Exercise makes the blood of obese people healthier

19 June 2018

Credit: CC0 Public Domain

Exercise can reduce inflammation in obese people by changing the characteristics of their blood, according to new research published in *The Journal of Physiology*.

Obesity is a global health challenge, with approximately one-third of adults affected. Obesity increases the risk of health problems, such as heart disease and type 2 diabetes. Many of the health problems linked to obesity are a result of chronic inflammation. Inflammation is a natural process in the body in response to harm, but in obese people it can become long term and this can lead to damage of healthy tissue. Certain blood cells are more likely to cause inflammation, and if these cells are made in the body in greater numbers than normal they can spread to organs in the body and cause them to malfunction.

The blood cells responsible for causing inflammation are formed from stem cells within the body. This new research is the first to show that exercise alters the characteristics of these blood forming stem cells and therefore reduces the number of blood cells likely to cause inflammation.

These findings provide a new explanation of how exercise may improve health in adults with obesity.

Young, lean adults and young, obese adults (who were otherwise healthy) were recruited for this study. Comprehensive physiological characterisation of all participants occurred before and after completion of a six-week exercise program. The exercise program consisted of three bicycling or treadmill running sessions per week with each session lasting approximately one hour. Blood was collected before and after the exercise training intervention to quantify blood-forming stem cells. The results of the study demonstrated that exercise reduced the number of blood-forming stem cells associated with the production of the type of blood cells responsible for inflammation.

The research group is now interested in determining if these changes in blood cell populations improve the function of muscle and fat involved in energy consumption and storage among people with obesity. They are also looking to investigate whether these effects of exercise on blood cells are also seen in other chronic conditions associated with increased inflammation.

Principal Investigator, Dr. Michael De Lisio was delighted by the impact the exercise intervention had on some of the participants' exercise habits:

"This research is important because it helps us understand how and why exercise improves the health of people with obesity."

"After participating in the exercise intervention, some participants were inspired to participate in our local half-marathon. This enthusiasm for exercise and building the habit of increased physical activity is one of the most rewarding aspects of conducting these types of human exercise trials".

More information: Effects of Endurance Exercise Training on Inflammatory Circulating Progenitor

Cell Content in Lean and Obese Adults, *Journal of Physiology* (2018). DOI: 10.1113/JP276023

Provided by The Physiological Society
APA citation: Exercise makes the blood of obese people healthier (2018, June 19) retrieved 28 November 2022 from https://medicalxpress.com/news/2018-06-blood-obese-people-healthier.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.