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Title: PREVENTING URINARY INCONTINENCE IN POSTPARTUM WOMEN

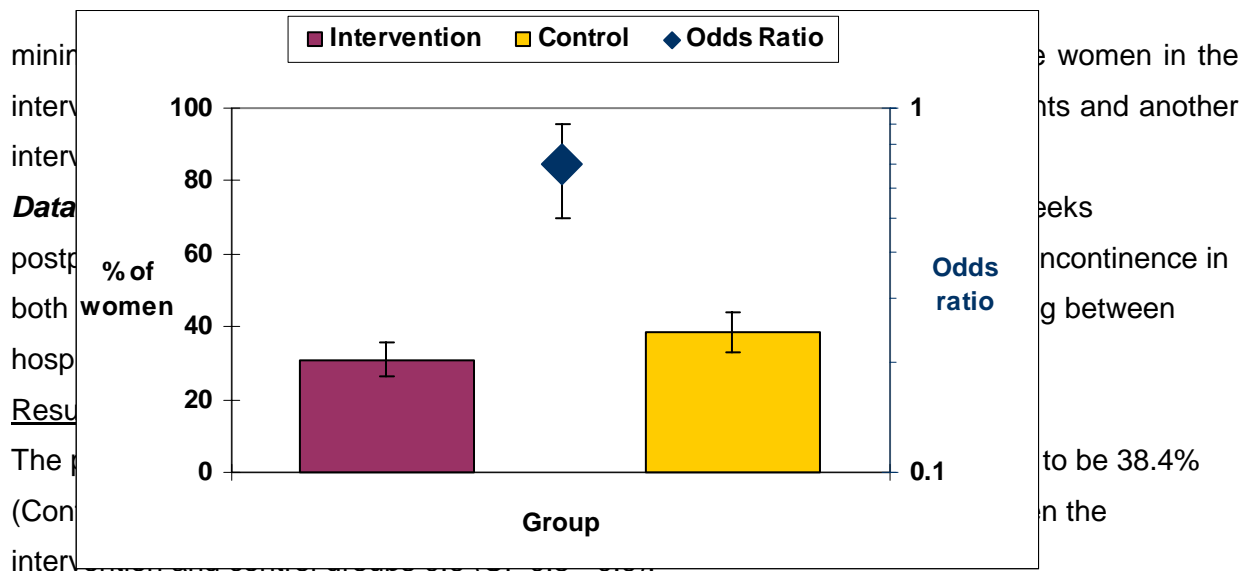
Primary continence promotion is the prevention of urinary continence *before* women experience symptoms of Urinary incontinence (UI). A program of proven effectiveness would provide a means for preventing UI in women. While studies have shown conservative treatment of UI to be effective, there appear to be no studies that have looked at preventing incontinence before its symptoms become evident. This study evaluated the efficacy of a continence promotion program, delivered by physiotherapists to postpartum women.

Aims of Study: The aim of the study was to test the effectiveness of a continence promotion intervention based on established principles of health promotion for decreasing the prevalence of urinary incontinence at three months postpartum and increasing uptake of pelvic floor exercise programs at three months postpartum.

Methods: Participants and settings: 720 women who had forceps or ventouse assisted delivery or babies weighing ≥ 4000 gm took part in a structured interview whilst in the postnatal wards of one large teaching hospital, a private hospital and a rural hospital. Women were then randomised to intervention (n=370) or control (n=350) groups. 350 women were required in each group to allow for a 20% dropout rate and provide enough power for an accurate estimation of prevalence while allowing detection of a 10% difference in the prevalence of UI between groups at $\alpha = 0.05$ and $\beta = 0.80$ with confidence interval $\pm 5\%$. Women in the control group received usual care. The intervention was delivered in the postpartum wards of three hospitals, with a single follow-up visit at eight-weeks postpartum by the physiotherapist. Proven compliance-aiding strategies were included in the intervention, as well as a number of strategies aimed at increasing the likelihood that women adopt the target behaviour.

Measures: Sociodemographic details were obtained from all women. Urinary incontinence at three months postpartum was measured using a validated survey instrument, three day bladder diary and self-report. Maternal variables included age, parity, Body Mass Index, previous urinary incontinence, incontinence in the immediate postpartum, collagen markers, perineal trauma and delivery variables were entered into a logistic regression to test for significant association with urinary incontinence at three months postpartum.

The intervention: In the absence of any evidence supporting continence promotion amongst postpartum women, the intervention was developed using expert opinion from members of ICS, input from postpartum women and evidence from the literature including such things as pelvic floor exercises, transversus abdominus co-contraction, using 'the knack', techniques to



Women in the intervention were group were 40% less likely to report incontinence at three months than women in the control group ($p=0.01$). Other variables with an independent significant effect on continence status at three months were incontinence before the most recent pregnancy ($p=0.0001$) incontinence in the immediate postpartum (0.005), being unsure of continence status in the immediate postpartum (including women with urethral catheters in situ) ($p=0.002$). In comparing differences in reported compliance with pelvic floor exercise programs at adequate levels, a significant positive trend in the proportions of adequately exercising women was seen amongst women in the intervention group ($p=0.001$ Mantel Haenzel Chi Square).

Conclusions: The primary continence promotion program delivered to postpartum women was effective in reducing the prevalence of urinary incontinence at three months and increasing the number of women performing adequate levels of pelvic floor exercises. Variables significantly associated with urinary incontinence at three months postpartum were urinary incontinence before pregnancy or in the immediate postpartum.

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