

Feasibility of home vs. hospital based resistance training for advanced cancer patients: a phase II trial

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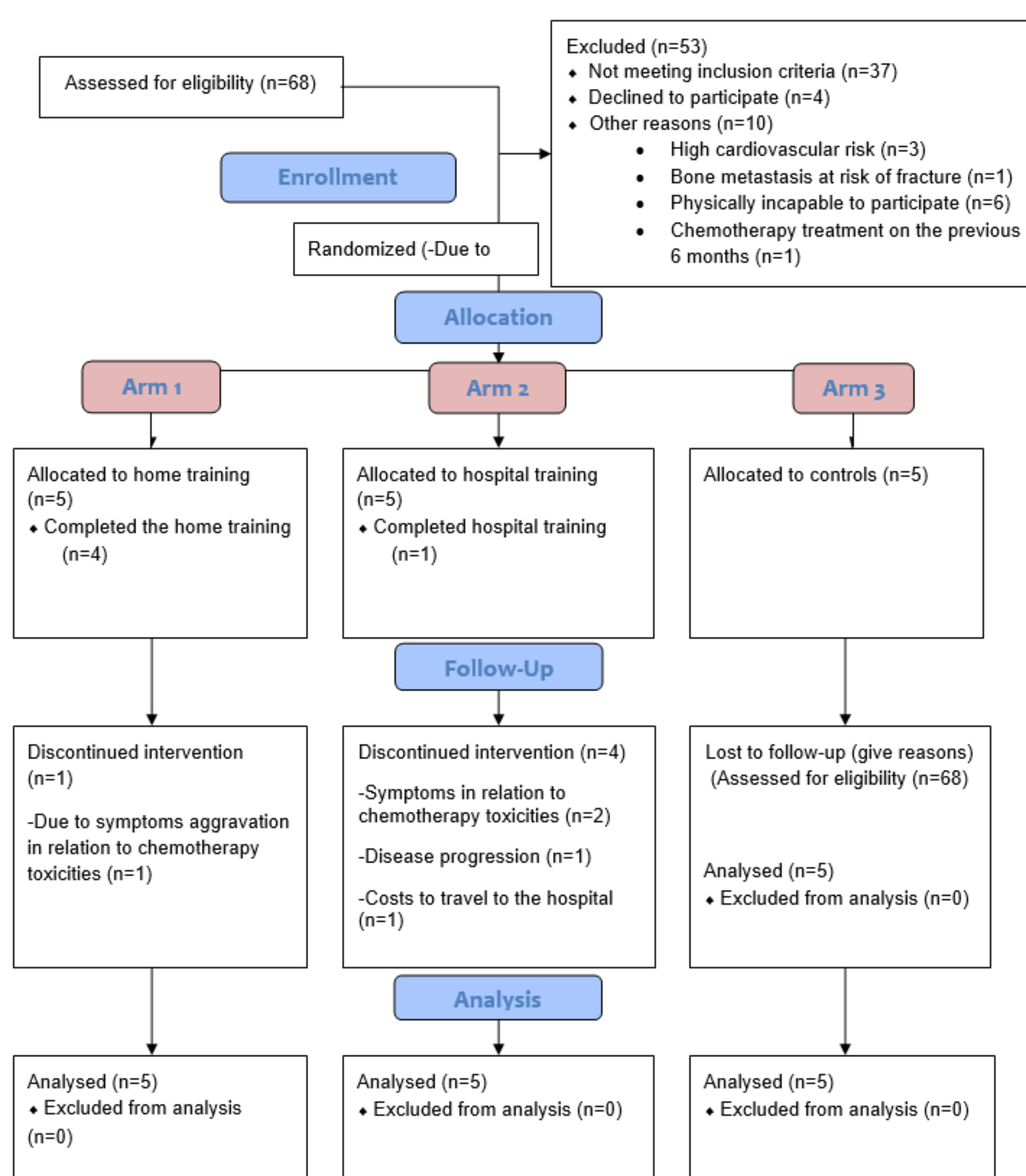
Background:

Resistance training is an effective way to increase muscle mass but little is known about its role to prevent sarcopenia in advanced cancer. Furthermore, the preferred setting for this training is not known, and considering home is frequently the place of care and death preferred by cancer patients, it is important to find out whether this would also be the best scenario for training as opposed to the most common one, hospitals.

Aim:

We aimed to test if resistance training at home and in hospital are both feasible (primary outcome) and safe, with a view to inform a phase III trial.

Results:



Recruitment rate:

- 22,1 % (15 / 68 screened)

Attrition rate: 53.3% (8/15 participants) - assessed at the end of the study period (3 months after enrolment for each patient)

n=15

- Median age 68 years old
- 53,3% males
- All metastatic disease

References:

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Methods:

We designed a phase II randomised controlled trial including adults (≥ 18) with incurable solid tumours. Participants were randomised into one of three arms: 1. Supervised resistance training at home; 2. Supervised training at the hospital; 3. Standard of care with information leaflet. Both training programs were conducted one-to-one with a physiotherapist, and were planned to last 12 weeks (aiming at 3 sessions/week). Feasibility defined by adherence (proportion of completed sessions) and acceptability (proportion of completed exercises within sessions). The primary outcome was compared between intervention groups using Fisher's test.

Table 1. Baseline characteristics of study participants

	Home	Hospital	Controls
N	5	5	5
Age	68 (58-70)	73(56-76)	68 (45-72)
Gender	4 (80%) males 1 (20%) female	2 (40%) males 3 (60%) female	2 (40%) males 3 (60%) female
Primary cancer	4 colon cancer 1 melanoma	2 colon cancer 2 lung cancer 1 pancreatic	2 colon cancer 1 breast cancer 1 carcinoma of the ampulla 1 GIST
Previous surgery	2	2	1
MUST score			
0	2	4	3
1	1	1	2
2	2	0	0
BMI (in Kg/m²)	212.3 (19.6-32.4)	24 (24-25.5)	28.3 (23.7-40.7)
Depression (HADS)	15 (12 – 17)	12 (10-18)	12 (5-19)

Continuous variables presented as median, maximum, minimum; binominal variables presented as number and proportion; 6MWT 6-minute walk test, BFI Brief fatigue inventory, BMI Body Mass Index, DXA Dual x-ray absorptometry, KPS Karnofsky performance status, MUST Malnutrition Universal Screening Tool, PS Performance Status, QoL Quality of life, STS Sit to stand transitions

- **Adherence rates** (to the total number of RT sessions proposed for the study): 49.0% at home vs. 8.8% on the hospital ($p < 0.001$)
- **Acceptability** (exercises completed within sessions): 93% (1650/1767) at home vs. 95% at hospital (398/418, $p=0.179$).
- **No** adverse events were registered.

Conclusion:

Resistance training is a safe intervention, more feasible at home than in hospital in advanced cancer. Ways to increase adherence to the home intervention could further improve its potential benefit.

When designing a phase III trial to test the impact of resistance training in clinical outcomes of adult patients with advanced cancer, this intervention seems to be more feasible if conducted in patient's homes.

