

Effect of exercise mode specificity on quality of life in prostate cancer patients undergoing androgen suppression.

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Background: Androgen deprivation therapy (ADT) is accompanied by a range of adverse effects including those of the musculoskeletal, metabolic, and cardiovascular systems, as well as compromised functioning and quality of life (QoL). Exercise has been shown to be an effective countermeasure to a number of these toxicities, although the effects of different modes or prescriptions on self-report QoL is unclear. Here we report the effects from a yearlong trial of 3 different exercise prescriptions involving aerobic, resistance, and impact loading modes on QoL in men with prostate cancer undergoing ADT. **Methods:** One hundred and fifty-four prostate cancer patients (43–90 yrs, BMI 28.7 ± 4.1) on ADT (Mdn 3 mths, IQR 2.0–4.0 mths) were randomized to exercise targeting the musculoskeletal system (impact loading + resistance training; ILRT, n=57) supervised for 12 months, cardiovascular and muscular systems (aerobic + resistance training; ART, n=50) supervised for 6 months followed by a 6-month home program, or delayed aerobic exercise (DeIAer, n=47) receiving exercise information for 6 months followed by 6 months supervised stationary cycling exercise. Supervised exercise was undertaken twice weekly at a moderate intensity. QoL domains were assessed at baseline, 6, and 12 months using the Short Form-36 questionnaire. **Results:** There were no significant differences among groups in QoL domains at baseline. Following exercise there was a significant group x time interaction ($p < 0.05$) for the domain role physical and the physical health composite score with increases at 12 months for ILRT and DeIAer. There was also a significant time effect ($p < 0.001$) for improvements in physical functioning, general health, vitality, and mental health, and also bodily pain ($p = 0.037$), with no between-group differences. Patients in the lowest tertile for QoL at baseline improved the most with exercise ($P_{\text{trend}} < 0.001$). **Conclusions:** Different exercise modes had similar effects on improving QoL in patients with prostate cancer undergoing ADT. Importantly, those with the lowest QoL derived the greatest benefits from exercise. Recommending patients on ADT to undertake exercise, regardless of mode, will help to preserve or improve quality of life. Clinical trial information: ACTRN12609000200280. Research Sponsor: National Health and Medical Research Council; Prostate Cancer Foundation of Australia.