Can a Targeted Pre-Exercise Education Intervention Enhance the Exercise Induced Hypoalgesia Response in Individuals with Knee Osteoarthritis?

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Compared to **neutral** education, **positive** pre-exercise education **did not** influence pain responses to exercise but **did** modify **exercise related beliefs** in knee OA.

Introduction

Recent evidence in a healthy pain-free population has shown that education about the pain relieving effects of exercise may enhance exercise induced hypoalgesia (EIH)[1]. The effects of such an intervention have not yet been examined in an osteoarthritis (OA) population, where EIH is known to be more variable.

Aim

This study examined whether positive pre-exercise education leads to a greater EIH response in people with knee OA, compared to neutral pre-exercise education.

Methods

A double-blind randomised controlled trial was undertaken, with a parallel design involving 42 participants, assigned to two groups (n=21): positive pre-exercise education (information tailored to counter common misconceptions and beliefs regarding OA pain, management and education about EIH) and neutral pre-exercise education (traditional OA information from a reputable international website and education about pain ratings and types of pain associated with exercise).

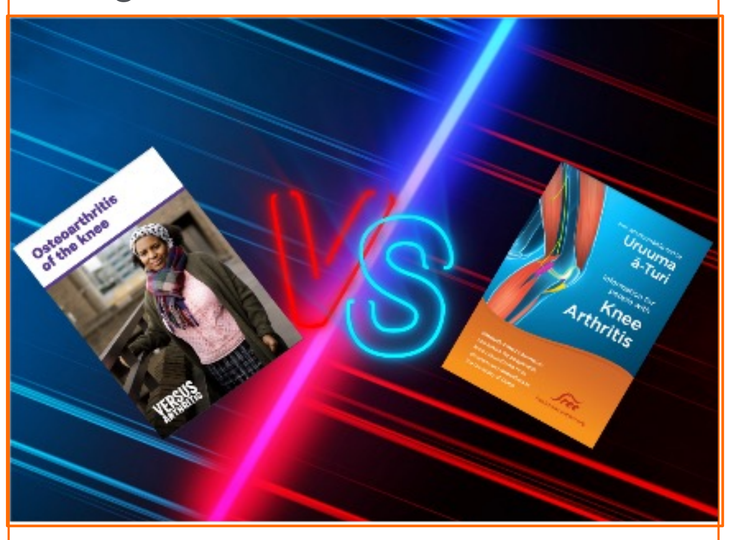
Each group received two 1-on-1 education sessions, 24-72hrs apart. OA knowledge and exercise beliefs were evaluated pre and post-education. Knee OA knowledge was measured using the Knee Osteoarthritis Knowledge Scale (KOAKS) and exercise beliefs were measured using a single item questionnaire [1]. Following isometric exercise, pre-post exercise change in pressure pain thresholds, resting pain and pain during stepping were measured. Two step ANCOVA using linear regression was utilised to assess between-group differences in outcomes.

Results

Exercise related beliefs improved more in the positive education group but there was no difference between groups in the change in knee OA knowledge. None of the measures of EIH were different between the two groups.

Discussion

These findings differ from previous research in a pain-free population. The results high-light the complex neurobiological mechanisms of OA pain that are influenced by more than just cognitive and affective factors. Additionally it appears that individuals with knee OA have attitudes and beliefs pertaining to their condition that are resistant to change.



Conclusions

Despite modifying exercise related beliefs, positive pre-exercise education did not enhance EIH compared to neutral education. This contrasts to findings in healthy pain-free controls[1]. Higher dose interventions may be required to successfully improve OA knowledge

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References:

1. Jones, M. D., Valenzuela, T., Booth, J., Taylor, J. L., & Barry, B. K. (2017). Explicit Education About Exercise-Induced Hypoalgesia Influences Pain Responses to Acute Exercise in Healthy Adults: A Randomized Controlled Trial. J Pain, 18(11), 1409-1416. doi:10.1016/j.jpain.2017.07.006