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Mobility and balance in recurrently falling nursing home residents using a side-stepping exercise

Submission date
30/08/2022

Recruitment status
No longer recruiting

Registration date
01/09/2022

Overall study status
Completed

Last Edited
05/01/2023

Condition category
Other

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol
Background and study aims
Side-stepping is a potential exercise program to reduce fall risk by improving mobility and balance in community-dwelling adults in their seventies, but it has never been tested in nursing home older residents. This was a pilot quasi-experimental study to examine the feasibility and potential benefits of an intervention based solely on voluntary non-targeted side-stepping exercises on mobility and balance in nursing home residents who fall recurrently.

Who can participate?
Nursing home residents of "Le Richemont", over 60 years old, recurrent fallers, and able to stand and walk alone or with technical/ verbal assistance for a distance of 10 meters.

What does the study involve?
A group of participants that follow a side-stepping exercise program is compared to a group following usual physiotherapy care.

What are the possible benefits and risks of participating?
The possible benefits are mobility and balance improvements. A risk is falling during the intervention.

Where is the study run from?
Le Richemont, a nursing home in Belgium.

When is the study starting and how long is it expected to run for?
June 2017 to March 2021.

Who is funding the study?
Rehazenter (Luxembourg)

Who is the main contact?
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Contact information

Type(s)
Principal investigator

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Study information

Scientific Title
Mobility and balance in recurrently falling nursing home residents by voluntary non-targeted side-stepping exercise intervention

Acronym
SIDE

Study objectives
Training based solely on voluntary non-targeted side-stepping exercises might be feasible and effective in improving the mobility and balance of nursing home residents who fall recurrently.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 28/08/2017, Academic Bioethics Committee (Comité académique de bioéthique, 91, avenue Ch. Schaller, 1160 Bruxelles, Belgium; no telephone number provided; secretary@a-e-c.eu), ref: B200-2017-090

Study design
Single-center interventional quasi-experimental

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Prevention of falls in nursing home residents

Interventions
This is a pilot quasi-experimental study to examine the feasibility and potential benefits of an intervention based solely on voluntary non-targeted side-stepping exercises on mobility and balance in nursing home residents who fall recurrently.
Participants are recruited and assigned to an intervention group (side-stepping exercises, STEP) participating in an 8-week protocol and to a control group (usual physiotherapy care, CTRL). They were clinically assessed at 4-time points: baseline, after 4 and 8 weeks, and after a 4-week follow-up period (usual physiotherapy care).

The intervention consisted of replacing the usual physiotherapy care sessions (total duration of about 120 minutes per week: 20–25 minutes per day) with an intervention consisting solely of voluntary sidestepping exercises. In the nursing home, the usual physiotherapy sessions mainly included walking on level ground, ascending and descending stairs, and upper and lower limb strengthening exercises.

During the side-stepping exercises intervention period (t1–t3), participants were trained 4 days per week for 30 minutes each. Daily training time could be divided into two periods of 15 minutes if the participant had difficulty participating in a single 30-minute session because of fatigue or other reasons.
Voluntary side-stepping movements were performed in left and right directions, in front of a horizontal bar located 90cm from the floor and situated in a corridor. For the right-hand sidestepping movements, the right foot was moved approximately 15–20cm to the right, then the left foot to join the right, and so on. For the left-hand sidestepping movements, the reverse order was chosen. Participants were instructed to perform the sideways steps while keeping their heads in a neutral position, looking straight ahead, and watching the position of their feet as little as possible. For safety reasons, participants were asked never to cross their feet.

Intervention Type
Behavioural

Primary outcome(s)
Mobility and balance are measured with Timed Up and Go (TUG) and Berg Balance Scale (BBS) at baseline, after 4 and 8 weeks, and after a 4-week follow-up period.

Key secondary outcome(s))
Mobility and balance are measured at baseline, after 4 and 8 weeks, and after a 4-week follow-up period:
1. 6-minute walking test (6MWT)
2. Tinetti Performance Oriented Mobility Assessment (Tinetti)
3. Mini motor test (MMT)
4. 6-meter walking test (6mWT)

Completion date
15/03/2021

Eligibility

Key inclusion criteria
1. Over 60 years old
2. A recurrent faller
3. Able to stand and walk alone or with technical/ verbal assistance for a distance of 10 meters
4. Able to understand the instructions given for intervention and assessment

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Senior

Sex
All

Total final enrolment
22

Key exclusion criteria
1. Severe vascular disease
2. Epileptic seizures

Date of first enrolment
01/09/2017

Date of final enrolment
15/12/2020

Locations

Countries of recruitment
Belgium

Study participating centre
Le Richemont
Rue de L'Enclos 13
Bioul-Anhée
Belgium
5537

Sponsor information

Organisation
Rehazenter

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Rehazenter

Results and Publications

Individual participant data (IPD) sharing plan
The datasets analyzed during the current study are available on request from frederic.dierick@gmail.com

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		30/12/2022	05/01/2023	Yes	No