



RESEARCH BRIEF

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Unlocking active ageing, even for the oldest-old and frail: A literature review of exercise interventions for two older adult groups

Research article: The effects of exercise interventions on physical performance and activities of daily living in oldest-old and frail older adults: a review of the literature. *Published in the American Journal of Physical Medicine & Rehabilitation in October 2023.* Click [here](#) to view the published article online.

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KEY FINDINGS

1. Exercise interventions that do not involve specialised equipment can be beneficial for both oldest-old (≥ 75 yrs) and frail older adults.
2. The characteristics of exercise interventions are similar among both older adult groups.
3. Single-component resistance training and multicomponent exercise interventions are likely effective in improving muscle strength and balance, respectively.
4. The effectiveness of exercise interventions on the ability to perform activities of daily living is equivocal, in line with previous systematic reviews.

IMPLICATIONS AND SIGNIFICANCE OF FINDINGS

1. Exercise interventions without specialised equipment are more easily accessible to older adults, thus facilitating translation into community settings at a wider scale.
2. Similar exercise interventions can be adopted to improve muscle strength and balance in both oldest-old and frail older adults.
3. Resistance training on its own is recommended to enhance muscle strength among all oldest-old and frail older adults, particularly for those with poor exercise compliance.
4. Exercise prescription may be required to first elicit improvements in physical performance in order to evoke noticeable improvements in the ability to perform activities of daily living.
5. Future research could further examine and identify the optimal dosage of exercise to maintain and improve the health and well-being of older adults.

BACKGROUND

Ageing is commonly characterised by a decline in functional ability that is associated with increased risk of adverse health outcomes. Exercise and physical activity play a pivotal role in mitigating such decline and preserving functional independence in older adults. Despite the known benefits, exercise programmes involving specialised equipment or facilities are often limited in its translation to implementation in community settings.

Majority of older adults do not meet the World Health Organization's recommended levels of physical activity, which poses a public health challenge. Given the heterogeneity of ageing, exercise prescription has been advocated to be individualised and tailored to specific older adult populations. While prevalence of frailty increases with age, it remains unclear whether exercise advice differs between the oldest-old and frail.

FOCUS OF PROJECT

The study aimed to examine and compare the effects and characteristics of exercise interventions between oldest-old and frail older adults. A narrative review approach was employed to synthesise evidence on the effects of exercise interventions with portable equipment on muscle strength, balance, and ability to perform activities of daily living in both older adult groups. The study findings were summarised based on intervention types and older adult population groups.

DATA

A systematic literature search was conducted across three electronic databases for randomised controlled trials published between 01 January 2000 and October 7, 2021, in which a total of 10,603 articles were screened. Among the 76 studies that met the review's inclusion criteria, 61 involved oldest-old participants and 15 involved frail older adults.

STUDY DESIGN

This study is a narrative literature review to synthesise evidence on the effects of exercise interventions in oldest-old and frail older adults.

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