

LIMITED FLUID INTAKE AND RESTRICTED TOILETING ARE BEHAVIOURS ASSOCIATED WITH REDUCED WORK PRODUCTIVITY FOR WOMEN WITH STORAGE LOWER URINARY TRACT SYMPTOMS AT WORK.

Hypothesis / aims of study

This is the first known study to examine the relationship between restricted toileting or limited fluid intake behaviours and work productivity for female nurses and midwives with storage lower urinary tract symptoms (LUTS) while at work.

Study design, materials and methods

A cross sectional observational study, with a pragmatic multi-modal data collection strategy was used. A survey (electronic and 600 paper based) was distributed to female nurses and midwives at three urban hospitals, between June and November 2016. An estimated 2,750 nurses and midwives worked in the three hospitals in 2016. A sample size of at least 600 was required to achieve a 95% confidence (5% error) on an estimated 56% response rate [1].

The presence of storage LUTS (urinary frequency, urinary urgency, urinary incontinence and nocturia) in the last month was determined by responses to questions from the Female International Consultation on Incontinence LUTS questionnaire. The presence of storage LUTS "at work" was determined by the question "In the last month, did you experience urinary symptoms at work? By urinary symptoms we mean feeling the need to pass urine more frequently than usual; feeling discomfort because of the need to delay passing urine; needing to rush or hurry to pass urine when you get the urge; or leaking urine with work activities or with the need to hurry to pass urine?" [2].

Descriptive statistics were used to provide information about the characteristics of the nurses and midwives, and Chi Square tests to identify any significant differences in the health variables for those with or without limited fluid intake or toileting restrictions at work. Logistic modelling was used to estimate the predictive association between limited fluid intake and restricted toileting behaviours of nurses with LUTS at work, and work impairment measured by items from the Work Limitations Questionnaire (WLQ) [3]. The productivity domains examined were time management, mental concentration and physical demands. Scores for the WLQ were calculated as percentage of work impairment, for example, a score of 25% indicated that a respondent was limited in the particular domain during 25% of the reporting period (the previous 2 weeks). Survey questions included sociodemographic, health and female gender data known to influence the occurrence of LUTS. Respondents reporting a current pregnancy were excluded from analyses. *P* values are significant to <0.05 (two tailed).

Results

The mean age of the included response sample (n=353) was 42.4 years (± 12.64 , range 21-67 years), mean BMI 25.54 kg/m² (± 5.05 , range 17.72-59.81 kg/m²) and 55% (95% CI: 50-60) were nulliparous. When at work 77.1% (95% CI: 73-81) delayed voiding, 22.4% (95% CI: 18-27) were not able to access the toilet when required, and 26.9% (95% CI: 22-32) reduced their fluid intake to delay or avoid voiding at work. The prevalence of storage LUTS at work was 46.7% (95% CI: 42-52). Storage LUTS at work was significantly associated with delayed voiding ($X^2=20.53$; $P \leq 0.001$) and restricted access to toilets ($X^2=5.39$; $P = 0.020$). Limitation of fluids at work was significantly associated with urinary urgency ($X^2=6.25$; $P = 0.012$) and nocturia ($X^2=5.18$; $P = 0.023$). The proportions of nurses and midwives with urinary specific work impairments are shown in Figure 1. Nurses and midwives with storage LUTS at work who limited fluids were more likely to have time management work impairment than those who didn't (OR: 3.68; 95% CI: 1.58-8.61). Those who delayed voiding at work were more likely to have a concentration impairment than those who didn't (OR: 8.80; 95% CI: 1.07-72.16), with models adjusted for age, body mass index, back pain, anxiety, depression, storage LUTS at any time (not just at work) and other pelvic floor dysfunction (constipation, pelvic organ prolapse and urinary tract infection).

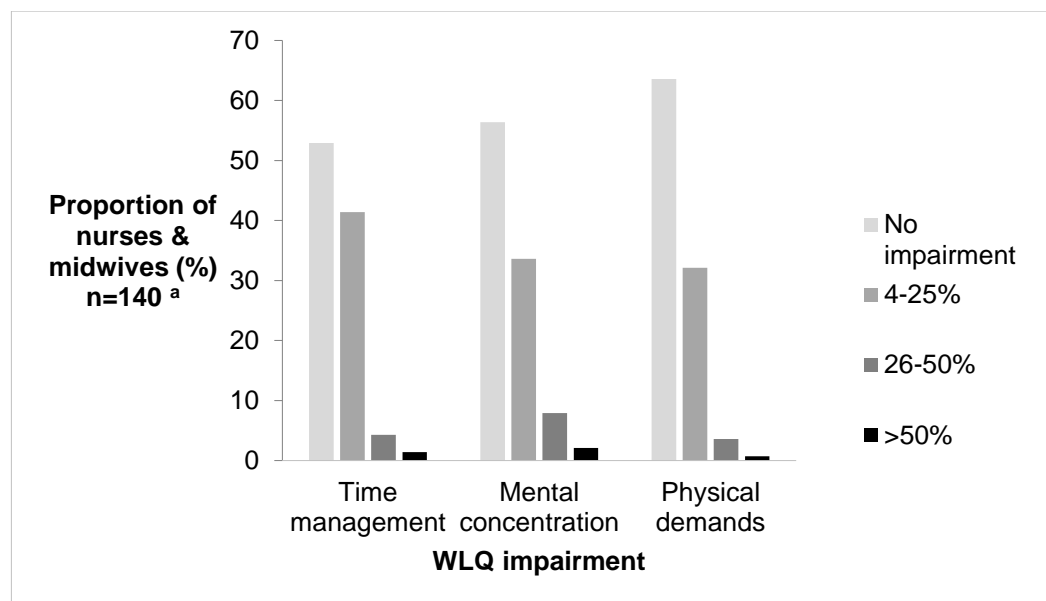
Interpretation of results

In this study almost one in two female nurses or midwives reported storage LUTS at work. Symptoms were associated with delayed voiding and lack of access to toilets. Limited fluid intake and restricted toileting behaviours are modifiable, hence storage LUTS and accompanying productivity loss preventable. Further investigations are required of workforce groups with workplace restrictions on the accessibility of these fundamental human needs. Workplace barriers to regular voiding and fluid intake need to be identified and solutions to improving healthy behaviours investigated. Sample characteristics are comparable to related demographic workforce data, which is a strength of this study. Limitations include the cross sectional design which precludes examination of causality and the potential for uncontrolled confounding. Sampling and response effects may have biased findings; practical workplace barriers precluded randomisation as a sampling strategy, and it was not possible to determine the number of nurses who had access to the electronic version of the survey.

Concluding message

These findings have implications for workforce policy considering the preventable and treatable nature of LUTS at work. This health issue is a priority in occupational health with an ageing workforce, to allay future costs for employers and health care systems. The ability to drink fluids and access toilets at work is a public health concern, an occupational health issue and a fundamental human right.

Figure 1: The proportion of female nurses and midwives with LUTS at work who have a urinary specific WLQ productivity impairment.



Legend: WLQ, Work Limitation Questionnaire. (a) 19 cases excluded due to missing data for score calculation.

References

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3. Lerner D, Amick, Benjamin C., Rogers WH, et al. The Work Limitations Questionnaire. *Medical Care* 2001; 39(1).

Disclosures

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