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Low to moderate intensity exercise decreases cancer-related fatigue in cancer patients

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Low to moderate intensity exercise decreases cancer-related fatigue in cancer patients

Sierra Tien, FHNS & Wendy Zimmerman, FHNS
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Abstract
Objective: To determine if low to moderate intensity exercise decreases cancer-related fatigue (CRF)

Design: Quantitative, Quasi-experimental, Descriptive

Setting: Drelling Schmidt Cancer Institute in Western Kansas

Participants: Cancer Patients

Methods: Cancer patients will participate in any low to moderate exercise of their choosing to help decrease CRF. The patients will download the CANXercise app to their smartphone. Cancer patients will fill out a questionnaire prior to exercise and two hours after exercise to monitor the effects of low-to-moderate exercise on CRF.

Results/Conclusions: Pending results and data collection.

Introduction
Cancer-related fatigue (CRF) is a problem for 1 in 3 cancer patients receiving treatment (Escalante, 2019). CRF is more intense than fatigue (American Cancer Society, 2018). Cancer patients combat CRF with symptoms of nausea, low energy levels, weakness, pain, depression and stress due to treatment. In response, tailored interventions are needed. One intervention is low to moderate exercise including at least 150 minutes of moderate intensity (30 minutes, five days a week) with a heart rate 50%-70% of the individual’s max heart rate (American Cancer Society, 2019; Buergardt, 2019). Examples of low to moderate exercise are resistance and aerobic training. In order to facilitate this intervention, a smartphone health application called CANXercise, will be implemented for self-report and support in completing the tailored exercise. As research validates, low to moderate exercise will likely decrease cancer related fatigue, which will ultimately lead to improved health and well-being for each individual.

Methodology
Research Design
Quantitative, Quasi-experimental, Descriptive

Interventions
Cancer patients will use the CANXercise app.

Independent Variable: Low to moderate intensity exercise performed at least 150 minutes total a week with a heart rate of 50%-70% of the individual’s maximum heart rate

Dependent Variable: CRF

Proposed Research Question
Low to moderate intensity exercise performed at least 150 minutes total a week with a heart rate of 50%-70% of the individual’s maximum heart rate will decrease self-reported CRF in cancer patients.

Literature Sources
Research suggests that low to moderate intensity exercise decreases CRF in patients when performing at least 150 minutes of moderate intensity with a heart rate 50%-70% of the individual’s max heart rate (American Cancer Society, 2019; Buergardt, 2019). Researchers suggest that cancer patients need social support by means of a smartphone health app that connects cancer patients to their peers, friends, and family to help them feel supported, and to help them become more active (Boldt, 2017).

Sample
Cancer patients from Drelling Schmidt Cancer Institute in Western Kansas.

Ethical Considerations
Full review at Drelling Schmidt Cancer Institute, Nursing Department of Fort Hays State University, and Fort Hays State University.

Data Collection
N= 200
n= 100 patients meeting inclusion criteria
n= 100 patients meeting exclusion criteria

100 cancer patients choosing to participate in this study will be enrolled from the Drelling Schmidt Cancer Institute. A written consent will be obtained. Inclusion criteria: Patients who perform at least 150 minutes of moderate intensity exercise a week with a heart rate of 50%-70% of the individual’s max heart rate and completing a smartphone health app questionnaire prior to exercise and two hours after exercise to monitor the effects of low-to-moderate exercise on CRF. A measurement of the patients’ fatigue will be evaluated at the beginning of the study and at the conclusion, the study will last a total of six months.

Projected Data Analysis Method
An independent t-test will be used along with the CANXercise app for self-report questionnaire before and after exercise to determine the decrease of CRF from low to moderate intensity exercise.

Limitations to Study
The sample size includes patients only from one rural western Kansas cancer center. It is suggested that this study be conducted in a larger scale so these findings can be applied to a greater population.

Discussion
Implications For Nursing
If low to moderate intensity exercise is found to be effective in decreasing CRF, pamphlets for education can be provided to patients receiving treatment that include the step by step process of downloading the CANXercise smartphone health app, completing the questionnaire before exercise, how to perform low to moderate intensity exercises, how to document exercise, and an explanation of the benefits and how low to moderate exercise decreases CRF.

References
Boldt, C. (2017, February 06). Mobile devices can help motivate cancer survivors to exercise, lower recurrence risk. Retrieved from MD Anderson Cancer Center:
Buergardt, W. (2019, December 02). Target Heart Rate Calculator. Retrieved from Fort Hays State University:

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Figures

What is Cancer-related Fatigue.
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