THESIS

INCONTINENCE DURING PREGNANCY: PREVALENCE AND OPPORTUNITIES FOR CONTINENCE PROMOTION

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"I hereby submit that the work embodied in this thesis is the result of original research and has not been submitted for a higher degree to any other University or institution.

(Signed).

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"I keep six honest serving men (they taught me all I knew); Their names are What and Why and When and How and Where and Who "

Rudyard Kipling. 1865-1936

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SYNOPSIS

Urinary incontinence - the so called "silent epidemic", is estimated to affect approximately 800,000 Australians, with women being affected more than men. Incontinence is a symptom with effects such as institutionalisation, and personal consequences such as the embarrassment of wetting in public and restriction of those activities which provoke leakage. The financial burden on the Australian healthcare system imposed by incontinence in the elderly, is estimated to be considerable.

Incontinence is often assumed to be a condition suffered in old age. Prevalence in men and women aged over 65 years is high, with estimates from cross sectional studies ranging between 23% and 49%. However, incontinence is also experienced by younger members of the community. Studies in populations aged between 25 and 64 years have reported rates from 18% in the general community, and up to 46% for women.

The pelvic floor muscles are acknowledged as making an important contribution to urinary continence. Improving the function of these muscles, which can be enhanced through pelvic floor exercises, may be one way of reducing incontinence when it occurs and also provides a potential mechanism for preventing it. The suggestion that over 30% of women are unable to correctly contract the muscles of the pelvic floor emphasises the potential need for pelvic floor assessment and instruction as components of continence promotion.

Pregnancy and childbirth can weaken the muscles of the pelvic floor. While a review of existing studies revealed very few studies involving pregnant women, there is evidence that women often first experience incontinence

during pregnancy and that the prevalence of incontinence during pregnancy may be as high as 67%. This is not surprising given the additional load that pregnancy places upon the pelvic organs as well as the pelvic floor itself. Physiological studies of women both pre and postnatally have shown vaginal delivery and forceps delivery to be associated with nerve damage and subsequent pelvic floor muscle weakness.

Several other factors including repetitive coughing, body mass index and constipation have also been associated with incontinence in either cross sectional or physiological studies of women in the general population.

Pregnancy provides a potentially valuable opportunity to promote continence and begin to address any problems with continence. During pregnancy women have contact with healthcare professionals who are seen as credible sources of healthcare information, and since the women are likely to experience incontinence during pregnancy, they are likely to have increased vulnerability to continence promotion messages. Since many women undergo vaginal examinations during pregnancy, this provides an ideal opportunity for practical assessment of the functional capacity of pelvic floor muscles in order to give feedback and advice to individual women regarding how to contract this important muscle group.

There is an absence of data on the extent to which incontinence is being experienced by Australian women during pregnancy and whether opportunities for continence promotion are being taken. The current study examined the prevalence of incontinence during pregnancy in Australian women and examined whether variables such as sociodemographics, parity, previous delivery modes, body mass index at the beginning and end of

pregnancy, or the presence of repetitive coughing, sneezing or constipation during pregnancy were associated with continence status. The extent to which women reported receiving continence advice from healthcare professionals during pregnancy, and the extent to which they reported pelvic floor muscle assessment during vaginal examinations, were also assessed. Finally, the study examined women's attitudes to the provision of continence advice and the assessment of pelvic floor muscle strength during pregnancy.

This was a cross sectional descriptive study using a structured interview and retrospective self report of incontinence during pregnancy. It was carried out in the postnatal ward of a regional teaching hospital in NSW. There was a 91% consent rate which yielded a representative sample of 304 women.

Overall 64% of women reported some incontinence during the last month of pregnancy (95% CI 57.6 68.4). Fifty eight percent (95% CI 52.5 - 63.5) reported stress incontinence (with or without urge incontinence), 44% (95%CI 38.4 - 49.6) reported urge incontinence (with or without stress incontinence) and 38% (95% CI 37.3 - 38.7) reported experiencing mixed incontinence. Forty eight percent of the whole sample reported incontinence which dampened or wet the underwear or pad each time leakage occurred, and women most commonly reported incontinence as beginning in the third trimester of their most recent pregnancy (47% of incontinent women).

Chi square and logistic regression analyses were used to examine associations between continence status during pregnancy and variables thought to affect continence status. The regression results indicated that women who reported never having bouts of coughing during pregnancy were approximately four times more likely to be continent than those women who reported often or

always experiencing bouts of coughing (95% CI 1.3 - 12.38). Women who reported they had previously had vaginal deliveries only, were 2.5 times more likely to be incontinent than women who reported no prior deliveries or caesareans only (95% CI 1.5 - 4.3), while those women who reported past forceps deliveries were ten times more likely to be incontinent than women who had had no prior deliveries (95% CI 2.2 - 50).

Sixty eight percent of the women reported undergoing vaginal examination at least once during the pregnancy although only 6% reported having their pelvic floor muscles tested during routine vaginal examination. When asked if they were, or would be embarrassed to have their pelvic floor muscles tested in this way during a routine vaginal examination 91% of women indicated they would feel no or little embarrassment.

Twenty three percent of women reported having spoken to a healthcare professional about leakage or bladder control during their most recent pregnancy (95% CI 18.3 - 27.7), and 86% of the women indicated they thought information regarding leakage and bladder control should be routinely given to women during pregnancy (95% CI 82.1 - 89.9).

The results of the study show that incontinence is commonly experienced by Australian women during pregnancy and is more likely to occur in women who have previously had a vaginal delivery, particularly a forceps delivery and those who cough on a regular basis. The study also demonstrated that although women support the provision of continence promotion during pregnancy, opportunities are not being optimised. The need for the development of strategies to encourage the adoption of routine assessment of adequate pelvic floor muscle contraction and provision of advice and

instruction on pelvic floor exercises and/or bladder training by the healthcare professionals involved in pregnancy is apparent. In addition to making recommendations for the development of interventions aimed at optimising continence promotion during pregnancy for Australian women, the discussion of the thesis highlights the strengths and weaknesses of the study and the needs for future research.