The Effects of a Community Based, Multimodal Exercise Program on Physical Function and Quality of Life in Cancer Survivors

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INTRODUCTION

• Cancer and its treatment can have acute and late effects on physical function and quality of life in survivors, which can be exacerbated by decreased activity levels.
• Decreased activity level post cancer diagnosis is linked to obesity, increased risk of comorbidities and mortality.
• The CSRA LIVESTRONG at the YMCA is a community based, multimodal exercise program which empowers survivors to enhance well being. The purpose of this pilot study was to examine the effects of a community based, multimodal exercise program on physical function and quality of life in cancer survivors.

METHODS

Single-arm pre-post pilot study
Subjects: Cancer survivors: n=59 (54F), (+/- 12yrs)
Outcome measures performed Week 1 and Week 12

RESULTS

Analyses of physical function showed significant statistical improvement in all outcome measures post-intervention, indicating improved aerobic capacity, strength and balance.

Analyses of Quality of Life showed significant statistical improvement in the physical, emotional and functional domains of the FACT-G. The social domain did not show statistically significant improvement.

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The sample for this study presented with statistically significant gains in aerobic capacity, strength and balance reduce the risk of fall-related morbidity and mortality (Tinetti et al., 1995).

Clinimetric data showed that all physical function outcome measures were meaningfully significant to both practitioners and cancer survivors. Improvements in TUG and 6MWT are linked to increased functional mobility (ATS Statement, 2002; Bischoff et al, 2003) and community activity. Increased muscle strength improves performance in functional tasks (Hanson et al, 2009) and is a countermeasure to cancer-related muscle dysfunction (Christensen et al., 2014).

Previous studies have shown that increased levels of physical activity post cancer diagnosis results in a host of benefits, including secondary prevention of cancer recurrence, decreased risk of lifestyle disease, morbidity and mortality.

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SUMMARY & CONCLUSIONS

The sample for this study presented with statistically significant gains in aerobic capacity, strength and balance reduce the risk of fall-related morbidity and mortality (Tinetti et al., 1995).

Previous studies have shown that increased levels of physical activity post cancer diagnosis results in a host of benefits, including secondary prevention of cancer recurrence, decreased risk of lifestyle disease, morbidity and mortality.

These results suggest that participation in a community based, multimodal exercise program is an effective means of involving cancer survivors in physical activity while benefitting their overall quality of life and potentially preventing sequelae of inactivity and adverse treatment effects.

REFERENCES:

This poster is adapted from 1) "Chong, R., Gilson, B., Loi, A., Mellinger, A., Horton, S., Loi, K. Stance postural control during eyes closed versus open in the dark: are they the same?" located at

90 min 2 x Week

Aerobic
• Treadmill
70-95% HR reserve
10-30 min
• Cycle Ergometer
• Elliptical Trainer
• NuStep Recumbent Trainer

Leg Press (kg)
22.5
17.4 - 27.5
0.69
9.8
7.6

Chest Press (kg)
7.2
5.0 - 9.5
0.54
3.3
5.4

FR (cm)
4.7
2.6 - 6.9
0.65
4.8
2.4

TUG (sec)
1.74
1.25 - 2.2
0.74
1.2
0.95

6MWT (m)
65.6
49.3 - 82.0
0.72
63.1
55.4

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Activity levels.

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Clinimetric data showed that all physical function outcome measures were meaningfully significant to both practitioners and cancer survivors. Improvements in TUG and 6MWT are linked to increased functional mobility (ATS Statement, 2002; Bischoff et al, 2003) and community activity. Increased muscle strength improves performance in functional tasks (Hanson et al, 2009) and is a countermeasure to cancer-related muscle dysfunction (Christensen et al., 2014). Improvements in balance reduce the risk of fall-related morbidity and mortality (Tinetti et al., 1995).

Clinimetric data did not show significance for any of the FACT-G domains; however, all domains showed moderate effect sizes. This result was likely due to the heterogeneity of the sample.