Acta Scientific Orthopaedics (ISSN: 2581-8635)

Volume 7 Issue 5 May 2024

Research Article

Effects of a Worksite Intervention to Promote Physical Activity on Cardiometabolic Health During Covid-19 Lockdown

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Received: March 21, 2024

Published: April 23, 2024

Abstract

Introduction: Active people have a lower risk of developing multiple diseases. However, approximately one third of adults do not reach the minimum recommended levels of physical activity, situation that was aggravated during the COVID-19 pandemic.

Objective: This research studied the impact of a physical activity promotion program to improve different cardiovascular risk factors of workers during the COVID-19 pandemic.

Methods: 54 office workers (17 women; 47.0 ± 9.1 years) participated in the study. The 19-week intervention was based on the theoretical model of behavior change Behavior Change Wheel and included the prescription of an individualized physical activity (PA) program and nine workshops to increase the participants' knowledge about the positive impact of physical activity on health.

Results: The intervention shown to reduce body weight, body max index, waist circumference, mean arterial pressure and glycosylated hemoglobin concentration and it also appears to contribute modestly to reduce the risk of metabolic syndrome.

Keywords: Workplace; Health Promotion; COVID-19; Physical Activity; Metabolic Risk

Introduction

SARS-CoV-2 (COVID-19) started in December 2019, and was declared a global pandemic by the WHO on March 11, 2020 [1]. One of the main measures that many countries adopted to contain the spread of the virus was home confinement. Most research indicates that during confinement the level of physical activity was reduced, the time dedicated to sedentary behaviors increased and, in general, there was a worsening of eating behaviors [2] and an increase in body weight [3,4]. This finding suggests that cardiovascular and metabolic health in general population worsen during COVID-19 pandemic, and the few studies that have analyzed changes in biochemical health indicators during the lockdown shows that [5,6].

In this unexpected context, our research group was implementing a workplace physical activity intervention in a technological multinational enterprise in Spain, so the intervention was coincident in the time with the extension of the COVID-19 pandemic in Europe. The program of physical activity promotion was not suspended, just adapted to the extraordinary circumstances changing face-to-face interaction for online-interaction, and training activities for those modalities that could be done according to restrictions in every time.

The relation between physical activity and health are well established and current evidence supports that active people have a lower risk of suffering from multiple diseases compared to those with a lower level of physical activity [7]. Specifically, effects of physical activity on cardiovascular and metabolic are especially strong and are well documented [8]. Despite this evidence, more than 27% of the adult population worldwide [9] and more than 35% of Spanish adults do not reach the minimum recommended levels of physical activity [10].

Currently, a large part of the population spends most of their time in a waking state in the workplace [11]. For this reason, the World Health Organization maintains that the workplace is an ideal place to implement programs to reduce the risk of cardiovascular