

# Assessing the General Public's Awareness of the Pharmaceutical Benefits of Structured, Prescribed Exercise in the Treatment of Chronic Disease

William Floyd, SPT, Christine Lager, SPT, Zoey Stewart, SPT, McKenzie Tirrel, SPT, Kristin Lefebvre, PT, PhD, CCS



Concordia  
UNIVERSITY-SAINT PAUL

## Introduction

This novel study sought to observe the general public's beliefs on the comparison between pharmaceuticals and exercise for the management of chronic disease, as is consistent with the ACSM Exercise is Medicine (EIM) initiative. The EIM initiative seeks to establish physical activity as a standard of care alongside more traditional interventions such as pharmacology. Despite the established benefit of exercise, little is known about the general public's awareness of the pharmacological benefits of structured, prescribed exercise in the treatment of chronic disease.



CSP

## Objective

Exercise can be an effective intervention for chronic disease and in some cases, as effective as medication. The present study aimed to assess the beliefs of the public with regard to the efficacy of physical activity to augment chronic disease management.

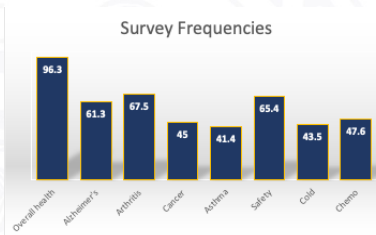
## Participants

- Participants: 191
- Age: 18 years or older
- Location: Minnesota State Fair
- Date: August 30<sup>th</sup>, 2021
- Data collection: Conducted through an electronic survey

## Methods

A descriptive-survey design research study was performed. The survey consisted of 14 items inquiring about the participants' beliefs surrounding the relationship between exercise and various diseases from a pharmacological perspective. Demographics included gender, age, race, ethnicity, zip code and education level.

## Results



Survey item	Value of Interest
Overall Health	$\phi = .080$ (location)
High Cholesterol	$r = .128$ (frequency of exercise)
Heart Failure	$r = .075$ (age)
Alzheimer's Disease	$r = .206^{**}$ (frequency of exercise)
Arthritis	$r = .163^{*}$ (frequency of exercise)
Cancer	$r = -.155^{*}$ (age)
High Blood Pressure	$r = .128$ (frequency of exercise)
Type II Diabetes	$r = .132$ (age)
Anxiety/Depression	$r = .127$ (frequency of exercise)
Asthma	$r = .182^{*}$ (frequency of exercise)
Exercise is Safer than Medication	$\phi = -.045$ (gender)
Common Cold	$r = .151^{*}$ (educational level)
Negative Side Effects of Chemotherapy	$r = .200^{**}$ (frequency of exercise)

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

## Conclusion

The general public views exercise as beneficial for their overall health; however, opinions on management of chronic disease differ across conditions.

## Clinical Relevance

An increased awareness of the benefits of exercise in managing chronic disease may lead to fewer medicinal side effects, lower healthcare costs and higher quality of life.

## References

Exercise is Medicine Initiative: Exercise as a Vital Sign and Prescription in Adult Rehabilitation Practice Cowan R.E. *Archives of Physical Medicine and Rehabilitation*. 2016;97(9)S232-S237.

D2D. Bringing University Research to the State Fair. UMN D2D website. <http://d2d.umn.edu/>. Accessed January 19, 2022.

# Poster Fonts:

For The Major Sections Of  
The Poster:

◦ Title: **85pt**

Authors: **56pt**

Sub-headings: **36pt**

Body text: no smaller  
than **24 pt!**

Captions: **18 pt**

As For Legibility, The Following  
Sizes Are A Good Starting Point  
for body text:

◦ To be **legible 6 feet**

To be **legible 10**

**feet** use **48 pt.**

To be **legible 12**

**feet** use **60 pt.**

To be **legible 14**

**feet** use **72 pt.**

## Poster Fonts

### Font Combinations

- On the left are 10 font combinations that are frequently
- It is important to try to avoid using more than 2 font types
- Two common fonts that are easy on the eyes are Arial and Verdana.
- Don't use a drop shadow unless it is absolutely necessary.

Helvetica / Garamond  
Caslon / Univers  
**Futura / Bodoni**  
Garamond / Futura  
Gills Sans / Caslon  
Minion / Gill Sans  
Myriad / Minion  
Caslon / **Franklin Gothic**  
**Trade Gothic / Clarendon**  
Franklin Gothic / Baskerville

Survey item	Value of Interest
Overall Health	$\phi = .080$ (location)
High Cholesterol	$r = .128$ (frequency of exercise)
Heart Failure	$r = .075$ (age)
Alzheimer's Disease	$r = .206^{**}$ (frequency of exercise)
Arthritis	$r = .163^*$ (frequency of exercise)
Cancer	$r = -.155^*$ (age)
High Blood Pressure	$r = .128$ (frequency of exercise)
Type II Diabetes	$r = .132$ (age)
Anxiety/Depression	$r = .127$ (frequency of exercise)
Asthma	$r = .182^*$ (frequency of exercise)
Exercise is Safer than Medication	$\phi = -.045$ (gender)
Common Cold	$r = .151^*$ (educational level)
Negative Side Effects of Chemotherapy	$r = .200^{**}$ (frequency of exercise)

Participants (96.3%) agreed that exercise was beneficial for their overall health and viewed exercise as effective as medication in the management of cholesterol levels (84.3%), anxiety/depression (81.7%), heart failure (77.5%), high blood pressure (75.9%), arthritis (67.5%) and Alzheimer's disease (61.3%). A significant correlation exists between self-reported frequency of exercise and the belief that exercise is as beneficial as medications in managing Alzheimer's disease ( $r=0.206$ ,  $p<0.01$ ), arthritis ( $r=0.163$ ,  $p<0.05$ ) and asthma ( $r=0.182$ ,  $p<0.05$ ) and in managing the negative side effects of chemotherapy ( $r=0.200$ ,  $p<0.01$ ). Education level significantly correlated with the belief that exercise is effective to prevent the common cold ( $r=0.151$ ,  $p<0.05$ ). A significant correlation was found between age and the belief that exercise can prevent cancer ( $r=-0.155$ ,  $p<0.05$ ).