Exploring key points from a longitudinal study of older women on urinary incontinence

An outline of the implications for nursing practice emerging from a study that explored symptoms and experience of urinary incontinence in women

INTRODUCTION

As in the UK, urinary incontinence is a common condition in Australia. About 10% of women in the community in Australia experience the problem. Its impact on quality of life and its relationship with other health risks and health problems have probably been underestimated in the past. As practitioners, we have found that we may have overlooked the point of initial diagnosis as a significant opportunity to prevent recurrence of incontinence among older women.

Incontinence is common among older people, especially in women, and is a major factor leading to placement in nursing homes. This is not surprising, given that many diseases common in elderly women, and that changes in the lower urinary tract which are a natural part of ageing make a significant contribution to continence status.

This article discusses results from research conducted in Australia as part of the Australian Longitudinal Study on Women’s Health (ALSWH). The design of this study meant that we were able to track the continence status of women taking part in surveys for 10 consecutive years. This is important because the use of longitudinal data enabled us to identify new cases of incontinence as they emerged over 10 years, as well as women who had indicated they experienced incontinence but in subsequent surveys indicated they no longer had it.

The longitudinal nature of the surveys also enabled us to identify the relationships between incontinence and disability associated with it.

Another important distinguishing feature of our study is that it was based on a large national sample of relatively healthy women living in the community, whereas other studies of continence have usually been undertaken in defined populations of younger cohorts of women, over shorter periods of time. While these findings have suggested the importance of the issue in many women’s lives, they provided little detail on the incidence, natural history, risks and adverse health outcomes associated with it.

Our study sought to identify these details by considering data collected repeatedly over 10 years from the ALSWH. Therefore, the women have completed four surveys at three year intervals, in 1996, 1999, 2002 and 2005.

OUR STUDY

ALSWH is based at The University of Newcastle in New South Wales and The University of Queensland in Australia and involves three cohorts of women born in 1973-78, 1946-51 (the mid-age women) and 1921-26 (older women).

In the initial 1996 survey, 36% of 13,715 mid-age women (aged 45–50) and 35% of the 12,432 older women surveyed (aged 70–75) reported leaking urine rarely, sometimes or often.

More in depth surveys involving these women identified associations between incontinence severity and body mass index (BMI), as well as other urinary symptoms, smoking, hormone replacement therapy and hysterectomy (Miller et al, 2003).

Of special note was that many women who said they had incontinence were using methods to prevent it that may have had detrimental consequences for their health. For example, many said they reduced their fluid intake, and many avoided physical activity to try to control symptoms.

In this study, we were interested in what happened to women in the 1921-26 cohort, who were aged 70-75 years when the study began. Between the first survey in 1996 and
the fourth in 2005, 1,864 of the 12,432 women in this cohort died, a further 3,410 withdrew from the study, and 257 could not be classified by their continence status.

The remaining 6,901 women (56% of the original participants) provided data that enabled us to explore longitudinal changes in continence, and the factors that seem to place women at greatest risk of developing the condition.

At each of the four surveys, women were asked to report whether they had experienced leaking urine never, rarely, sometimes or often in the past 12 months. They were asked similar questions about other symptoms including burning or stinging urine, constipation, and vaginal, bladder or bowel prolapse.

Co-morbid conditions were recorded from self-reported doctor diagnoses, including diabetes, heart disease, hypertension, stroke, thrombosis, low iron level, osteoporosis, cancer, depression, anxiety and Alzheimer’s disease/dementia. Past gynaecological procedures including hysterectomy, oophorectomy and prolapse repair were also recorded. BMI was calculated from self-reported weight and height.

Other variables used to measure health and social circumstances included:
- Area of residence – urban, rural or remote (Australians living in remote areas often have to travel over 250km to access basic health services such as doctors);
- Education (either primary education only or secondary and higher);
- Marital status;
- Parity (the number of times a woman has given birth, categorised as none, once, twice or three times or more);
- Provision of care for children and/or for other people with disability;
- Any need for help with daily tasks;
- The number of visits to a GP in the past 12 months (fewer than five, or five or more).

To view the methods and the complete set of questions go to www.alswh.org.au.

### SUMMARY OF FINDINGS IN OLDER WOMEN

- Of the 2,578 women who reported leaking urine sometimes or often in the first survey, only 34% continued to report this in the second one. Only 113 women consistently reported leaking urine over the 10-year period.
- Women were almost twice as likely to report incontinence in the fourth survey as they were in the second one.
- Incontinence was strongly associated with problems such as dementia, reduced physical functioning, history of falls to the ground, high BMI, constipation, urinary tract infection, prolapse repair and history of prolapsed bladder or bowel.
- Stroke, parity, hysterectomy and number of visits to the GP were less strongly associated with incontinence.
- Incontinence was not significantly associated with area of residence, education, smoking, diabetes or attending social groups or support groups.

Around 27% of women reported leaking urine sometimes or often in the fourth survey. However, while the prevalence of incontinence tended to increase with age, the reporting of leaking urine was not consistent, with some women who reported leaking urine in one survey reporting that this was rarely or never a problem in the next one.

These longitudinal changes could reflect either inconsistencies in reporting or true variation. Other published studies have also found that urinary incontinence is not necessarily progressive and can be dynamic.

Our statistical models indicated that strong longitudinal associations existed between incontinence and conditions such as dementia, reduced physical functioning, history of falls, constipation, urinary tract infection, history of prolapsed bladder or bowel and prolapse repair. It seems reasonable to speculate that falls may be a consequence of rushing to the toilet, but they are also likely to be related to a common underlying cause such as general weakness, conditions such as stroke, dementia, arthritis and Parkinson’s disease, or other aspects of frailty. Many studies have noted a relationship between the onset of incontinence and falls, and between incontinence and long term conditions and functional impairment.

Perhaps surprisingly, our study did not show that parity was strongly associated with incontinence among older women. Unlike in younger women, other gynaecological factors, including gynaecological surgery, appear to be stronger predictors of later continence problems in older women.

### IMPLICATIONS FOR PRACTICE

Understanding the relationship between functional impairment and urinary incontinence is important for preventing, treating and managing the condition. Understanding the relationship between functional impairment and urinary incontinence is important for preventing, treating and managing the condition. Strong associations between BMI, dysuria, constipation and urinary incontinence have been found in this and other studies, suggesting they might indicate key opportunities to prevent incontinence.

### Limitations

Our study had one major limitation – the use of a single item to report leaking urine.

Although women who completed the first survey were fairly representative, those who continued in the study were healthier and of higher socioeconomic status than the general population and those who dropped out, so it is likely the prevalence and incidence estimates we found are underestimates.

The full article, Byles et al (2009), is published in Age and Ageing.

### REFERENCES
