

**RESULTS:** After nonlinear feature augmentation was conducted, separate linear regression models were used for male and female patients to calculate Pearson's correlation and regression coefficients. Cross-classification of actual and estimated CRF was conducted using the lowest 20th percentile as the low-fit category. Correlation coefficients were 0.68 (MD 1.33) and 0.63 (MD 1.23) for men and women respectively. The models explained 46% (SEE 1.69) and 40% (SEE 1.54) variance in CRF for men and women respectively. Correct category classification was found in 84% of men and 80% of women.

**CONCLUSION:** The regression models developed in the present study provided useful estimation and classification of CRF in a large population of men and women. The models may provide a valid method for conducting investigations using CRF data derived from EHRs. Supported by JSPS KAKENHI Grant 19K19437

---

1761 Board #355 May 28 9:30 AM - 11:00 AM

### Cardiovascular Responses To Exercise Vary Between Cancer And Type 2 Diabetes

Alex F. Roque<sup>1</sup>, Courtney D. Jensen<sup>1</sup>, Paul D. Vosti<sup>2</sup>, J. Mark VanNess<sup>1</sup>, Cynthia Villalobos<sup>1</sup>. <sup>1</sup>University of the Pacific, Stockton, CA. <sup>2</sup>St. Joseph's Medical Center, Stockton, CA.

Email: alexroquecuts@gmail.com

(No relationships reported)

Cancer and diabetes are among the most common and fatal diseases in the United States. Following diagnosis, approximately 25% of patients develop additional chronic conditions with hypertension being the most prevalent. Exercise can mitigate this risk; however, its effect is commonly tested in isolated clinical populations. There are fewer comparative analyses.

**PURPOSE:** To compare cardiovascular responses to structured exercise among patients with cancer and type 2 diabetes.

**METHODS:** We enrolled patients who had a diagnosis of cancer or type 2 diabetes in an exercise program lasting 10 weeks. Before and after the intervention, we assessed resting heart rate (RHR), systolic blood pressure (SBP), diastolic blood pressure (DBP), and mean arterial pressure (MAP). Independent-samples t-tests compared the characteristics of each sample at baseline. Mixed model ANOVA with repeated measures compared cardiovascular changes between diagnostic groups. Linear regression tested the effect of diagnosis on change values holding confounders constant.

**RESULTS:** Among subjects who completed the program, 58 had a diagnosis of cancer and 39 had a diagnosis of type 2 diabetes. At baseline, cancer survivors had lower SBP ( $p=0.006$ ); groups did not differ in DBP, MAP, or RHR ( $p>0.250$ ). Overall, subjects experienced a reduction in DBP ( $p=0.007$ ) and exhibited a trend for improvement in MAP ( $p=0.052$ ), but not RHR or SBP ( $p>0.100$ ). There were interaction effects with diagnosis in DBP ( $p=0.044$ ) and MAP ( $p=0.013$ ), and there was a trend with SBP ( $p=0.064$ ). Holding confounding variables constant, patients with diabetes improved more in DBP ( $\beta=-5.046$ ,  $p=0.003$ ) and MAP ( $\beta=-5.334$ ,  $p=0.003$ ) than cancer survivors.

**CONCLUSIONS:** Chronic disease populations differ in their responses to exercise. In our sample, patients with type 2 diabetes experienced larger reductions in blood pressure than cancer survivors, demonstrating the importance of individualized exercise prescription in diverse clinical samples.

---

1762 Board #356 May 28 9:30 AM - 11:00 AM

### Knowledge, Attitudes And Perceptions Of Type 2 Diabetes Mellitus And The Role Of Exercise Interventions

Takshita Sookan, Talia Pillay, Aadilah Vaizie, Shreyen Moodley, Keshena Naidoo. University of KwaZulu Natal, Durban, South Africa. (Sponsor: Robert Hickner, FACSMM)

Email: taks2@hotmail.com

(No relationships reported)

Diabetes is a growing epidemic, with Type 2 Diabetes Mellitus (T2DM) being the most common type globally. There are approximately 15.5 million adults diagnosed with diabetes in Africa and over two thirds aren't fully educated about the condition. Regular exercise has shown to have a positive effect on T2DM but is underutilized in developing countries.

**PURPOSE:** To identify the knowledge, attitudes and perceptions of T2DM and exercise interventions amongst patients attending a public hospital in KwaZulu Natal, South Africa.

**METHODS:** A quantitative, cross-sectional, purposive study design was used. Participants with T2DM who were receiving treatment from the Wentworth public hospital in KwaZulu Natal, South Africa were recruited. A piloted questionnaire was used to identify the level of knowledge, attitudes and perceptions of patients in relation to T2DM and the role of exercise as an intervention. Data was analysed using descriptive and inferential statistics. Significance was set at  $p \leq 0.05$ .

**RESULTS:** A total of 150 participants (male=63 and females=87) made up the sample. Majority of participants were between the ages of 50-59 (30%) and of Indian race (44.7%).

Furthermore, 76.7% of the cohort reported that they were educated about T2DM as a medical condition. Results further showed that 98% of participants had a good knowledge of T2DM, 90.7% of the cohort had good knowledge of T2DM and exercise. There was a significant agreement that: T2DM management should include both exercise and a healthy diet, ( $M=4.38$ ),  $p<0.0005$ ; "I would use exercises prescribed by a professional to manage T2DM", ( $M=4.27$ ),  $p<0.0005$ ; Early detection of excessive weight and physical inactivity can delay or prevent T2DM ( $M=4.11$ ),  $p<0.0005$ .

**CONCLUSION:** Participants in this cohort demonstrated good knowledge, attitudes and perceptions of T2DM and the role of exercise in the management of the condition. The study provides evidence of the need for exercise interventions in a T2DM cohort in developing countries.

---

1763 Board #357 May 28 9:30 AM - 11:00 AM

### Differences Between Included And Excluded Participants In An Exercise Study Following Resuscitation From Cardiac Arrest

Katharyn Louise Flickinger<sup>1</sup>, Melissa J. Repine<sup>1</sup>, Kara Kenton<sup>1</sup>, Jon C. Rittenberger<sup>2</sup>. <sup>1</sup>University of Pittsburgh, Pittsburgh, PA. <sup>2</sup>Guthrie Medical Group, Sayre, NY.

Email: holquistkl@upmc.edu

(No relationships reported)

**INTRODUCTION:** Survivors of cardiac arrest (CA) frequently experience both physical and cognitive impairment. Few receive outpatient rehabilitation services. We are conducting a randomized trial to determine if therapeutic exercise (TE) improves health related quality of life, physical, and cognitive function after cardiac arrest. We assessed characteristics of included/non-included patients during the first 32 months of enrollment to determine if these populations differ from one another.

**HYPOTHESIS:** Those who participate in the TE study have less severe initial illness severity, better neurologic outcomes, and more favorable baseline demographic characteristics than non-participants.