Background

- Pancreatic cancer treatment is associated with significant decline in functional ability and QOL. Increasing physical activity (PA) and may offset these declines.
- As few as 24% of pancreatic cancer survivors meet both aerobic and strengthening recommendations established by the ACSM. As many as 39% of pancreatic cancer survivors report meeting neither strength nor aerobic exercise recommendations.
- High self-efficacy has been positively correlated with exercise behaviors in older adults, while low levels of self-efficacy were associated with low levels of PA in lung and gastrointestinal cancer survivors.
- This study investigates changes in self-reported exercise and exercise self-efficacy associated with a home-based exercise program for pancreatic cancer survivors undergoing preoperative chemotherapy.

Methods

- Participants were randomized to receive general recommendation to exercise (Arm A) vs. a formal, home-based exercise program (Arm B) including training, equipment, and follow-up.
- Data was collected using baseline and pre-operative surveys. Inclusion in this analysis was contingent upon survey completion at baseline and pre-op.
- Self-reported aerobic activity was measured on a modified Godin scale.
- Exercise and barrier self-efficacy were measured using validated surveys.
- Paired t-tests identified significant differences between baseline and pre-op survey scores.

Results

- Paired t-test revealed significant mean difference in Arm B strength training frequency from baseline (M=.41, SD=1.087) to pre-op (M=2.17, SD=1.854); t(45) = -6.448, p <.001. There were no significant mean differences in Godin score, ESE, or BSE among Arm B participants, and no significant mean difference overall in Arm A participants.
- One-way ANOVA found significant effects of study arm on strength training frequency (F(1,80)=11.199, p<.001, η²=.130). A formal, home-based exercise program increased strength training frequency when compared to usual care.
- Among all participants, ESE was a strong predictor of aerobic exercise, exercise self-efficacy and barrier self-efficacy scores, differences between study arm and aerobic, strength, ESE, and BSE scores.

Conclusions/Implications

- This study aims to determine whether home-based aerobic and resistance exercise programs could increase physical activity among individuals undergoing pancreatic cancer treatment. Moreover, we determined self-efficacy was a highly significant predictor of self-reported exercise.
- While no significant associations were detected between study arm and aerobic exercise, exercise self-efficacy, or barrier self-efficacy scores, differences in group means were generally in the hypothesized directions.
- This study was limited by relatively small (n=92) sample size. Larger sample size may reveal statistically significant improvement in aerobic activity levels, exercise self-efficacy, and barrier self-efficacy.
- Identifying key intermediates for behavioral change in these unique populations will help future exercise interventions utilize targeted behavioral modification strategies to address the specific needs of this group.

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