Abstract - The role of androgen deprivation therapy: Psychological factors and physical activity in the treatment of patients with prostate cancer

Background: Depression, anxiety and cognitive dysfunction are common complaints in men with prostate cancer (PCa) receiving androgen deprivation therapy (ADT). Consequently, the quality of life (QoL) of these men is negatively impacted. The positive impact of physical activity (PA) interventions on psychosocial wellbeing in men with PCa has been demonstrated in several studies. Therefore, the overarching objectives of the present study were: to describe the PA behaviour of patients with PCa; to evaluate the effects of ADT on depression, anxiety, cognitive function and QoL in men with PCa; and to examine the relationship between meeting the National Physical Activity Guidelines of Australia (NPAGA) and the presence and severity of physical and psychological side effects of ADT.

Method: A cross-sectional survey was conducted during 2010 and 2011, with data collected from 377 men with PCa (mean age = 67.6 years). Measures included: the International Physical Activity Questionnaire (IPAQ); the Hospital Anxiety and Depression Scale (HADS); the Functional Assessment of Cancer Therapy – Prostate (FACT-P); and sociodemographic items. Inclusion criteria were men aged 40 to 80 years, English speaking who had undergone radiotherapy (RT) between 9 and 30 months prior to the survey.

Results: Participants were categorised into four groups based on the treatment they had received at the time of survey completion: RT only (n = 174); RT + 6 months ADT (n = 100); RT + 2.5 years ADT (n = 77); and RT + ADT indefinitely (n = 26). Less than half of participants were meeting NPAGA (41.9%) and men treated with ADT were significantly less active in comparison to those treated with RT only. Logistic regression analyses indicated that the likelihood of meeting NPAGA significantly decreased with increases in depressive symptoms and lower levels of education. ADT use was associated with poorer QoL, depression, anxiety and cognitive dysfunction compared to those receiving RT only and long-term ADT use appeared to exacerbate these outcomes. Those meeting NPAGA had significantly lower levels of depression and anxiety and improved QoL compared to those not meeting NPAGA. Logistic regression analyses showed the odds of clinically significant depression and anxiety scores, increased with younger age and comorbid conditions. Not meeting NPAGA increased the likelihood of caseness for depression. Multiple regression analyses revealed that comorbid conditions and treatment category predicted poorer QoL, while meeting NPAGA positively predicted QoL. Multiple regression analyses indicated that depression was the strongest predictor of cognitive impairment. Anxiety, QoL, age, comorbid conditions, PA and treatment centre were also predictors of poor cognitive function.

Conclusions: The use of ADT in the management of men with PCa has a measurable effect on depression and anxiety symptoms, cognitive function and QoL. These findings support the utility of PA in rehabilitation programs for patients with PCa and indicate that meeting NPAGA may improve QoL and psychosocial wellbeing in this population.

Research team: Chipperfield K, Burney S, Fletcher J, Millar J, Brooker J, Smith R, Oh T, Frydenberg M