

SIOG 2017 - Abstract Submission

Track 3: Supportive & palliative care

Psycho-oncology

O30

EVALUATING THE EFFECTS OF EXERCISE ON ANXIETY AND DEPRESSION IN 198 OLDER PATIENTS WITH CANCER RECEIVING ACTIVE CHEMOTHERAPY: DATA FROM A RANDOMIZED CONTROLLED TRIAL IN THE UNIVERSITY OF ROCHESTER CANCER CENTER NCI COMMUNITY ONCOLOGY RESEARCH PROGRAM

K. P. M. Loh^{1,1*}, S. G. Mohile¹, B. E. Canin¹, J. Bautista¹, P.-J. Lin¹, M. Flannery¹, L. J. Peppone¹, S. Kasbari², B. T. Esparaz³, J. P. Kuebler⁴, K. Mustian¹

¹University of Rochester, Rochester, ²Southeast Clinical Oncology Research Consortium (SCOR), ³Heartland NCORP, ⁴Columbus NCORP, -, United States

Please indicate how you prefer to present your work if it is accepted: Oral or Poster Presentation

I submit my abstract to be considered for the following award: SIOG Young Investigator Award

Introduction: Anxiety and depression are common symptoms experienced by older patients with cancer. In prior studies, both symptoms have been associated with elevated inflammatory cytokines. Pharmacologic interventions for these symptoms may or can lead to significant side effects such as drowsiness, confusion and falls in older adults. Exercise has been shown to improve anxiety and depression as well as to decrease inflammation in the general cancer population. However, exercise studies in older adults receiving treatment for cancer are scarce and research that evaluates the mechanisms by which exercise may decrease anxiety or depression in older patients with cancer is even more limited.

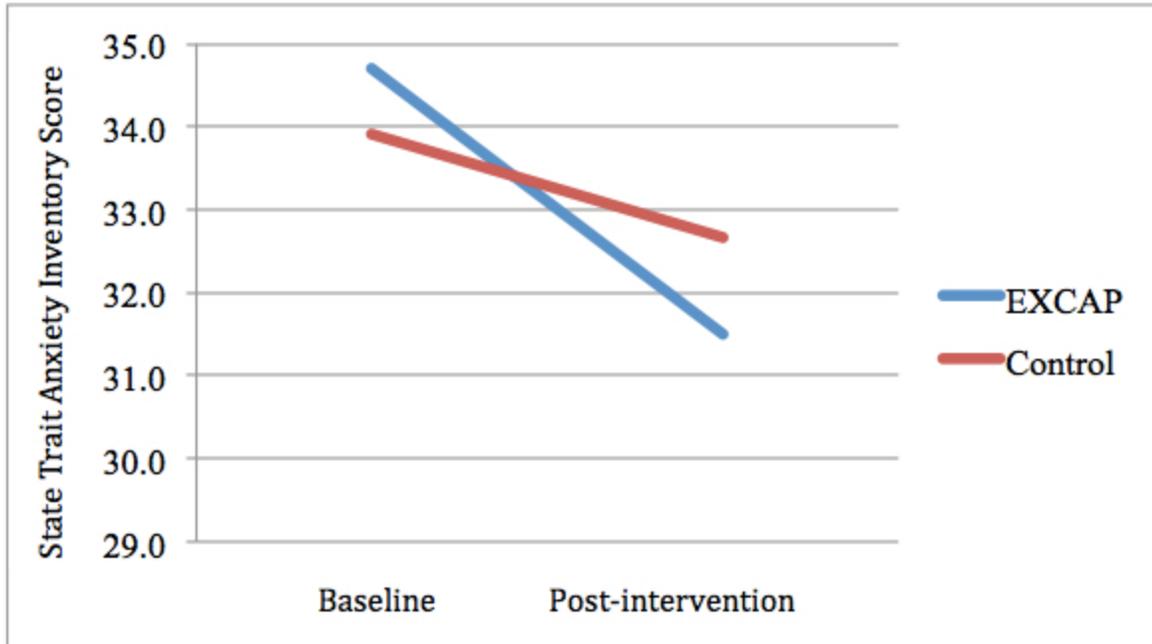
Objectives: We conducted a secondary analysis of a nationwide randomized controlled trial to assess the effects of exercise on anxiety and depression in older patients with cancer receiving active chemotherapy. We also investigated mechanisms that could explain the anxiolytic and antidepressive effects of exercise.

Methods: The study was conducted within the University of Rochester Cancer Center NCI Community Oncology Research Program (URCC NCORP). A total of 198 older patients with cancer (aged ≥ 60 years) were enrolled and included in our analysis. Patients in the study were randomized to receive chemotherapy alone (Control) or to a 6-week exercise program (Exercise for Cancer Patients; EXCAP). EXCAP is a home-based progressive aerobic and anaerobic exercise program in which patients were instructed to walk as many steps everyday as they can and the number of steps was recorded using a pedometer (aerobic). In addition, they were educated and provided with the instructions to perform therapeutic band training (anaerobic). Analysis of covariance (ANCOVA) was used to evaluate the effects of EXCAP on anxiety and depression, which were assessed using the State Trait Anxiety Inventory and Profile of Mood States-Depression subscale at baseline prior to initiation of chemotherapy and 6 weeks after. We adjusted for gender, chemotherapy cycle duration (every 2-week or 3-week) and baseline values for anxiety or depression. We also assessed the associations of changes in inflammatory cytokines (IL-1 β , IL-6, IL-8, IL-10, IFN-g and TNFr1) with changes in anxiety and depression using Pearson correlation.

Results: The median age of our population was 66.7 ± 2.3 years; 92% were female and 77% had breast cancer. Seventy-two percent received every 3-week and 28% received every 2-week chemotherapy regimens. Compared to the control group, the EXCAP group had significantly decreased level of anxiety (mean change in score; EXCAP: -3.29, Control: -1.20, $p=0.04$) (Figure 1). There was also a non-significant decrease in depression (mean change in score; EXCAP: -1.83, Control: 0.03, $p=0.08$). In the EXCAP group, positive correlation was noted between TNFr1 and changes in anxiety ($r=0.37$, $p=0.009$). No associations were noted in other inflammatory cytokines and changes in anxiety. Similarly, changes in inflammatory cytokines were not associated with changes in depression.

Image:

Figure 1 State Trait Anxiety Inventory scores in older patients receiving chemotherapy with or without EXCAP at baseline and 6 weeks post-intervention. Smaller values indicate lower anxiety levels.



Conclusion: Our analysis has shown that exercise decreased anxiety and potentially depression in older patients with cancer receiving active chemotherapy. The effect of exercise on anxiety may be mediated by reducing inflammation, specifically through TNFr1.

Disclosure of Interest: None Declared

Keywords: Anxiety, Depression, Exercise