

Using an 'Exercising Together' approach to improve health outcomes in men with prostate cancer and their partners

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Abstract

Prostate cancer (PC) treatments can adversely impact physical function and quality of life of both the PC survivor and partner. A couples-based approach to exercise training has previously been shown to improve overall physical and mental health, however, few services exist in Canada that support this approach in men with PC. To address this gap and explore the feasibility of this approach, the Prostate Cancer Supportive Care (PCSC) program at the Vancouver Prostate Centre used an evidence-to-practice approach to pilot a modified 'Exercising Together' program, an innovative strength training class for couples managing PC, developed by Dr. Kerri Winters-Stone. **Methods:** The program incorporated resistance, balance, flexibility and cardiovascular exercises and was led by an exercise physiologist in a community-based setting. Ten heterosexual couples were recruited and attended the program twice weekly for 12 weeks. Initial and final assessments measured physical, mental and emotional health and were used to evaluate the improvement in care in couples coping with PC. **Results:** Retention rate was 100% and attendance to exercise sessions was 86%. Participants significantly improved physical characteristics including lower body endurance ($p < 0.01$), waist circumference ($p = 0.03$) and upper body strength ($P < 0.01$). An increase in moderate-to-vigorous physical activity was shown at 12-weeks (CHAMPS) and improvements were reported in sexual relationships measures (SEAR) and physical intimacy. Our findings are similar to those observed in a research setting. **Conclusion:** This indicates that a couples based 'Exercising Together' intervention is a feasible option for implementation at a community level and can positively impact the physical, mental and emotional health of men with PC and their partners. Given the positive overall impact, such programs should be adopted by community-based exercise facilities as an option for couples who wish to exercise together.

Background

- Treatments for prostate cancer (PC) impact the physical and mental health of both the PC survivor and their partner.
- Exercise has been shown to be a safe and effective intervention to improve and manage the adverse side effects of PC treatments and to improve overall physical function and quality of life.
- A couples based approach to exercise has been previously shown to improve overall physical and mental health in men with PC, however few services exist in Canada incorporating this approach.
- The Prostate Cancer Supportive Care (PCSC) program in Vancouver, BC adopted an evidence-to-practice approach to trial an adapted version of the 'Exercising Together' protocol from a community-based exercise setting, developed originally by Dr. Kerri Winters-Stone (*J Cancer Surv, 2016, 10(4): 633-44*).
- This evaluation was performed for quality improvement purposes for the Vancouver PCSC Program.

Methods

- Recruitment:** Couples with PC were invited to sign up to 'Exercising Together' at a local community clinic, provided to participants at no cost and funded by the PCSC program.
- Exercise sessions:** Group exercise sessions were 60-minutes twice weekly and were supervised by a Certified Exercise Physiologist (CSEP-CEP). Couples were partnered together and taught how to supervise, coach & train each other.
- Protocol:** Adapted from the original 24-week 'Exercising Together' protocol, the 12-week program included resistance training (RT), balance exercises, flexibility exercises and aerobic exercise training.

Initial Assessment:
Physical Testing: Body Mass Index, Resting heart rate & blood pressure, waist circumference, 30-sec chair stand, Unipedal stance test, seniors physical performance battery (SPPB), grip strength, sit and reach, back scratch, submaximal treadmill test (modified Bruce protocol), RM strength testing.
Questionnaires: FACIT-Fatigue, CHAMPS, SEAR, CES-D, PAIR, A-DAS, EORTC QLQ-C30, COS.

Phase 1: Weeks 1 – 4
 RT Upper & Lower Body: 1-3 sets, 12-15 reps
 RT Lower Body: + vest 0-2% BW
 Aerobic: 10-min, moderate intensity continuous (RPE 5-6/10)

Phase 2: Weeks 5 – 8
 RT Upper & Lower Body: 1-3 sets, 10-12 reps
 RT Lower Body: + vest 2-5% BW
 Aerobic: 10-min circuit, 45-sec moderate-to-vigorous (RPE 5-8/10) & 15-sec rest (x10)

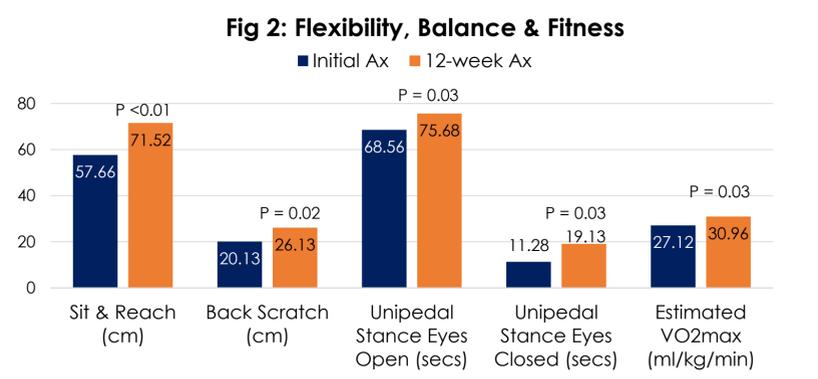
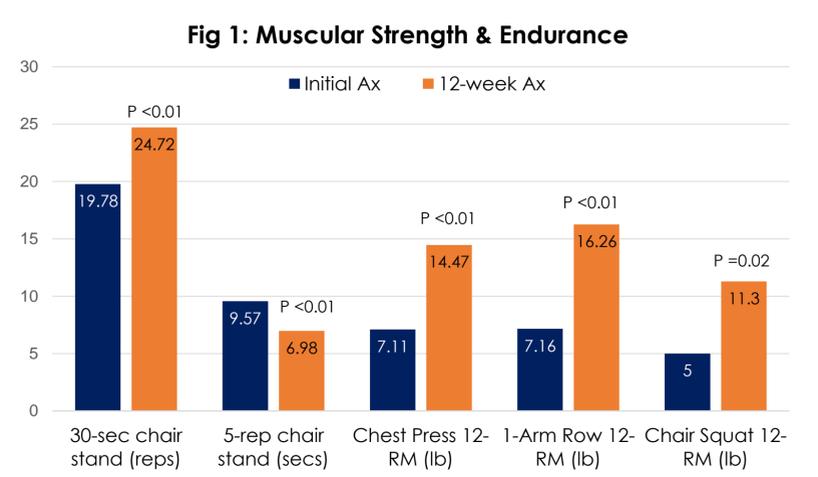
Phase 3: Weeks 9 – 12
 RT Upper & Lower Body: 1-3 sets, 8-10 reps
 RT Lower Body: + vest 5-10% BW
 Aerobic: 5-min continuous, moderate-to-vigorous (RPE 5-8/10) + 5-min circuit, 45-sec vigorous (RPE 7-8/10), 15-sec light (RPE 3-4/10)

Final Assessment
 As per initial assessment.

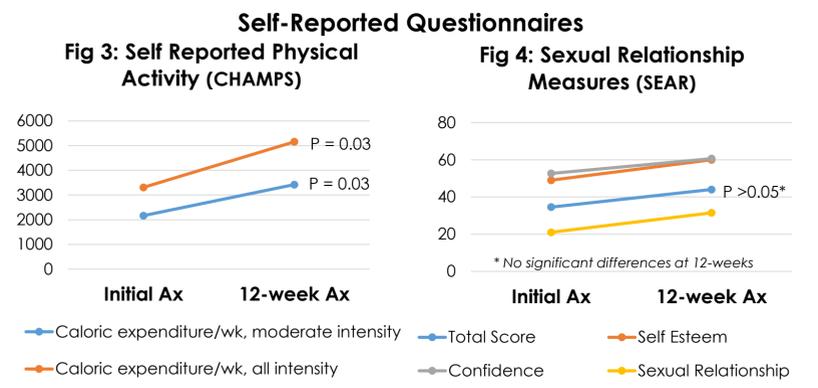
Results

Table 1: Participant Baseline Characteristics

Demographics, n=20	MALE (n=10) Median (range)	FEMALE (n=10) Median (range)
Age (years)	68 (59 - 73)	65.5 (41 - 73)
Body Mass Index (kg/m ²)	27.05 (20.6 - 33.9)	23.0 (20.1 - 31)
Waist circumference (cm)	101.4 (80.4 - 113.6)	83.3 (76 - 101)
Resting Heart Rate (bpm)	70 (48 - 87)	67.5 (60 - 73)
Resting Blood Pressure (mmHg)	141 / 78 (122-153 / 65-87)	134 / 79 (112-150 / 58-91)



Results



All other questionnaires indicated improvements, however, results were non-significant ($p > 0.05$) possibly due to the small sample size.

Program Adherence: Males: 87.08% Females: 83.75%

Relationship Status: 100% married (mean length = 37.2yrs)

Conclusions

- These results are similar to those observed in a research setting and indicate that an 'Exercising Together' protocol for couples with PC is feasible from a community clinic and may improve the physical, mental and emotional health of men with PC and their partners.
- Due to costs, this program was not continued long-term.
- Couples-based exercise programs should be adopted by community-based exercise facilities as an option for couples who wish to exercise together.

Future Direction

- The PCSC Program used this quality improvement evaluation to inform the set-up of future exercise services within a clinical setting and offers men with PC and their spouses the option to attend all exercise services and programs.

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