

The Effects of Exercise on Depression in Men with Prostate Cancer Undergoing Androgen deprivation therapy

By Kalli Spencer

Androgen deprivation therapy (ADT) is a common treatment for men with prostate cancer. Whilst it has proven effective for cancer control, it is also associated with a myriad of adverse physiological effects, including osteoporosis, reduced muscle mass and strength. Importantly, men with prostate cancer and depressive disorders are less likely to undergo definitive therapy and are at increased risk of suicide.

There is limited research examining the impact of exercise on psychological distress in men with prostate cancer. Galvão et al¹, from the Exercise Medicine Research Institute at the Edith Cowan University in Perth, focused on this particular issue, with specific reference to men with prostate cancer undergoing ADT.

During the year-long study, participants were randomly allocated to one of 3 groups:

1. Impact loading and resistance training (ImpRes), consisting of 12 months of supervised exercise twice weekly in university affiliated exercise clinics, in addition to a 2 day a week home training regimen of skipping, hopping, leaping and drop jumping.
2. Aerobic and resistance training (AerRes), initially comprising supervised exercise in the clinic twice weekly for 6 months. This regimen included 20–30 min of aerobic-based exercise such as walking/jogging and cycling or rowing on stationary ergometers, and the same resistance exercise program undertaken by the ImpRes group. In addition, participants were encouraged to undertake home-based aerobic activity such as walking/cycling, with the goal of accumulating 150 min/week of aerobic-based activity. During the second 6-month period, participants were provided with a home-based maintenance program which required 150 min/week of aerobic activity and resistance exercise using body weight and elastic bands.
3. Usual care/delayed exercise group (DelAer), were provided with a printed booklet with information about exercise for the initial 6 months, followed by 6 months of twice weekly exercise on a cycle ergometer and flexibility exercises in the clinic under supervision.

There were three important findings of the research, namely:

1. Various modes of supervised exercise were effective in improving psychological wellbeing in men with prostate cancer on ADT.
2. Men with the highest level of psychological distress improved the most as a result of exercise.
3. All exercise modes led to improvements in objectively measured physical function.

Importantly, the positive improvements in elements of psychological health in this study were largely a result of the supervised portion of the exercise program in each group. Thus, elements of a supervised exercise program such as social interaction with peers and professionals, learning new skills and receiving positive feedback may contribute to improvements in symptoms of distress.

As expected, the intervention also improved physical function. These changes are clinically significant, as ADT is associated with reduced muscle strength, functional performance, balance, and musculoskeletal health, thus increasing the risk of falls and fractures in participants undergoing the treatment. Interestingly, all exercise modes led to similar improvements in physical function, suggesting that patients on ADT can benefit from an array of exercise programs when supervised and at appropriate intensity and dosage.

In summary, various exercise modes, when supervised, are effective in improving psychological health in men with prostate cancer on ADT. Moreover, those study participants with the highest level of psychological distress improve the most.

Reference:

1. Galvão, D.A., Newton, R.U., Chambers, S.K. et al. Psychological distress in men with prostate cancer undertaking androgen deprivation therapy: modifying effects of exercise from a year-long randomized controlled trial. *Prostate Cancer Prostatic Dis* (2021). <https://doi.org/10.1038/s41391-021-00327-2>



About the Author

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Kalli is an internationally renowned Urological Surgeon, specialising in oncology and robotic surgery. He trained and worked in South Africa, before relocating to Australia where he has worked at Macquarie University Hospital and Westmead Hospital. His passion for what he does extends beyond the operating room, through public health advocacy, education and community awareness of men's health, cancer and sexuality.

Kalli has been involved with the Prostate Cancer Foundation of Australia for many years, advocating for improved cancer care and facilitating community prostate cancer support groups.