

RESULTS: Equestrian athletes had a lower total fat percentage (%fat) than controls (30.7±0.9 vs. 33.1±0.1%, $p=0.03$). There was a trend for the equestrian athletes to have lower total FM (18.4±0.8 vs. 20.0±0.9 kg, $p=0.06$) than controls. There were no significant differences in total LM (41.0±0.9 vs. 39.9±0.8 kg, $p=0.33$), total BMD (1.15±0.02 vs. 1.15±0.02 g/cm³, $p=0.92$) and VAT (0.13±0.03 vs. 0.16±0.03 kg, $p=0.25$) between equestrian athletes and controls. However, equestrian athletes, when compared to the controls, had significantly lower leg %fat (33.0±0.8 vs. 37.3±0.9%, $p<0.001$), leg FM (7.0±0.3 vs. 8.0±0.4 kg, $p=0.01$) and higher leg LM (14.1±0.4 vs. 13.2±0.3 kg, $p=0.04$). The greater leg lean mass in equestrian riders resulted in a smaller upper to lower body lean mass ratio (1.706 ± 0.019 vs. 1.812 ± 0.030, $p=0.005$) compared to controls. There was no difference in leg BMD between equestrian athletes and controls (1.19±0.02 vs. 1.21±0.02 g/cm³, $p=0.46$).

CONCLUSIONS: The lower total percent body fat in equestrian athletes seems to be influenced by differences in leg composition with equestrian athletes having significantly more lean mass and less fat mass. These results are consistent with the role the legs play in horseback riding and demonstrate an effect of either training or horseback riding on body composition compared to matched controls.

D-37 Thematic Poster - Exercise Training in Cancer Patients

Thursday, May 31, 2018, 3:15 PM - 5:15 PM
Room: CC-Lower level L100E

1650 **Chair:** Karen M. Mustian. *University of Rochester/James P. Wilmot Cancer Center, Rochester, NY.*
(No relevant relationships reported)

1651 Board #1 May 31 3:15 PM - 5:15 PM
How Does a Supervised Exercise Program Improve Quality Of Life In Patients With Cancer?
Maike G. Sweegers. *VU University Medical Center, Amsterdam, Netherlands.*
(No relevant relationships reported)

PURPOSE: Previous systematic reviews and meta-analyses demonstrated beneficial effects of exercise during or following cancer treatment on quality of life (QoL). Aiming to understand how exercise contributes to a patient's QoL, we examined patients' perspectives via a process called concept mapping. This unique method provides structure and objectivity to rich qualitative data.

METHODS: Patients with cancer participating in an exercise program were invited to enrol. Eleven meetings with 3-10 patients were organized in which patients generated ideas in response to the statement: 'How has participating in a supervised exercise program contributed positively to your QoL'. Next, patients individually clustered (based on similarity) and rated (based on importance) the ideas online. The online assessments were combined and one concept map was created, visualizing clusters of ideas of how patients' perceive that participating in a supervised exercise program improved their QoL. The research team labelled the clusters of ideas, and physiotherapists reflected on the clusters during semi-structured interviews.

RESULTS: Sixty patients attended the meetings of whom one patient was not able to generate an idea in response to the statement. Forty-four patients completed the online clustering and rating of ideas. The resulting concept map yielded 6 clusters: *personalized care, coaching by a physiotherapist, social environment, self-concept, coping and physical fitness and health. Personalized care* was rated as most important. Overall, physiotherapists recognized these clusters in practice.

CONCLUSION: Patients with cancer reported that participating in a supervised exercise program improved their physical fitness and influenced social, mental and cognitive factors, resulting in improvements in QoL. These results can be used to increase the awareness of the importance of supervised exercise programs for the QoL of patients with cancer.

1652 Board #2 May 31 3:15 PM - 5:15 PM
Exercise and The Cancer Patient: Function Improves Independent of Cardiovascular and Anthropometric Changes
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(No relevant relationships reported)

Each year, approximately 1.6 million Americans are diagnosed with cancer. The consequences of cancer and its associated treatment include elevations in cardiovascular risk, deteriorating body composition, and diminishing physical function. Exercise is an effective countermeasure; however, limitations in adherence may compromise the magnitude of improvement experienced.

PURPOSE: To evaluate cardiovascular, anthropometric, and functional adaptations to an exercise program in cancer survivors.

METHODS: We conducted a 10-week exercise intervention on 157 cancer survivors; 58 were retained through follow-up. At baseline, we recorded demographic, anthropometric, cardiovascular, and functional data. Anthropometric measurements were weight, body mass index (BMI), and body fat percent (BF%). Cardiovascular measurements were blood pressure and heart rate. Functional tests were VO2 max, six-minute walk, timed up-and-go, chair stand, sit-to-stand, arm curl, grip strength, Universal Machine (UM) push and pull, epic lift, sit-and-reach, functional reach, and back scratch. Paired-samples t tests measured changes from baseline to follow-up.

RESULTS: Anthropometric variables did not change: body weight ($p=0.585$), BMI ($p=0.477$), and BF% ($p=0.367$). Cardiovascular variables did not change: systolic blood pressure ($p=0.560$), diastolic pressure ($p=0.292$), and heart rate ($p=1.000$). Improvement was detected in 11 of 13 functional tests: VO2 max ($p=0.005$), six-minute walk ($p<0.001$), timed up-and-go ($p<0.001$), chair stand ($p<0.001$), sit-to-stand ($p=0.005$), arm curl ($p<0.001$), grip strength ($p<0.001$), UM push ($p<0.001$), UM pull ($p<0.001$), epic lift ($p=0.005$), and functional reach ($p=0.001$). Mean values improved in sit-and-reach ($p=0.321$) and back-scratch ($p=0.099$), but pre-post comparisons were not significant.

CONCLUSION: Exercise had no effect on anthropometric or cardiovascular profiles, but physical functioning improved in nearly every domain. In this population, maintenance of functional capacity can help preserve the ability to perform tasks of daily living, and it associates with survival. Although we found exercise to improve strength, aerobic capacity, and flexibility, the high rate of attrition is a potential limitation; further research is necessary to confirm our findings.

1653 Board #3 May 31 3:15 PM - 5:15 PM
Piloting the Effect of Aerobic Exercise during Chemotherapy Infusion in Patients with Cancer
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(No relevant relationships reported)

Exercise in cancer patients is safe and can improve a range of outcomes including cancer-related fatigue, physical functioning and quality of life. Preclinical trials suggest an acute exercise bout during chemotherapy infusion may improve the treatment efficiency. It would also present an additional opportunity for supervised exercise. However, there are currently no published human trials of such an intervention.

PURPOSE: To determine the safety and feasibility of delivering an aerobic exercise intervention to cancer patients during chemotherapy infusion.

METHODS: A randomised crossover trial has commenced with eligible patients receiving either usual care or performing 20 minutes of low intensity cycling during infusion. Data collection includes patient uptake, physiological exercise response, perceived exertion, patient experience and a daily symptom diary for 1 week subsequent.

RESULTS: Exercise has been safely delivered with neither adverse events nor interference to usual care reported for all subjects (N=3, Female, 52 ± 8 yrs). 60% of patients approached agreed to participate, and all reported that the exercise was no less comfortable, no more difficult, and less boring than usual care. Heart rate rose to the target 30%-40%HRR within 5-8