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Effects of high-intensity interval training during or after intravesical therapy for bladder cancer on motivational outcomes: results from a feasibility randomized controlled trial

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Background: Understanding the motivational effects of exercise during or after intravesical therapy for non-muscle invasive bladder cancer (NMIBC) may help patients to initiate and sustain exercise behavior. We report the effects of exercise on motivational outcomes, perceived benefits and harms, and perceived barriers to exercise during or after NMIBC intravesical therapy. Methods: NMIBC patients scheduled to receive intravesical therapy or on surveillance were randomized to usual care (UC, n=12) or exercise (n=13) consisting of thrice-weekly, supervised high-intensity interval training (HIIT) for 12 weeks. Using the Theory of Planned Behavior, we assessed motivational outcomes via questionnaire at baseline, 12-weeks and 1-year. Perceived benefits and harms, and perceived barriers of HIIT were assessed post-intervention (12-weeks). Given the small feasibility design, results were interpreted for their meaningful differences of at least a small-to-medium standardized effect size of d≥0.33. Results: The HIIT was perceived as more enjoyable (mean change=0.6; 95%CI:-0.2 to 1.5, p=0.13, d=0.58) and less difficult (0.5; 95% CI=-1.5 to 0.4, p=0.24, d=-0.51) than anticipated, and it elicited higher confidence (0.5; 95%CI=-0.5 to 1.4, p=0.32, d=0.49). Compared to UC, the HIIT group reported greater anticipated difficulty (0.8; 95%CI=-0.2 to 1.8, p=0.13, d=0.97) to exercise on their own over the next 6 month at the 12-week assessment; however, by the 1-year assessment, they reported greater perceived benefits (0.8; 95%CI=-0.2 to 1.8, p=0.13, d=0.97) and control (0.6; 95%CI=-0.2 to 1.4, p=0.11, d=0.69). The most common perceived benefits of HIIT were cardiovascular endurance and physical functioning (91%), and quality of life (82%). The most common exercise barriers were lack of time (46%) and joint pain (36%). Conclusions: HIIT during or after NMIBC intravesical therapy appeared more motivating than anticipated with many perceived benefits and few barriers. Although HIIT initially increased anticipated difficulty with independent exercise, effect sizes suggest perceived benefits and control may improve over time.

Keywords

High-intensity Interval Training; Non-Muscle Invasive Bladder Neoplasms; Intravesical Administration; Theory of Planned Behavior

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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