Improving Care for Older Adults with Mild Cognitive Impairment (MCI) and Early Dementia

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Background & Significance

Dementia

Includes various conditions that lead to progressive decline in cognitive functions ultimately interfering with activities of daily living, which is challenging for patients, families, and caregivers.

The Growing Challenge:

- Aging Population and Public Health Concern (Huang et al., 2021)
- In 2020, over 55 million people worldwide were living with dementia and expected to affect 139 million people by 2050 (Alzheimer's Disease International, n.d.).

Current Practice

- Currently no cure for dementia.
- Medications for some forms of dementia that focus on symptom management.
- Healthcare providers may suggest lifestyle changes or stopping some medication altogether (Mayo Clinic, 2023).

Challenges with Current practice

- Medications are only for some forms of dementia, with varying levels of effectiveness and undesirable side effects.
- National Health Interview Survey (2020) findings: Only 24.2% of adults over 18 meet physical activity guidelines and less than 15% of adults over 65 meet recommended aerobic and muscle-strengthening guidelines (Office of Disease Prevention and Health Promotion, 2023).

Methods & PICOT Question

PICOT:

Are exercise-based interventions effective in delaying, stopping, or improving cognitive function compared to standard care among adults older than 50 who are living with MCI or early stages of dementia.

Databases:

PubMed, CINHL Google Scholar, and Scopus

Search Terms:

Various combinations of search terms were used in the search including (exercise OR exercise-based interventions OR aerobic activity OR strength training OR resistance training OR physical activity OR movement OR dance OR yoga OR tai chi OR Zumba OR fitness OR sports) AND (mild cognitive impairment OR cognitive impairment OR mild dementia OR dementia OR cognitive decline OR mild Alzheimer's Disease) AND (adults OR elderly OR senior citizen).

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Results

Enette et al. (2020) and Bardopoulou et al. (2023)

- Significant decrease in MMSE scores in the control group ($p=0.05$), ($p<0.001$).
- Bardopoulou et al. (2023) reported a 2-point increase in MMSE scores among strength training group but no significant improvement in overall MMSE scores in either study.

Song and Yu (2019) and Zhu et al. (2018)

- Significantly better post-intervention MoCA scores compared to the non-exercise control group's baseline and post-test scores ($p < 0.001$) with a non-significant decrease in control group post intervention scores compered to baseline (Song and Yu 2019).
- Significant improvement in MoCA scores at 3 and 6 months for exercise and control groups compared to baseline but not significantly different from each other (Zhu et al. 2018).

Blumenthal et al. (2018)

- The study found a significant improvement in executive function in the AE- group ($p=0.0046$).
- The AE+DASH compared to the health education group had a significant improvement ($p=0.012$).

Role of the CNL

- Promote best practices for exercise-based interventions.
- Patient collaboration: barriers to exercise, suitable activities, challenges, expectations etc.
- Healthcare team collaboration to ensure safety for patients with various health conditions and resource connection.
- Recommendation for nurse led group-based exercise format (Zhu et al. 2018).

Conclusion

- Studies had small sample sizes, limited power, and relatively short duration but overall suggest that exercise-based interventions have a protective effect with some improvement in cognitive function for adults with MCI or early dementia.
- CNLs can improve patient outcomes by working collaboratively with patients and interdisciplinary teams to develop a comprehensive plan and educate patients on best practices for exercise interventions.
- Future research should focus on assessing exercise intervention's long-term effectiveness and sustainability and implementing them into practice.

References and Acknowledgements

Scan QR code for document link containing references used.

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