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A pilot study of interval walking effect on pain and Pro-Inflammatory level in people with knee osteoarthritis

Abstract:

Aerobic exercises may decrease pain and pro-inflammatory biomarker levels in people with knee osteoarthritis. Interval walking (IW) exercise may not induce a flare of KOA pain compared to continuous walking (CW). However, the long-term effect of IW exercise on pain, and pro-inflammatory biomarker levels has not been studied systematically. The aim of this study was to evaluate the effect of IW exercise on the pro-inflammatory biomarker levels compared to CW exercise. Eighteen participants were randomly assigned into an IW and CW group, and were asked to walk 3 times/week for 30 minutes over a 6-week period. The participants in the IW were asked to walk for 30 minutes with a resting interval of 30-40 minutes after the first 15-minute bout of the walking exercise. Pain level was assessed at baseline, post-intervention, and before and after each exercise session. Blood samples were collected at the baseline and post-intervention. The IW group showed significantly greater ($p<0.001$) improvement in changes of visual analogue scale pain score than that in the CW group. There was a significant decrease of the Measure of Intermittent and Constant Osteoarthritis Pain score in IW group ($p<0.05$) but not CW group. There was a significant decrease in pain level after each exercise session in the IW group ($p<0.05$) but not in the CW group. There were no significant changes of pro-inflammatory level in either group. There is a potential of an IW program for greater pain reduction than a CW program in people with KOA.

Biography

Batool Abdulelah Alkhamis has completed her master's degree (2014) in the medical rehabilitation sciences at the University of Pittsburgh, USA. In 2022, she has completed her PhD from the University of Kansas Medical Center, USA. Currently, she is working as an assistant professor, and the medical rehabilitation sciences department chair at King Khalid University, Kingdom of Saudi Arabia.