The Effects of Strength Training on Muscle Wasting, Fat Mass and Quality of Life in Men with Prostate Cancer Undergoing Androgen Deprivation Therapy: a Meta-Analysis.

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Background

- In 2013, the probability of a man developing prostate cancer (PCa) was 1 in 6, sitting on top of the charts as the single most common area for men to develop cancer [4].
- The most common form of treatment in New Zealand is a funded prescription medicine called Zoladex (Goserelin), an androgen medication that reduces the production of testosterone that can fuel the growth of the cancer.
- Suppression of testosterone production can be related with considerable side effects including muscle atrophy (sarcopenia/wasting), changes in weight (typically an increase in weight from oestrogen levels dominating in the body due to the lack of testosterone production).
- Physical activity focusing on strength training in particular has been proposed as a favourable strategy to reverse the side effects of Androgen deprivation therapy (ADT), especially that of muscle wasting and changes in body composition.

Purpose

The aim of this meta-analysis is to synthesise the existing evidence of the effects of strength training on the reduction of muscle wasting, quality of life and fat mass in men with Prostate cancer.

Methods

- A thorough literature search for 12-16 week strength training intervention trials with men with PCa published between 2008 and 2018, was performed using computerised searches on the databases; Ebscohost, Proquest, Scivers, Mendely, PUBmed, Medline Sport discus and Google Scholar.
- The database searches produced 5,650 articles which were then accessed for eligibility by using titles and abstracts. 4,096 articles were then excluded from the search after not meeting the relative inclusion criteria.
- Leaving 25 studies for review. Of the 25 articles, 19 articles were excluded after not meeting the full inclusion criteria. Leaving 6 articles which were relevant to intervention trials using strength training to access muscle wasting, quality of life and fat mass, along with other intervention modalities, among men with PCa.
- The studies included 453 male patients, of which 215 men were allocated into an exercise intervention group to initiating their ADT treatment or were currently being supervised exercise prevent treatment toxicity in patients with prostate cancer initiating androgen-deprivation therapy for advanced prostate cancer: A randomised controlled trial. European Urology, 65(5), 865-872.
- The studies included men with PCa diagnosed with prostate cancer and undergoing ADT as it shows to have a positive effect in reduction of fat mass in patients with PCa.
- The studies included men with ADT, especially that of muscle wasting and improving quality of life. Further study will need to be completed to determine whether there is a clear improvement in reduction of fat mass in patients with PCa.

Conclusion

In the current meta-analysis, we were able to conclude that strength training is a beneficial approach to decreasing muscle wasting, and improving quality of life. Further study will need to be completed to determine whether there is a clear improvement in reduction of fat mass in patients with PCas. Strength training should be incorporated into cancer rehabilitation programmes for men diagnosed with prostate cancer and undergoing ADT as it shows to have a positive effect on adverse effects of ADT.

References
