RESEARCH

High prevalence of urinary incontinence and poor knowledge of pelvic floor exercises among women in Ladysmith

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Introduction. The purpose of the study was to determine the prevalence of urinary incontinence in Ladysmith, KwaZulu-Natal, the health-seeking behaviour of affected women, and women's knowledge of pelvic floor exercises.

Methods. Between September 2005 and November 2005, a questionnaire was administered to 99 women aged 21 - 76 years.

Results. We found that 35.4% (95% confidence interval (CI) 25.9 - 44.8%) of the sample had urinary incontinence. The most common type of incontinence was stress urinary incontinence, reported by 62.9% (95% CI 46.5 - 79.2%). Of the 99 women, 32.3% (95% CI 23.1 - 41.5%) had heard of pelvic floor muscle exercises and 18.2% (95% CI 10.6 - 25.8%) had actually done them. Of the 35 women with urinary incontinence 25.7% had sought professional help, most commonly because of a worsening in condition.

Conclusion. Although the prevalence of urinary incontinence in Ladysmith is high, knowledge about the condition and its management among both women and health service providers is poor.

Urinary incontinence (UI) is a common but under-reported problem among women globally,[1,2] with a reported prevalence between 27% and 42%.[3-7] It is an increasing public health issue in ageing populations.[8] Information on the prevalence and health burden of UI in South Africa is very limited, and there is a need for better understanding of the health burden imposed by this treatable condition and why so few women seek help. In 1998 the South African Demographic and Health Survey (SADHS) measured the prevalence of stress urinary incontinence (SUI) in South Africa for the first time, but only among women who had had children.[2]

In 1998, the World Health Organization's first International Consultation on Incontinence classified UI as a disease, made recommendations on its assessment and treatment, and advocated raising awareness about its symptoms and prevention.[8,9] There are three types of UI: SUI, urge urinary incontinence (UUI) and mixed urinary incontinence (MUI).

Pelvic floor muscle (PFM) exercises both with and without biofeedback have been shown to be a safe and effective way of significantly improving symptoms of UI.[10] Randomised controlled trials and a Cochrane systematic review have shown that PFM exercises are an effective and safe first-line alternative treatment for all three types of incontinence.[1,8] Despite availability of this safe and effective therapy, Australian women's knowledge, practices and intentions regarding PFM exercises in 2000 was found to be poor and they needed to be taught how to do the exercises correctly.[11]

UI is a social taboo and often considered a normal consequence of childbirth and ageing, so sufferers remain silent due to embarrassment and the misconception that the condition cannot be treated.[12] In 1998 it was found that only 25% of incontinent Japanese women had consulted a doctor.[7] The situation was similar in Sweden, where 3 out of 4 incontinent women had never sought help because they felt that their incontinence was not a serious illness that needed professional care.[13]

This study aimed to investigate the prevalence of UI in Ladysmith, KwaZulu-Natal, the health-seeking behaviour of affected women, and women's knowledge of pelvic floor exercises.

Methodology

This was an observational descriptive cross-sectional study of 100 Ladysmith women, randomly selected using dwelling units as a proxy sampling frame. Any adult female over the age of 21 years was included in

the study. Exclusion criteria were mental retardation or degenerative brain disease, spinal cord injuries, chronic urinary tract infection, current treatment with diuretics, antipsychotics or opiates, and age over 80.

Data were collected using a custom-designed questionnaire and administered by four trained interviewers, in the language of the respondent's preference. The wording and the questions were validated by translators and pilot testing to identify any possible problems. The questionnaire was then piloted again among eight women in a gynaecologist's waiting room to identify any further problems.

To identify UI, the question 'Do you have any difficulty at all controlling urination?' was asked. There was a follow-up question on any past problems with controlling urination, and all those who indicated a problem in the past 12 months were taken as having UI. The questionnaire included questions to determine type of incontinence (whether stress, urge or mixed), based on the definitions of the International Continence Society,[14] a section on knowledge of PFM exercises, and a section reporting behaviour.

Using four interviewers threatened the reliability of the questionnaire. In order to overcome this, the interviewers underwent intensive training on how to administer the questionnaire; the importance of asking the questions exactly as they were presented on the questionnaire was explained. Standard prompts were given when necessary.

Simple random sampling of dwelling units reduced selection bias. If there were more than one woman in a home, all were interviewed. Using interviewer-administered questionnaires overcame the problems of low response rate and low literacy, while interviewing respondents in their language of preference reduced language bias. In most cases it was possible to match interviewers and respondents by race, minimising any possible cultural biases.

The Ladysmith community is a very small, urbanised community, and most of the women use similar health facilities. This may mean that the results of this study cannot be generalised to larger cities where there are a variety of health care options available. One possible confounder that was not accounted for was age, as UI is known to increase with age.[10]

Data were collected between September 2005 and November 2005. The study was explained to the women and permission to interview them was obtained by written consent. Each woman was left with a leaflet that explained UI and gave basic instructions on how to perform PFM exercises. All statistical computations were done by a statistician, using the SAS version 9 programme.

Full ethical approval was obtained from the Biomedical Research Ethics Committee and the Postgraduate Education Committee of the Nelson R Mandela School of Medicine, University of KwaZulu-Natal. Permission was also sought from and granted by the Ladysmith Municipality.

Results

In 2 of 100 households sampled the women refused to be interviewed, and in another 2 the women were unavailable. In 6 households there were 2 women in residence. A total of 102 women were therefore interviewed, but 3 were excluded because one was pregnant, one was 83 years old and one was on diuretics, leaving 99 women in the study.

Of the 99 women, 35 (35.4%) (95% confidence interval (CI) 25.9 - 44.8%) reported UI. The majority of them (23, 65.7%; 95% CI 46.5 - 79.2%) had SUI, 11 (31.4%; 95% CI 15.7 - 47.1%) had MUI, while only 1 (2.9%; 95% CI –2.8 - 8.5%) had UUI.

For the group as a whole the prevalence of SUI was 23.2% (95% CI 14.8 - 31.7%), that of MUI 11.1% (95% CI 4.8 - 17.4%) and that of UUI 1.0% (95% CI –1.0 - 3.0%) (Fig. 1).

The mean age of the total sample was 43.7 years (95% CI 40.3 - 45.8) and the median age 43.0 years. The Shapiro-Wilk test (p=0.22) to test for normality showed the ages of women in the sample to be normally distributed. However, the size of age groups varied. The 31 - 40-year group had the largest number of women (29), and there were only 2 women in the 71 - 80-year age group (Fig. 2).

The largest proportion of cases of UI (42.9%) was in the 41 - 50-year age group (95% CI 24.2 - 61.6%). The mean age of the women without UI was 41.6 years (95% CI 39.1 - 45.9) and the mean age of those with UI 45.5 years (95% CI 41.7 - 49.4). There was no significant difference between the means of the two groups (t-test –1.26, p=0.05).

Only 32 (32.3%; 95% CI 23.1 - 41.5%) of the 99 women had heard of PFM exercises and only 18 (18.2%; 95% CI 10.6 - 25.8%) actually knew how to do them (whether from instructions in a magazine or formal instructions from a professional). Of the 35 women who had UI, 11

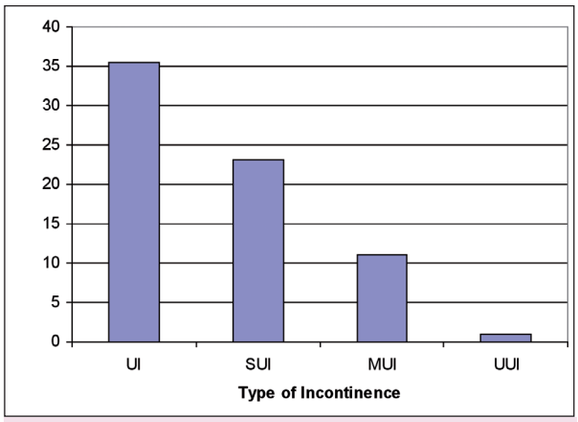

Fig. 1. Prevalence (%) of types of UI in women in Ladysmith, 2005 (N=99).

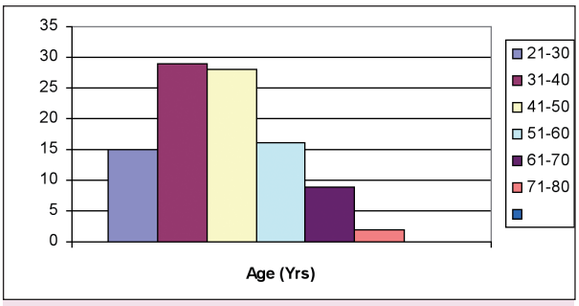

Fig. 2. Age distribution of the study sample (N=99).

(31.4%) had heard of PFM exercises and only 6 (17.1%) actually did them. Only one of the women who knew about PFM exercises had heard about them from her doctor; one other had heard about them from an antenatal clinic. The other respondents had obtained this information from magazines (28 women) and yoga instructors (2 women).

Of the 35 women with UI only 9 (25.7%) had sought professional help. The most common reason for seeking help was that the problem was getting worse. The most common reason for not seeking help was that it was considered a minor problem (Tables I and II). Two of the women who had sought help had not attended their follow-up visits. In one case this was because the respondent was not happy with the service she received at the clinic and did not know what other help was available. Furthermore, she could not afford to seek further help, although she felt that her condition was worsening.

Discussion

UI was found to be common, and the prevalence may even be higher than the reported 35.4% as some women might have been too embarrassed to admit to the condition. However, the 35.4% prevalence is consistent with other previous studies.[4,5,7] Higher prevalences of 40.7% (in 2004) and 42% (in 2005) were found among Chinese and Rwandan women, respectively.[15,3]

SUI has been said to be the most common type of UI and is commonly associated with childbirth and pregnancy.[1] In this study, SUI was found to be the most common of the three types of UI, followed by MUI and UUI. Luna *et al*. found that 80% of women with UI had SUI, 14% had MUI and 4% had UUI.[7]

We found a 23.2% prevalence of SUI in our total sample of 99 women. This is more than double the 10% prevalence reported by the 1998 SADHS.[2] It may be that the prevalence has in fact risen, as was found by Wong *et al*. among Hong Kong women, where the prevalence of SUI increased from 21% in 1996 to 40.7% in 2005.[15] The difference in prevalence may also be because the 1998 SADHS was not an incontinence-specific survey. The question on incontinence was only one among many other questions dealing with health issues and may not have been stressed adequately, resulting in respondents not considering it important.

Table I. Reasons women with UI gave for seeking help* (*N*=9)

Urine leakage worsened	6
Leakage is shameful and embarrassing	4
Leakage caused decreased physical activity	1
Did not want problem to worsen	1

*More than one reason could be given.

Table II. Reasons women with UI gave for not seeking help* (*N*=26)

Leakage is part of normal ageing	4
Leakage is normal after childbirth	7
Leakage is only a small problem	20
Did not know what types of help are available	1

*More than one reason could be given.

Only 32.3% (32) of the 99 women interviewed had heard of PFM exercises, and 18.2% (18) had actually done them. This is a very low prevalence in a sample of largely parous women whom one would expect actually to have been taught PFM exercises at their antenatal visits. In 2003 Chiarelli *et al*. found that 95.7% out of a sample of 720 women had heard of PFM exercises, but they concluded that despite good knowledge of PFM exercises few women actually did them.[11]

A particularly disturbing finding in our study was that even women with UI were not being taught PFM exercises as a first line of treatment. The evidence shows that they are not being taught or done. Two of the 9 women who sought professional help went to a gynaecology clinic and a general practitioner, respectively, where they were told that their UI was a normal consequence of ageing. There appeared to be a disturbing lack of knowledge about UI and its assessment and treatment among health practitioners in Ladysmith.

We found that only 25.7% (9) of the women with UI had sought professional help. Luna *et al*. reported that 25% of the women with UI in their study had sought medical help and that the most common reason for this was worsening of the problem.[7] Hunskaar *et al*. reported a consultation rate of 30%.[4] Wong *et al*. found that 61.2% of women in their study thought that leakage of urine was part of the normal ageing process, and over 90% felt that education on incontinence was insufficient.[15] Consultation rates appear to be low worldwide, and the reasons for this seem to be similar among women of different cultures and backgrounds. Other researchers have concluded that primary health care providers lack confidence in the management of UI and that this leads to under-treatment of those patients who do seek help.[4]

The size of our study was a major limitation. It was difficult to obtain meaningful estimates of age-specific prevalence because the sample sizes were too small and differed

greatly across the age groups. Unfortunately, we did not obtain information on the respondents' length of stay in Ladysmith. This information would have given a clearer picture on whether the problems or lack of knowledge were due to deficiencies in services in Ladysmith or elsewhere.

Conclusion and recommendations

UI is very common among adult women in Ladysmith, with a prevalence of 35.4%. The women most affected were in the 41 - 50-year age group. The prevalence of UI among South African women appears to have increased over the past 7 years, if the prevalence of SUI is used as an indicator of this increase.

This study also showed that knowledge of PFM exercises is poor and that knowledge concerning management of UI among health service providers needs to be improved. It is strongly recommended that primary health care providers familiarise themselves with incontinence and its management. The study also highlighted lack of awareness among women of UI as a disease.

There is a clear need for public health programmes to address the problem of UI in the community by providing education on strategies for prevention and treatment, and to make women more aware of it as a medical condition that can be treated. Larger studies need to be done in other communities in South Africa, and it will also be beneficial to determine the effect of UI on quality of life of women in South Africa.

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