

Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

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Musculoskeletal disease

Physical activity reduces mobility disability in frail older people

A multicomponent intervention based on regular moderate intensity physical activity was associated with a lower incidence of mobility disability in frail older adults, in a large European study.

The multicentre randomised controlled SPRINTT trial was conducted between January 2016 and October 2019 at 16 sites across 11 European countries. A total of 1,088 community dwelling women and 431 men, mean age 78.9 years, with physical frailty and sarcopenia were included. Physical frailty and sarcopenia were defined as the combination of low physical function and low appendicular lean mass in the absence of current mobility disability.

Inclusion criteria were low functional status, defined as a short physical performance battery (SPPB) score of 3 to 9 (where a lower score indicates poorer function), and low appendicular lean mass, together with ability to walk 400 metres independently.

Half the participants (760) were randomised to the multicomponent intervention while the other half (759 controls) received education on healthy ageing. The multicomponent intervention consisted of moderate intensity physical activity twice weekly

at a centre and up to four times weekly at home, plus nutritional counselling.

The average follow-up period was 26.4 (SD 9.5) months.

The primary outcome was the development of mobility disability, an inability to complete the 400 metres walk test in less than 15 minutes without sitting, stopping for more than 1 minute, receiving help or using a walker.

Secondary outcomes were persistent mobility disability, changes from baseline to 24 and 36 months in physical performance, muscle strength, and appendicular lean mass.

● Among participants with SPPB scores of 3-7, mobility disability occurred in 283/605 (46.8%) in the multicomponent intervention group and 316/600 (52.7%) controls; hazard ratio (HR) 0.78 (95% CI: 0.67-0.92; P = 0.005)

● Persistent mobility disability occurred in 127/605 (21.0%) in the intervention group and 150/600 (25.0%) controls; HR 0.79 (95% CI: 0.62-1.01; P = 0.06)

● The between group difference in SPPB score was 0.8 points (P < 0.001) and 1.0 point (P < 0.001) in favour of the multicomponent intervention at 24 and 36 months respectively

● Women in the intervention group lost 0.24 kg (P < 0.001) and 0.49 kg (P < 0.001) less appendicular lean mass than controls at 24 months and 36 months respectively

This study has shown that a simple multicomponent intervention was associated with a reduction in the development of mobility disability in older adults with physical frailty and sarcopenia. Physical frailty and sarcopenia in the elderly vulnerable may successfully be targeted with interventions to preserve mobility.

The author of an accompanying editorial¹ states: 'These findings are consistent with those from an earlier US based multicentre trial, the LIFE Study,² that evaluated physical activity as the sole intervention among

sedentary older people with functional limitations.'

'Collectively, the findings from the SPRINTT and LIFE trials provide compelling evidence that mobility in the community can be preserved among vulnerable older people through structured physical activity, with walking as the primary modality,' he adds.

DR JEZ THOMPSON
Bernabei R, Landi F, Calvani R et al. Multicomponent intervention to prevent mobility disability in frail older adults: randomised controlled trial (SPRINTT project) BMJ 2022;377:e068788

REFERENCES

- 1 Gill TM. Preserving community mobility in vulnerable older people. *BMJ* 2022;377:e01084
- 2 Pahor M, Guralnik JM, Ambrosius WT et al LIFE study investigators. Effect of structured physical activity on prevention of major mobility disability in older adults: the LIFE study randomized clinical trial. *JAMA* 2014;311:2387-96

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