

A Qualitative Study Exploring the Perceptions of Sedentary Behavior in Prostate Cancer Survivors Receiving Androgen-Deprivation Therapy

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Androgen-deprivation therapy (ADT) is associated with acute and chronic side effects (e.g., fatigue) and risk of developing comorbidities (e.g., osteoporosis) (Flaig & Glodé, 2008; Grossmann & Zajac, 2011; Kim & Freedland, 2010). *Sedentary behavior* (SED) is defined as any waking behavior characterized by an energy expenditure of 1.5 metabolic equivalents or less while in a sitting or reclining posture (Sedentary Behaviour Research Network, 2012). The adverse health effects of SED for cancer risk are distinct from the beneficial effects of moderate to vigorous physical activity (PA) (Lynch, 2010). Drawing from epidemiologic findings, SED has been independently associated with central adiposity, elevated blood glucose and insulin, and other cardiometabolic biomarkers in apparently healthy adults (Owen, Healy, Matthews, & Dunstan, 2010). The role of SED remains largely unexplored in survivors of cancer, but excess adiposity has been associated with prostate cancer aggressiveness, progression, and mortality (Hsing, Sakoda, & Chua, 2007) and poorer quality of life (Lynch, Dunstan, Vallance, & Owen, 2013). This emerging research agenda is of particular importance for survivors, many of whom spend less than 1% of their waking hours engaged in PA (Lynch et al., 2011, 2013) and, on average, 69% in SED (Lynch et al., 2011). Instead of focusing on activities that comprise only a portion of an individual's day, examining the benefits of SED and light-intensity PA on health outcomes is warranted.

Despite the established health benefits of PA (Baumann, Zopf, & Bloch, 2012; Galvao & Newton, 2005; Mishra et al., 2012; Thorsen, Courneya, Stevinson, & Fosså, 2008), less than 20% of men with prostate cancer are meeting public health PA guidelines (Harrington, Schwenke, & Epstein, 2013; Kushi et al., 2012; Rock et al., 2012). Targeting SED may be a more feasible and appropriate approach for a wider proportion of sur-

Purpose/Objectives: To describe and understand the perceptions of sedentary behavior (SED) and the interests and preferences for a SED intervention of men on androgen-deprivation therapy (ADT) within a two-phase (formative and intervention research) feasibility study.

Research Approach: Qualitative, descriptive.

Setting: Princess Margaret Cancer Centre and Odette Cancer Centre, both in Toronto, Ontario, Canada.

Participants: 27 men on ADT.

Methodologic Approach: Men were recruited from prostate cancer clinics. Nine focus groups were conducted from November 2013 to April 2014 until data saturation was reached. Probe questions assessed perceptions regarding SED and preferences for a mobile SED intervention. Data were transcribed verbatim, and a thematic analysis was conducted.

Findings: Twenty-seven men with a mean age of 73.5 years ($SD = 8.1$ years) volunteered for the study. Most men were aware of the health risks associated with SED, but most discussed SED in terms of increasing physical activity (PA). Many men were interested in a mobile application to reduce SED and expressed that the design should be easy to use, have an alerting function to interrupt sitting, have the ability to track and monitor PA levels, be tailored to the individual, and involve social support.

Conclusions: These findings will inform the development and evaluation of a novel SED intervention to improve health outcomes in this population.

Interpretation: Oncology nurses may serve as a motivational factor in encouraging men on ADT to reduce SED.

Key Words: prostate cancer; sedentary behavior; mobile intervention; physical activity; androgen-deprivation therapy
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vivors (Gardiner, Eakin, Healy, & Owen, 2011; Lynch et al., 2013).

Seven studies have examined the role of SED on health outcomes in cancer survivorship with mixed