

Relationships between severity of urinary incontinence and physical activity levels in patients who have undergone a general exercise program following prostatectomy

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Introduction

- Previous studies have reported significant negative impact of incontinence on physical activity following radical prostatectomy.^{1,2}
- There is limited evidence on the relationships between severity of urinary incontinence (UI) and level of physical activity in patients who have undergone a general exercise program, which is not combined with specific pelvic floor muscle training (PFMT), following prostatectomy.

Aims

1. To explore the relationships between severity of UI and physical activity levels in patients who have undergone an exercise program following prostatectomy
2. To determine whether pre-exercise program severity of UI is a predictive factor for a change in physical activity levels following an exercise program

Methods

- **Design:**
 - Subgroup analysis of data from patients who participated in a prospective observational study of an exercise program
- **Participants:**
 - Data from patients who were experiencing post prostatectomy UI and consented to participate in the 8-week, twice weekly exercise program were analysed.
- **Procedure:**
 - **Outcome measures:**
 - Physical activity levels (International Physical Activity Questionnaire short form [IPAQ-SF]) (higher = better)
 - Severity of UI (International Consultation on Incontinence Questionnaire - Short Form Questionnaire for urinary incontinence [ICIQ-UI SF]) (higher = worse)
 - **Assessment time-points:**
 - Pre-intervention/10 weeks post-op (T1)
 - Post-intervention/18 weeks post-op (T2)
 - **Statistical analysis:**
 - Spearman correlation coefficient
 - Multiple linear regression

Results

- N = 45
- Mean age = 66.0 (SD 7.4)

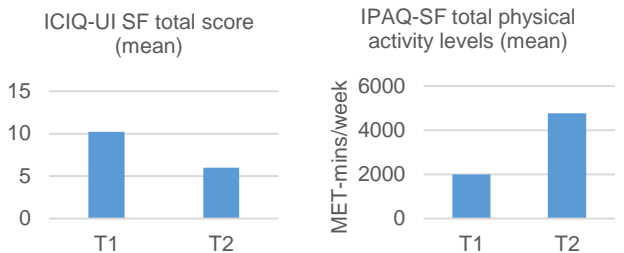


Table 1 Spearman's correlations between ICIQ-UI SF and IPAQ-SF

| | ICIQ-UI SF Total (T1) | ICIQ-UI SF Total (T2) |
|----------------------------------|-----------------------|-----------------------|
| IPAQ-Vigorous (T1) | -0.056 | -0.397* |
| IPAQ-Walking (T2) | 0.253 | 0.330* |
| IPAQ-Total (T2) | 0.456** | 0.345* |
| IPAQ-Vigorous (T2-T1 difference) | 0.344* | 0.322 |
| IPAQ-Total (T2-T1 difference) | 0.534** | 0.413** |

* p < 0.05; ** p < 0.01

Table 2 Associations between pre-intervention severity of UI and change scores in physical activity levels

| | ICIQ-UI SF total score (T1) | | |
|-------------------------------------|-----------------------------|-------------------------|--------------|
| | β coefficient | 95% Confidence Interval | p-value |
| IPAQ-SF Vigorous (T2-T1 difference) | 0.336 | -15.0 to 529.2 | 0.063 |
| IPAQ-SF Moderate (T2-T1 difference) | 0.275 | -34.3 to 228.0 | 0.142 |
| IPAQ-SF Walking (T2-T1 difference) | 0.217 | -53.9 to 213.8 | 0.232 |
| IPAQ-SF Total (T2-T1 difference) | 0.403 | 74.1 to 823.3 | 0.020 |

- Our result is in contrast to a study by Mungovan et al.³
- Limitations: small sample size; lack of data on treatment sought by patients (e.g. PFMT); other potential confounders

Conclusions

- Severity of UI was positively correlated with physical activity levels following the exercise program.
- The baseline severity of UI was a predictor of change in total physical activity level following the exercise program.
- Randomized controlled trials are warranted to determine the effects of general exercise alone on UI in this population.

REFERENCES: 1) Geraerts I et al. *BJU Int.* 2014 Aug;114(2):185-92; 2) Martin AD et al. *J Urol.* 2011 Jul;186(1):204-8; 3) Mungovan SF et al. *BMC Urol.* 2013 Dec 1;13:67.

ACKNOWLEDGEMENTS: This study was supported by grant funding (Cabrini Institute seed funding) from Cabrini Institute, Victoria, Australia. K-Y Lin is supported by the School of Primary and Allied Health Care 2017 Travel Grant, Monash University. The authors would like to thank the participants, participating surgeons and staff from Cabrini Health and the Centre for Allied Health Research and Education at Cabrini Institute for their contribution and assistance to the study.

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