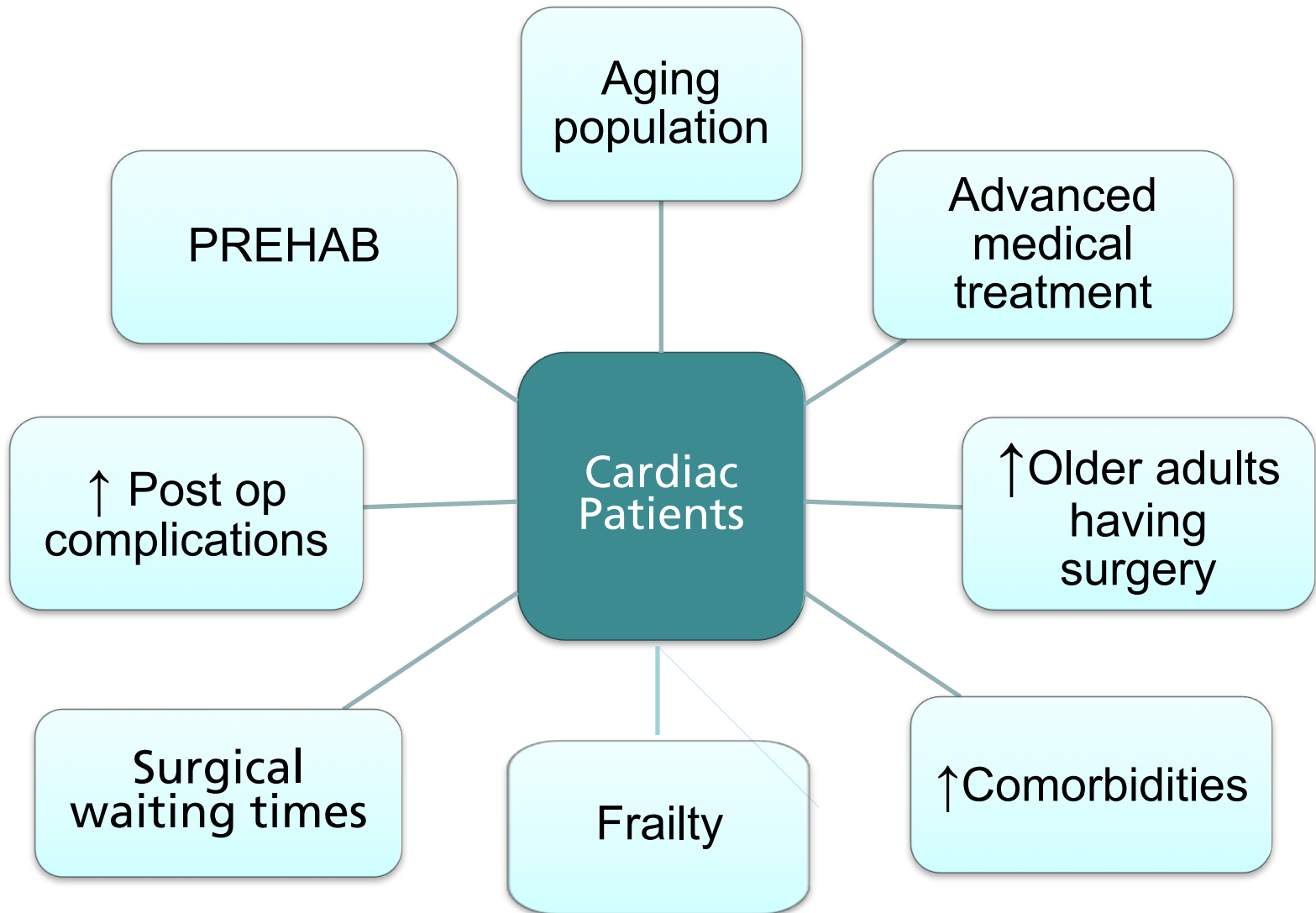


Home-based preoperative rehabilitation (prehab) to improve physical function and reduce hospital length of stay for frail patients undergoing coronary artery bypass graft and valve surgery.

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Background



Purpose

- Explore the practicality of a Pre-operative Rehabilitation (PREHAB) home-based exercise programme in cardiac patients awaiting surgery.
- Determine if PREHAB reduces frailty and influences hospital LOS.
- Determine if PREHAB intervention influences exercise capacity, physical activity behaviour, in-hospital complications and HRQoL.

Participants

Inclusion

- Undergoing elective CABG, valve surgery.
- Clinical Frailty Score (CFS) ≥ 4 (vulnerable) and < 7 (*severely frail*)
- An estimated ≥ 6 week surgical waiting list time

Exclusion

- Emergent surgery
- Clinical Instability
- Decompensated Heart failure not yet stabilised.
- Any acute process causing significant symptoms or abnormal vital signs.

Methods



Initial
Assessment



Demographics

Weight & BMI

Blood Pressure / Heart Rate / Rhythm

Medical History / Medication / Social History

Outcome Measures

Duke Activity Status Index (DASI)

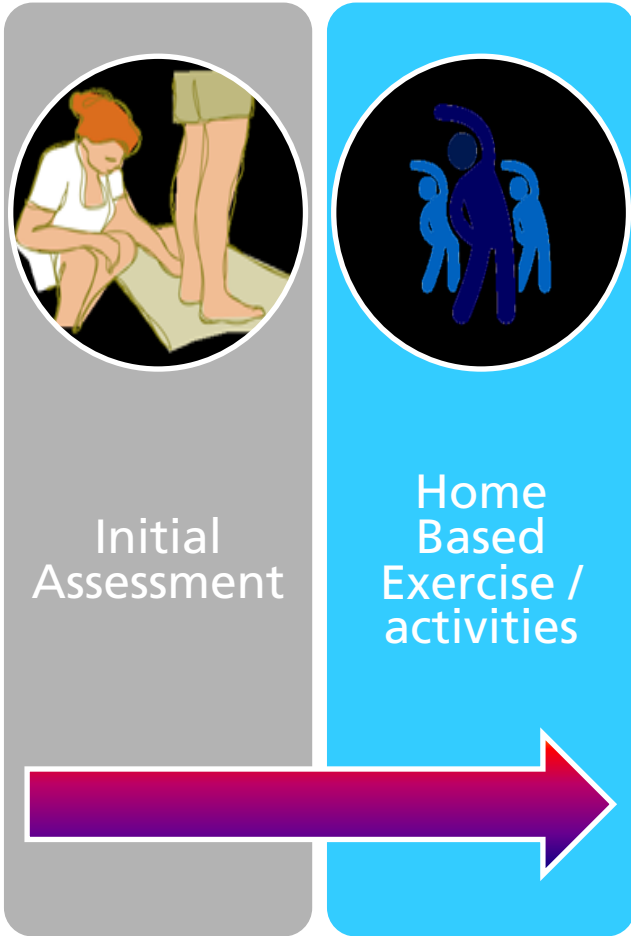
Short Physical Performance Battery (SPPB)

6 minute walk test (6MWT)

Hospital Anxiety and Depression Scale (HADS)

Clinical Frailty Score (CFS)

Methods



- Balance
- Strength
- Frequency
- Intensity
- Time



Patient Specific

Methods



Initial Assessment



Home Based Exercise / activities



Regular Telephone / email contact



Pre-Surgery assessment



Post surgery follow up.

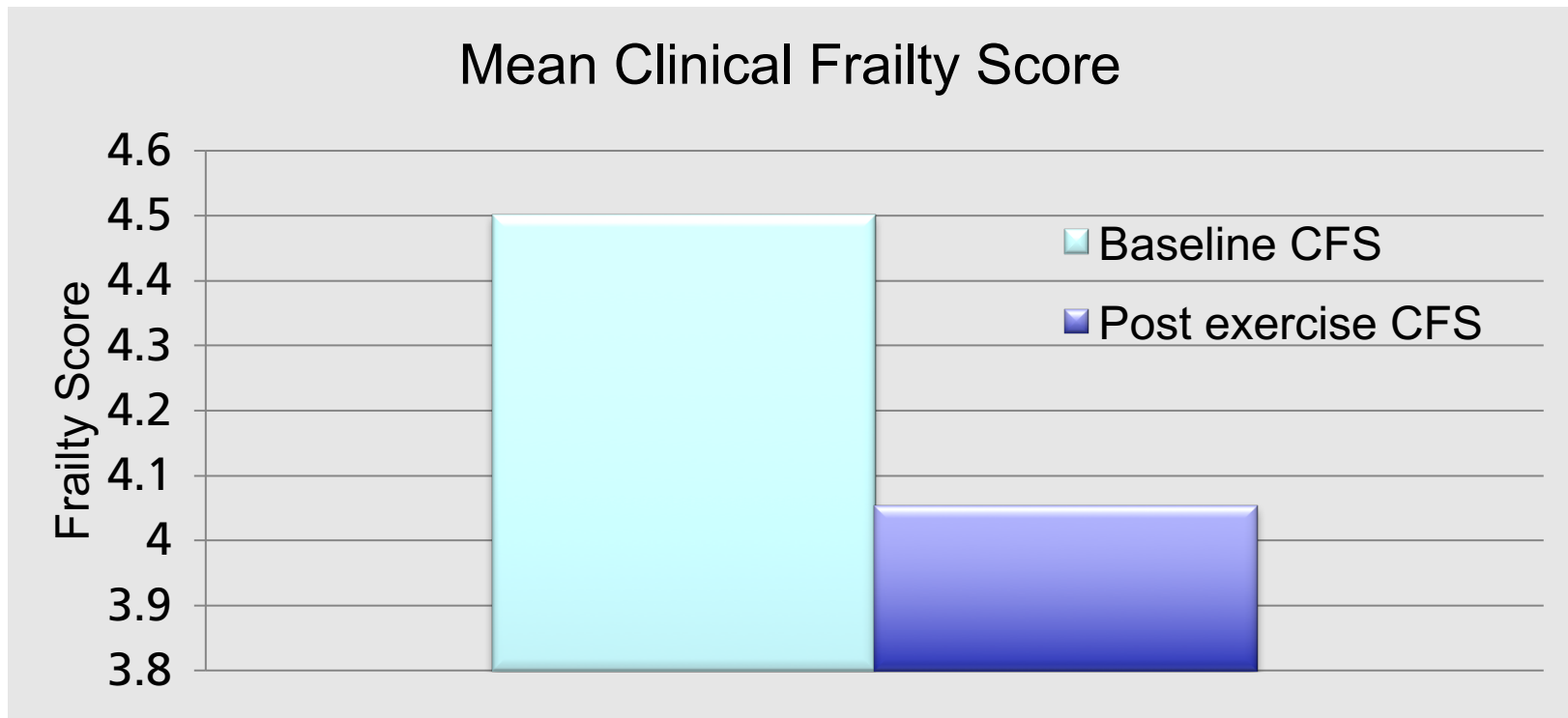


Results

- 22 patients between March & August 2016,
- 90% of patients completed their prescribed exercises on a weekly basis prior to surgery.
- No adverse events or cardiac symptoms were reported as a result of the home exercise intervention.

Results

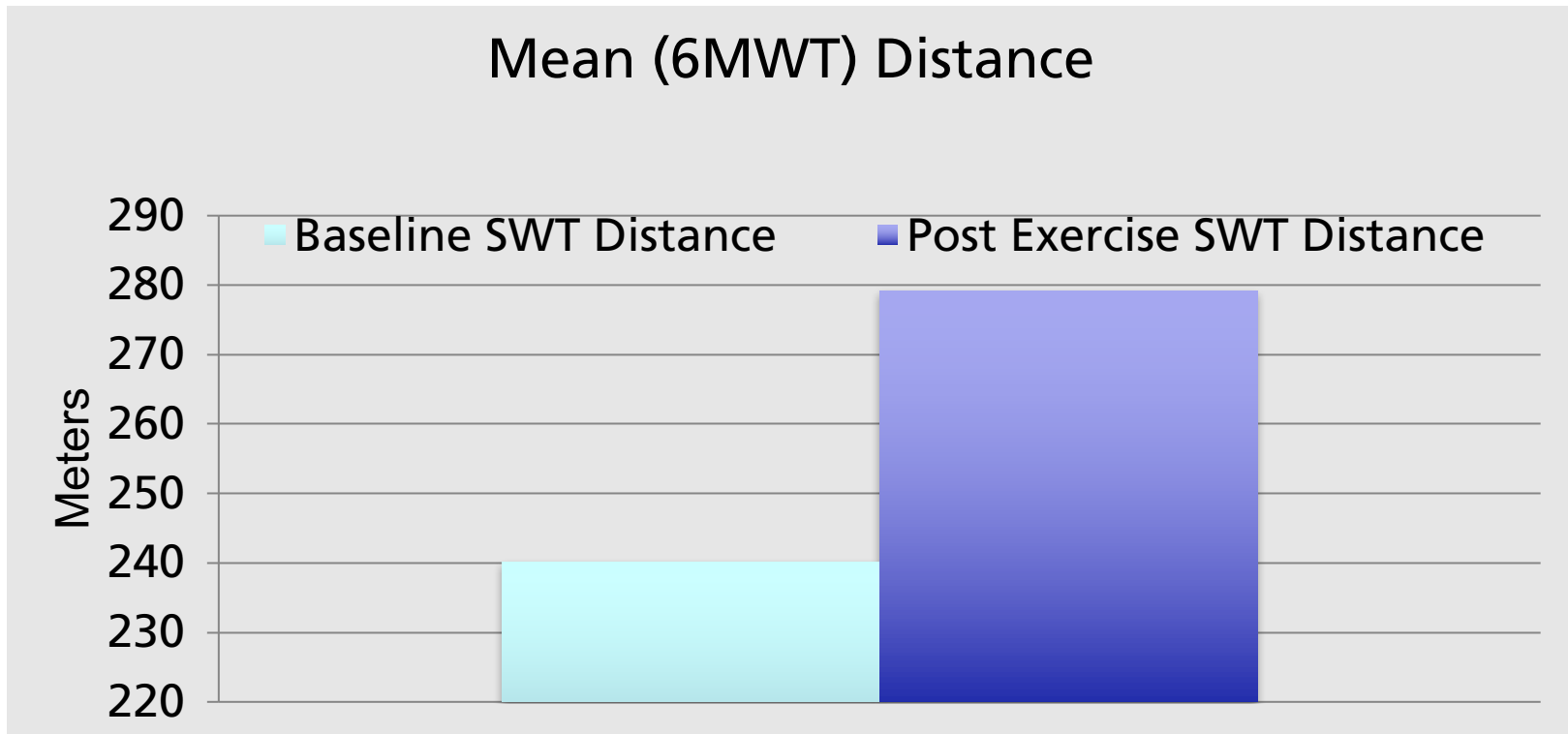
Pre and post exercise comparison showed a significant reduction in the mean Clinical Frailty Score



* Mean Difference and significance
0.53±0.51, P=0.0003

Results

Exercise intervention showed significant improvements in 6MWT distance



*Mean difference and significance
42.5+27.8m, P=0.0005

Results

- 2.7% Improvement in Anxiety scores
- 8.5% Improvement in Depression scores
- No Significant change in BMI or DASI
- SPPB total scores improved by 30%
- The increase in 6MWT distance was shown to be significantly associated with hospital LOS ($r=0.7$; $P=0.03$).

Conclusions

- Small exploratory study.
- Feasible for home based exercise.
- Positive indications for improvement of functional ability.
- May reduce hospital length of stay.
- A frailty score with greater sensitivity may demonstrate the influence frailty could have in reducing length of stay.
- A larger RCT is required to show potential benefits of PREHAB.

Implications

- Early identification of Frailty.
- Empowering patients to have confidence in self management.
- ↓ Hospital admissions / LOS
- ↑ Uptake of Cardiac Rehabilitation services.
- ↓ Rehabilitation duration.
- ↓ Cost to the healthcare provider.
- ↑ HRQOL.

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