

Exercise Therapy to Improve Quality of Life and Fatigue Post Autologous Bone Marrow Transplantation



Elizabeth Calleja¹, Alicia Cianflone², Glyndon Wakeman², Laura Kirsten², Louise Maher², Anita Shetty², John Taper²

1. Nepean Hospital, Nepean Blue Mountains Local Health District. Elizabeth.Calleja@health.nsw.gov.au
2. Nepean Cancer Care Centre, Nepean Hospital, Nepean Blue Mountains Local Health District

Introduction

- Autologous bone marrow transplantation (ABMT) patients experience high levels of fatigue, reduced quality of life (QOL) and reduced physical function due to intervention and confinement during transplantation¹
- Exercise can enhance QOL, reduce fatigue and improve physical fitness and function¹⁻³

Aims

- Assess the feasibility of an exercise rehabilitation program post ABMT
- Identify the impact on fatigue, quality of life and physical function.

Methods

Inclusion Criteria

- Medically stable ABMT patients
- >1month post transplantation

Intervention

- 8 week exercise program.

Resistance training (RT)

- 1x week RT in supervised group setting
- 2 x home based RT
 - Intensity: Rate of Perceived Exertion - Moderate(RPE 3/10)

Cardiovascular Training (CT)

- 4-7 days per week >10min/day,
 - Intensity: Rate of Perceived Exertion - Moderate(RPE 3/10)



Assessments

- Questionnaires – Fatigue Symptom Inventory (FSI); Quality of Life: FACT-BMT inventory
- Physical Function: Six minute walk test (6MWT), timed up and go (TUG), 30sec sit to stand (30sec STS), hand grip strength (HGS)
- Attendance rates (including reason for absenteeism)

Patient acceptability

- Survey responses collected at program completion
- Likes/dislikes, recommendation to other patients

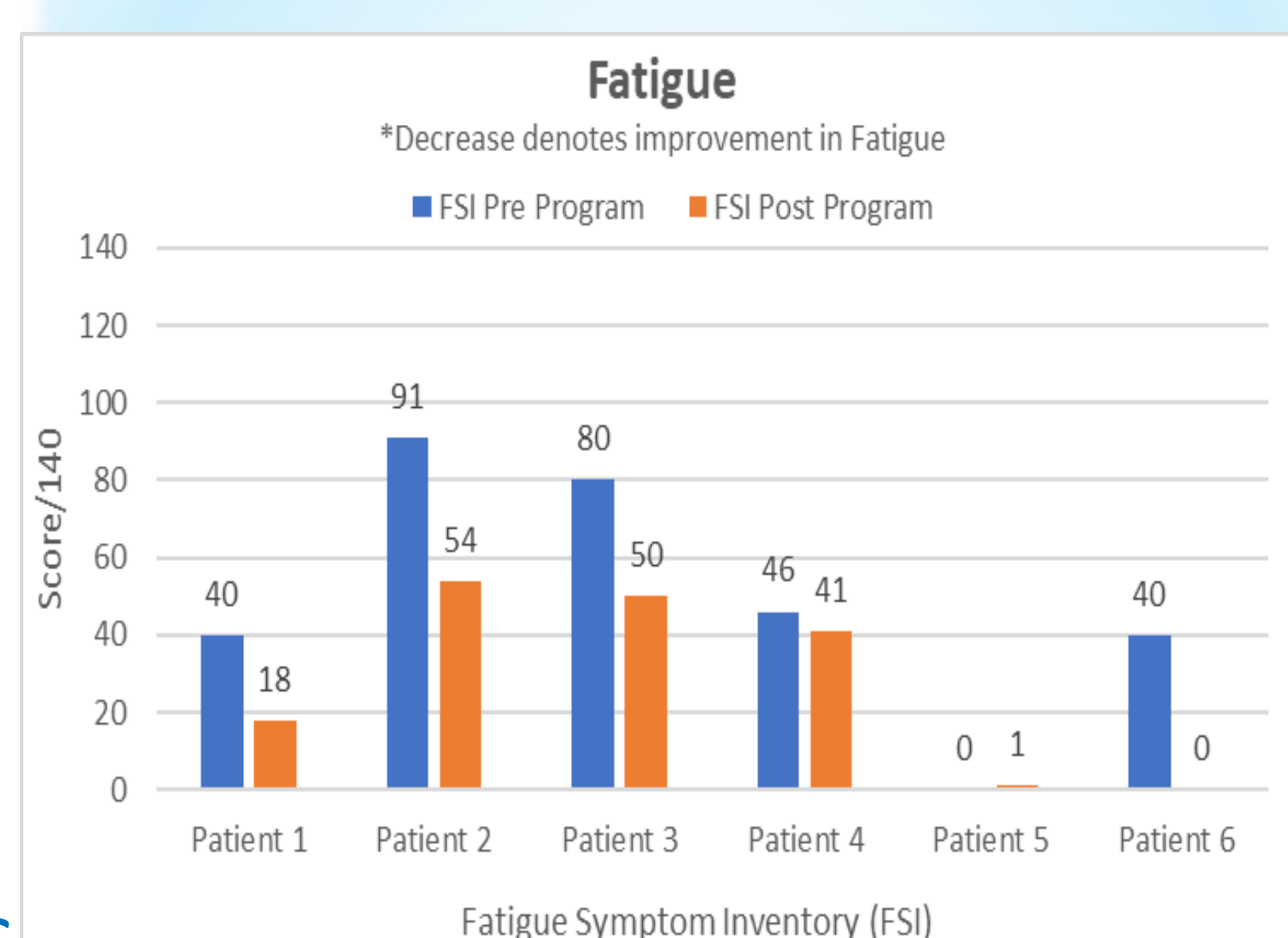
Results

Patient attendance

- 15 patients completed ABMT in trial period.
- 9 patients eligible
- 6 patients completed the program (50% female, 58years)
- 56% group session attendance
- 31% non-attendance: cold and flu symptoms

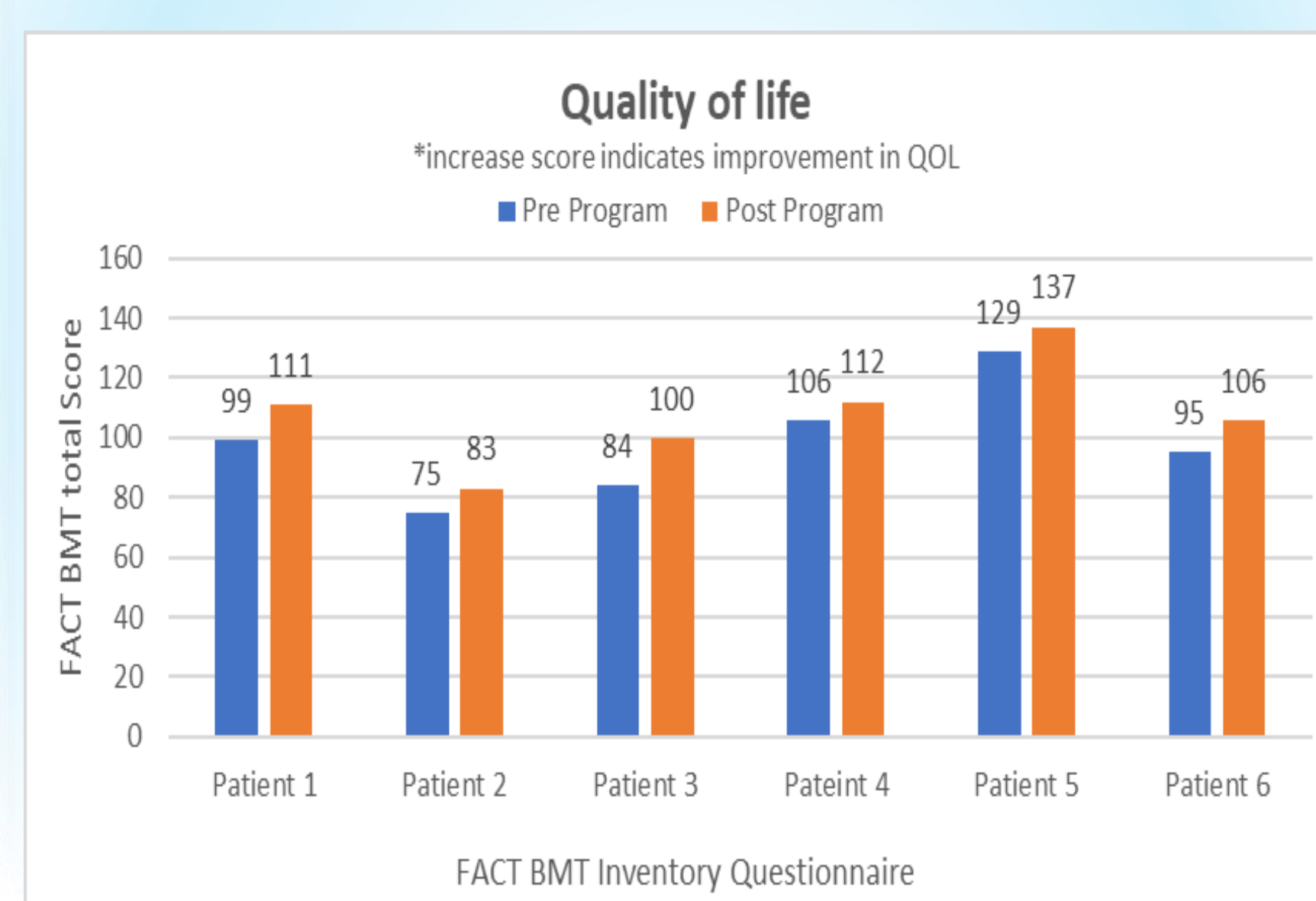
Fatigue

55% improvement



Quality of Life

9.7% improvement



Physical Function Improvements in

- 30sec STS: 21%
- TUG: 19%
- 6MWT: 16%
- HGS: 15% left, 6% right

Patient reported measures:

100% - recommend program to other patients

Conclusions

- Exercise rehabilitation post ABMT was accepted by patients
- Structured exercise had a positive impact for on levels of fatigue, QOL and physical function
- Greatest impact of exercise was on reduction in fatigue

References

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2. Baumann, FT, Kraut, L, Schule, K, Bloch, W and Fauser AA. (2010). A controlled Randomised study examining effects of exercise therapy on patients undergoing haematopoietic stem cell transplantation. *Bone Marrow Transplantation.* 45: 355–362
3. Persoon, S, Kersten, MJ, Buffart LM, Vanderslagmolen G, Baars JW, Manenschijn A, Nollet F, and Chinapaw MJM. (2017) Health related physical fitness in patients with multiple myeloma or lymphoma recently treated with autologous stem cell transplantation. *J Sci Med Sport.* 20:116-122

Future directions

- Further research and implementation on an exercise program prior to, during and after ABMT to improve/maintain mood and physical function at Nepean Hospital
- Group support for patients post ABMT

