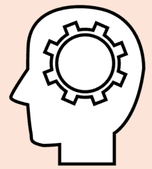
- Diagnosis: Mild Cognitive Impairment (MCI), diagnosed one year prior to occupational therapy referral
- Living situation: Living independently with spouse in their own home
- Functional status: Independent in basic activities of daily living
- Concerns:

1. Increasing forgetfulness in daily routines and names
2. Difficulties in organizing and sequencing daily activities
3. Reduced efficiency in instrumental activities of daily living
4. Very limited participation in recreational activities

Assessment Tools

- *Mini-Mental State Examination (MMSE)*
- *Addenbrooke's Cognitive Examination III (ACE-III)*
- *Loewenstein Occupational Therapy Cognitive Assessment– Geriatric (LOTCA-G)*
- *Canadian Occupational Performance Measure (COPM)*
- *WHO Quality of Life Scale – Older Adults (WHOQOL-OLD)*

Interventions



Cognitive Rehabilitation and Strategy Training

Environmental Modifications to Reduce Cognitive Load

Activity Scheduling and Routine Structuring

Caregiver Education and Collaboration

Facilitation of Recreational Activities

Promotion of Social Participation

Diversification of Physical Activities

Intervention Design Duration: 8 weeks. Frequency: 1 session/week Session length: 60 minutes

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Interventions

Intervention	Intervention	Goals / Targeted Outcomes
Cognitive Rehabilitation and Strategy Training	Integrating cognitive rehabilitation with compensatory and memory strategies to support attention, memory, and executive functioning within daily activities.	Improve functional cognition; support independence in daily activities and effective strategy use.
Environmental Modifications	Adapting the physical environment to minimize distractions and reduce cognitive demands during daily tasks.	Reduce cognitive load; support safe and independent occupational performance.
Activity Scheduling & Routine Structuring	Establishing structured and predictable daily routines to support planning and time management.	Improve daily organization and task initiation; promote occupational balance.
Recreational Activities	Supporting engagement in meaningful recreational activities aligned with personal interests and abilities.	Increase occupational engagement; enhance well-being and occupational balance.
Social Participation	Facilitating participation in socially meaningful activities to strengthen social roles and interactions.	Reduce social isolation; support emotional well-being and occupational balance.
Physical Activity Diversification	Encouraging engagement in varied physical activities integrated into daily routines.	Support cognitive health, physical functioning, and quality of life.
Caregiver Education & Collaboration	Educating and collaborating with the spouse to support consistent strategy use and environmental adaptation.	Enhance carryover of strategies; promote sustained occupational performance.

Results

Findings

Assessment Tool	Domain Assessed	Post-Intervention Improvements
Mini-Mental State Examination (MMSE)	Cognition	Increased scores in **orientation** and **memory** subdomains
Loewenstein Occupational Therapy Cognitive Assessment – Geriatric (LOTCA-G)	Cognition	Improvements in **visual–motor organization** and **memory** categories
Addenbrooke's Cognitive Examination (ACE)	Cognitive	Score increases in **attention**, **verbal fluency**, **memory**, and **language** components
Canadian Occupational Performance Measure (COPM)	Occupational Performance	Among five selected activities, improvements in **performance and satisfaction** were observed in three activities, while **satisfaction scores** increased in two activities
WHOQOL-OLD	Quality of Life	Overall increase in quality of life scores following the intervention

Results

Follow-up Findings

- At the 8-week follow-up assessment conducted after the completion of the occupational therapy intervention, cognitive and functional gains observed at post-intervention were largely maintained.
- Scores across cognitive assessment measures remained stable, indicating preservation of improvements in memory, attention, and executive-related functions.
- In addition, the participant reported continued adherence to the structured daily routines and ongoing use of learned cognitive and compensatory strategies.
- The individual also stated that participation in daily and recreational activities was sustained, suggesting successful integration of intervention components into everyday life and supporting the long-term impact of a holistic, occupation-based occupational therapy approach.

Discussion & Conclusion

This case study demonstrates that a holistic, occupation-based occupational therapy intervention can lead to meaningful and sustained improvements in cognitive functioning, occupational performance, and quality of life in an older adult with Mild Cognitive Impairment (MCI). The findings align with existing literature emphasizing the importance of early, non-pharmacological interventions targeting functional cognition rather than isolated cognitive performance (Belleville et al., 2018; Clare et al., 2017).

Discussion & Conclusion

Consistent with previous research, the participant showed improvements not only in standardized cognitive assessment scores but also in daily occupational performance and satisfaction, as measured by occupation-focused tools. This supports the notion that cognitive changes in MCI are most effectively addressed when interventions are embedded within meaningful daily activities (Giles et al., 2021). The use of integrated cognitive rehabilitation and strategy training facilitated the transfer of cognitive strategies to real-life contexts, which has been identified as a critical factor in intervention effectiveness (Bahar-Fuchs et al., 2019).

Discussion & Conclusion

The follow-up findings, conducted eight weeks post-intervention, indicated that improvements in cognitive and functional outcomes were maintained over time. This suggests that occupation-based and person-centered occupational therapy interventions may have lasting effects, supporting the development of adaptive routines and habits rather than short-term performance gains.

Despite these positive findings, this study is limited by its single-case design, which restricts generalizability. However, case studies play a valuable role in illustrating clinical reasoning and demonstrating the real-life application of holistic occupational therapy frameworks in MCI management. This case contributes to the growing body of evidence supporting occupational therapy's role in early cognitive decline and highlights the need for larger-scale studies examining holistic, occupation-centered interventions.

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for your time
and attention

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