

APRU Global Health Conference 2021

GLOBAL URBAN HEALTH

16-18 November 2021

The University of Hong Kong, Pokfulam, Hong Kong

Abstract No. Abstract Title

66 **Effects of Moderate and Vigorous Exercise on Cognitive Performance in Older Adults with Mild Cognitive Impairment: A Pilot Study**

Theme Active lifestyle

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Purpose / Background:

- The increasing prevalence of mild cognitive impairment (MCI) prompts the need for devising effective interventions to prevent the onset of MCI and delay its progression into dementia
- Exercise can lead to significant improvements in cognitive performance. However, it is not clear whether exercise intensity influences the effect of exercise on cognition.
- Therefore, we aimed to investigate the effects of moderate and vigorous-intensity exercise on parameters of cognitive performance in older adults with MCI

Methods

Participants

Inclusion criteria:

- Older adults aged ≥ 50 years old
- Ethnic Chinese
- Sedentary
- MCI diagnosis

Exclusion criteria:

- Dementia/Alzheimer's disease
- Physical impairment
- History of a major physical or psychiatric disorder

Target population was approached using promotional activities through posters/leaflets distribution to community centers and housing estates. Participants were randomly assigned to a 1) vigorous exercise (VIG, n=7); 2) moderate exercise (MOD, n=6); or 3) control group (CON, n=7) for 12 weeks.

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Methods:

Intervention

- **VIG:** vigorous-intensity walking exercise program
25-minute instructor-led sessions 3 times per week
Intensity 7.0 MET
- **MOD:** moderate-intensity walking program
50-minutes instructor-led sessions 3 times per week
Intensity 3.5 MET
- **CON:** stretching control
75-minute instructor-led session once per week

Outcome assessment

Primary outcome

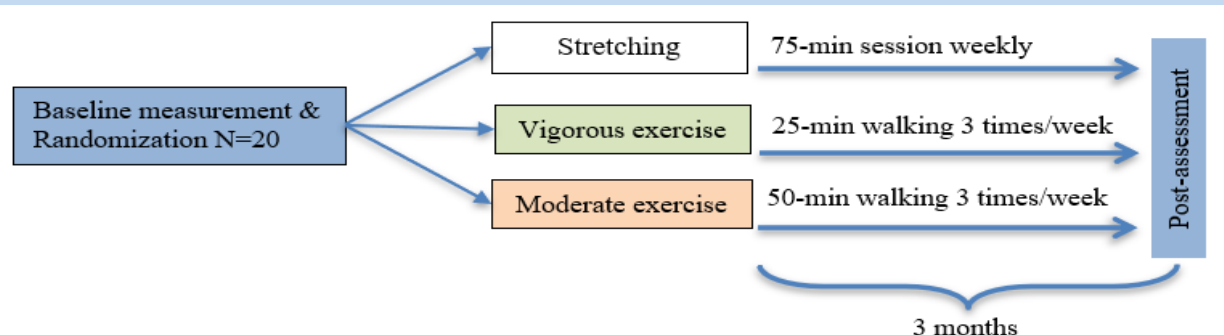
- Verbal fluency test: language domain

Secondary outcome

- Stroop test: attention domain

Data analysis

- General estimating equations were used to analyze data
- A significant time-group interaction indicated a difference among interventions
- Pairwise comparison was performed using closed test procedure



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Results

Primary outcome

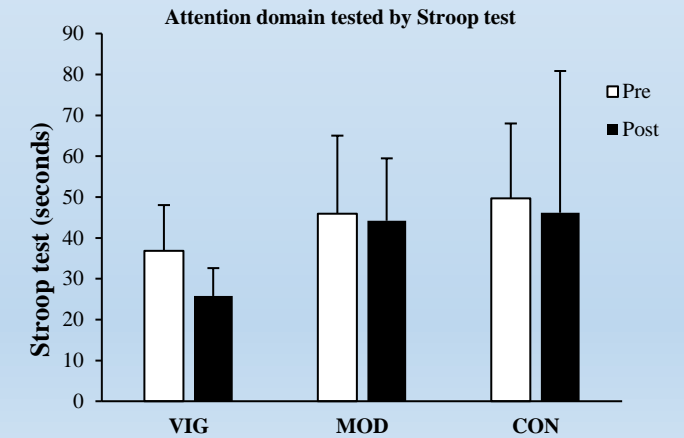
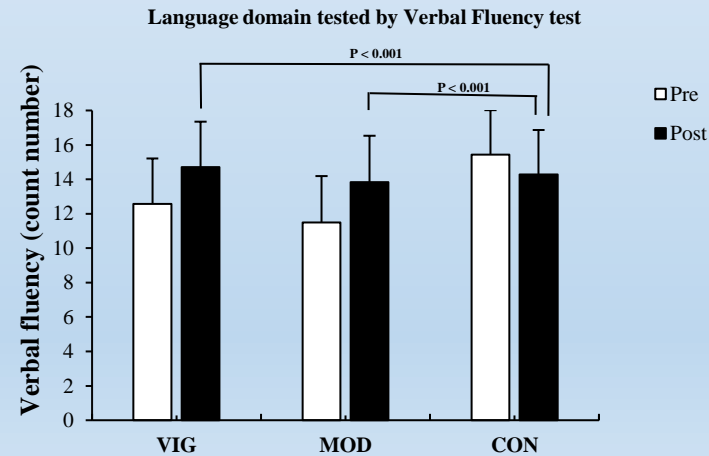
There was a significant time-group interaction in verbal fluency ($P < 0.001$) after the 12-week intervention period.

Pairwise comparisons showed significant improvements in both VIG and MOD groups, when compared to CON ($P < 0.001$).

No differences between VIG and MOD were found ($P = 0.956$).

Secondary outcome

Analysis of secondary outcome revealed no significant differences among the interventions.



Conclusion

Twelve weeks of both vigorous and moderate intensity walking exercises are similarly effective in improving outcomes of verbal cognition in older adults with mild cognitive impairment.

These improvements were not reflected in the attention domain, suggesting that exercise might differently affect various domains of cognition.