PIERCE, H., PERRY, L., GALLAGHER, R. AND CHIARELLI, P. (2019)

Culture, teams and organisations: A qualitative exploration of female nurses' and midwives' experiences of urinary symptoms at work. *Journal of Advanced Nursing* 75:1284-1295. DOI:10.111/jan.13951

ABSTRACT

Aim

To explore nurses' and midwives' experiences of urinary symptoms at work.

Background

Lower urinary tract symptoms are common in female nurses and midwives. There is limited understanding of the relationship between urinary symptoms, bladder health practices and work.

Design

Qualitative design providing in-depth exploration of nurses' and midwives' experiences of urinary symptoms at work through focus group discussions.

Methods

Twelve focus groups were held July - September 2016 with 96 registered nurses and midwives working at two tertiary-referral hospitals in urban New South Wales, Australia. A semi-structured question schedule was used. An inductive process guided thematic analysis of data using a socioecological framework of health behaviours.

Results

Nurses' and midwives' experiences of urinary symptoms at work primarily relate to delaying voiding. This practice is explained by a work culture of 'patient-first' care at expense of self-care, relationships in the nursing team, demands of the nursing role and inadequacy of workplace amenities. The first two themes reflect cultural and social caring dilemmas central to nursing. The second two themes identify issues with workforce management and physical workplace environments.

Conclusion

Nurses' and midwives' urinary symptoms and behaviours in response to sensory cues for bladder emptying are dependent on several socioecological influences. Occupational health initiatives in the workforce are required to break cultural norms that deter self-care and to promote work environments that support healthy bladder practices. Workforce management and physical workplace environments are key influences on nurses' timely and dignified access to amenities.

IMPACT

What problem did the study address?

- The 'nurses' bladder' is a described international phenomenon related to the common workplace practice of delaying voiding.
- Lower urinary tract symptoms are common in the workforce but little is known of the antecedents to nurses' and midwives' urinary symptoms and workplace bladder practices.

What were the main findings?

- Delaying voiding was discussed as a common practice in this study, with many nurses and midwives preferencing patient-care at the expense of self-care.
- Relationships in teams, management of nursing role demands and the physical location of amenities are factors that either support or deter healthy bladder practices at work.

Where and on whom will the research have an impact?

- Access to amenities in the workplace is an important personal health issue for nurses and midwives.

- Findings have implications not only for nurses and midwives, but also for managers, health-care organisations and policy makers, as unhealthy bladder practices at work are modifiable and urinary symptoms preventable.

Key words

drinking behaviour, occupational health, midwives, nurse, toilet facilities, urinary incontinence, urinary bladder, working women, workplace

INTRODUCTION

Bladder storage and emptying (voiding) are every day personal events determined by need, time and place to void (Harvey et al. 2012). Healthy bladder function depends on drinking adequate fluid (around 25-30 mL/kg body weight per day) to void every three to four hours when awake (Lukacz et al. 2011). Successful control of bladder storage "permits daily activities, adapts to short term physical or environmental stressors and allows optimal well-being (e.g. travel, exercise, social, occupational or other activities)" (Lowder et al. 2017). Adult workers with healthy bladder function and ready access to amenities, effectively control bladder storage and emptying without dwelling on the requirement of where, when or whether to drink or void (De Wachter et al. 2011).

Suppression of urinary urge and limiting of fluid intakes to delay voiding, are common workplace behaviours in female nurses (Bendtsen et al. 1991). However, these bladder management behaviours may increase the risk of developing urinary tract infections (Nygaard and Linder 1997) and contribute to the experience of symptoms of bladder dysfunction (termed lower urinary tract symptoms, LUTS) (Palmer et al. 2017, Haylen et al. 2010, Harlow et al. 2018). Furthermore, chronic mild dehydration is linked to the development of kidney stones (Sorokin et al. 2017), bladder cancer (Zhou et al. 2014) and cardiovascular disease (Burgio et al. 2013, Thornton 2010). Of concern, LUTS have been shown to be more prevalent in female nursing workforce groups than other populations (Liao et al. 2009, Zhang et al. 2013, Wan et al. 2017). While nurses' job demands and workplace environments appear to dictate decisions regarding timing of fluid intake and voiding opportunities, antecedents to these bladder management behaviours remain poorly understood (Palmer et al. 2017, Xu et al. 2016, Pierce et al. 2017).

Background

‘Health practices’ is a term proposed to describe health behaviours inextricably linked to cultural, social and environmental influences (Holman and Borgstrom 2016). ‘Practices’ are behaviours viewed not just as actions of choice, but with consideration of the people involved and the context where the actions are performed (Holman and Borgstrom 2016). While social theories acknowledge and attempt to disentangle the complex interplay between social and individual factors in human behaviour, socioecological theories additionally consider the physical environment (e.g. geographic, architectural, technological) (Sallis and Owen 2015, Stokols 1996). Accounting for the multiple influences on a person’s health behaviour in a setting allows for the identification of ‘lever points’ for policy development to effect organizational and behavioural change (Stokols 1996). Health promotion socioecological theory has been successfully applied to tobacco control (Borland et al. 2010) and improving the understanding of eating (Nicholls et al. 2017), physical activity and sedentary behaviours (Sallis et al. 2006). A socioecological model of health behaviour may also permit the complexities of health practices related to the development of LUTS be better understood and where necessary redressed (Newman et al. 2017).

For the nursing profession, education regarding the need for personal healthy bladder behaviours is one commonly proposed solution to prevent nurses’ urinary symptoms (Xu et al. 2016, Liao et al. 2009). However, this strategy fails to address the complex social and environmental influences of nurses’ work. To further understand the various influences on nurses’ personal bladder management practices we sought to explore their experiences of urinary symptoms at work using a socioecological framework. In addition to nurses’ personal health attributes (intrapersonal factors), levels of influence on health practices may include cultural and social work contexts (group and interpersonal factors) and organisational factors (workforce management and the physical work environment) (Sallis and Owen 2015). We

anticipate that insights gained will support development of strategies to promote nurses' bladder health.

THE STUDY

Aims

The aims of this study were to 1) explore nurses' and midwives' experiences of urinary symptoms at work, 2) provide explanations for these experiences and 3) propose recommendations for the prevention or management of urinary symptoms in the workplace.

Design

This study formed part of an exploratory mixed method investigation of the links between pelvic floor dysfunctions and work among nurses (Pierce et al. 2018, Pierce et al. 2017). Concurrent to the collection of survey data on this topic we used qualitative design for an in-depth exploration of nurses' and midwives' workplace experiences through focus group discussions.

Sample and setting

A pragmatic convenience sample included female registered nurses and midwives (hereafter collectively referred to as 'nurses') and student midwives who were registered nurses, at two tertiary referral hospitals in Sydney NSW Australia. Nurses were eligible to participate if they were registered and employed (full, part-time or casual) in the study hospitals.

Data collection

At the commencement of the study it was not known whether nurses would be receptive to study invitations to discuss this personal health topic. We therefore used a pragmatic approach to recruit participants. With the support of the sites' Directors of Nursing, information sessions about the study were held at nurse leadership meetings. Nurse Managers

and Educators were encouraged to contact the lead investigator (HP) to host study information sessions, held at times and locations convenient to work areas. At each session, nurses were informed about the study background and objectives and invited to complete surveys and discuss the topic in a focus group. Given the sensitive nature of this topic, individual interviews were also offered.

To explore nurses' experiences in different clinical areas, we aimed to conduct at least six focus groups with up to 10 participants in each group. Recruitment exceeded these numbers and additional groups provided opportunity to build richness in the data set (Morse 2015). Recruitment of participants continued until the main clinical areas of each hospital had been sampled. Data saturation was evidenced when discussions were recognised as repeating without new material (Saunders et al. 2018). Data collection occurred between June - November 2016.

The discussion format of each focus group was guided by a semi-structured schedule of open-ended questions related to the study aims (the focus group schedule is provided in supplementary material). Question development was guided by a conceptual framework of the influence of work on the development of LUTS (Palmer 2002, Liao et al. 2006) and by the survey responses of the first phase of this study (Pierce et al. 2018). Nurses' were asked about the influence of urinary symptoms on their ability to get their job done, the influence of work environments on symptom experience and whether their work environment could be changed to help prevent symptoms. Field notes and a reflective diary completed during data collection provided guidance for further in-depth exploration of recurrent or new discussion topics as they arose. Focus group discussions generally ran for 20-30 minutes, reflecting the limited time availability of nurses.

Ethical considerations

The lead author (HP), a female doctoral student with experience in facilitation of small groups, facilitated all focus group discussions. During the period of data collection, HP was an employee at one of the hospitals on study leave and was unknown to most participants. Participants were informed of HP's professional background, reason for interest in the topic and that focus group data would form part of the body of work for her doctoral thesis. All participants supplied written informed consent. Ethics approval was provided by the University of Technology Sydney Human Research and Ethics Committee: HREC 2015000478 and South Eastern Sydney Local Health District HREC: Reference No. 15/283(LNR 15/POWH/540).

Data analysis

Data analysis occurred following data collection. Focus group discussions were recorded as MP3 digital files, transcribed verbatim into Microsoft Word, then transferred, stored and managed in QSR NVivo software version 11. An inductive three-stage process guided a thematic approach (Braun and Clarke 2006). Firstly, open coding of data identified patterns in the data set. Coding decisions were discussed and confirmed with co-researchers, with reference to the study questions. This process was followed by the creation of categories and subcategories, through an iterative process of listening to recordings synchronously with reading and rereading transcriptions of text, field notes and a reflective diary. Finally, there was abstraction of categories to form a conceptual description of the focus group data by the development of major themes and subthemes (Corbin and Strauss 2008). Themes that arose from the data reflected a socioecological framework of health behaviour. This framework assisted in identification of personal, cultural, social and organisational influences on health behaviours related to symptom experience.

Rigour

Our systematic approach to data analysis generated key themes in answer to the study aims. Co-author (LP) independently listened to recordings and read transcripts, questioning and confirming coding decisions. Concept development and the identification of major themes and subthemes were further discussed and agreed with study co-researchers (HP, LP and RG) (Graneheim and Lundman 2004). HP recorded and distributed summary notes of the meetings, providing a record and audit trail for study conduct, coding and analysis decisions and study rigor.

FINDINGS

Participant characteristics

In total, 96 registered nurses and midwives participated in 12 focus groups of 4-10 participants, held July to September 2016. Five nurses responded to the invitation for an individual interview but this paper solely reports focus group findings. The mean (SD) age of respondents was 42.3 (12.6) years, mean (SD) number of years working as a nurse was 17.7 (12.7) years and mean (SD) number of hours worked each week was 35.5 (9.9) hours. Twelve clinical areas were sampled, including emergency, intensive care and high dependency units, general and surgical wards, midwifery (birth unit, maternity ward and outpatient clinic) and perioperative staff. Staff working both business hours and rotating shifts (including weekends and night duty) were included. A unique code identified each focus group according to study site and clinical area. Sequential numbering of each participant's contribution ensured confidentiality for individual nurses' dialogue for each group discussion.

Nurses' experiences of urinary symptoms at work

Initial coding and categorisation of focus group data confirmed nurses' experience of urinary symptoms at work as primarily related to delaying voiding. While some nurses disclosed difficulty with management of LUTS (urinary urgency or urinary incontinence), focus group

discussions centred on a dominant experience of supressing signals for bladder emptying, with bladder discomfort from delaying voiding. Nurses' descriptions of "hold on" and "busting" recurred repeatedly throughout discussions, for example:

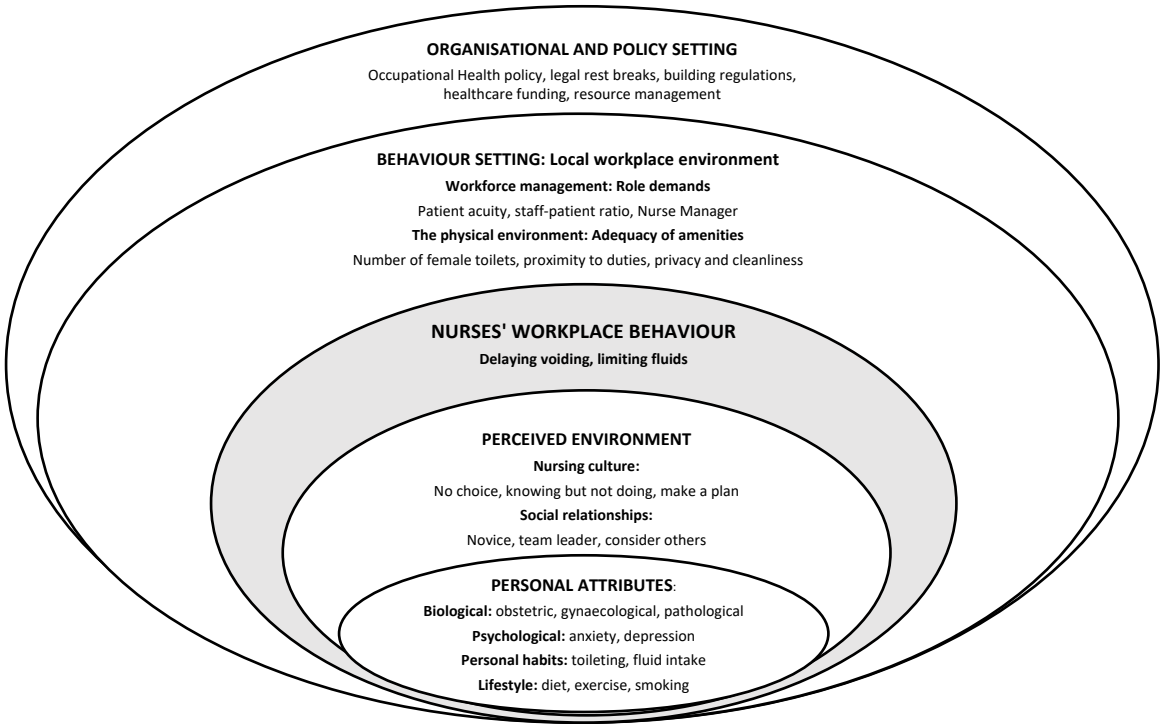
> "You think I need to go and then two hours later you go yeah I think I still need to go. (Laughs) Hold it on; hold it in." [30, Wards1]

Thematic analysis identified four key themes explaining the major influences on nurses' bladder practice of delaying voiding at work:

- A work culture of 'patient-first' care at the expense of self-care
- Relationships in the nursing team
- Demands of the nursing role and
- Inadequacy of workplace amenities.

The first two themes explain nurses' experiences through the cultural and social framework of nurses' work, reflecting caring dilemmas central to nursing. The second two themes identify organisational issues in workforce management and nurses' physical workplace environment. Figure one portrays the key themes within a socioecological framework, taking account of personal, social, cultural and organisational influences on bladder practices and nurses' experiences. Nurses proposed solutions for the prevention of urinary symptoms in the workplace; however, many were pessimistic that change would occur.

Figure 1: Socio-ecological model of the key themes that explain nurses' behaviour related to their expereince of urinary symptoms at work.



Nursing culture: 'Patient-first'

The influence of culture on nurses' bladder practices was evident in discussions through the expression of a 'patient-first' approach to work which over-rode healthy self-care practices. Many nurses explained that they had to "hold on" because patient care came first. Some expressed that they did everything for the patient and nothing for themselves. Humour often accompanied shared experiences and an agreed sense that this is how it is and nothing will change. Nurses compared lack of self-care to standard operational procedures for when a patient has not voided, such as the need for a bladder scan or urinary catheter. When questioned about self-care one nurse summarised:

> We cannot make any changes because … when we look after our patients we are not concentrating on ourselves, we are concentrating on them. So unless the nurses should

> think that it's my health too, I have to go to the toilet, we have to get some time to go. Sometimes when the ward is busy we cannot think anything about you know bladder care, (laughter) nothing you know. We're focusing on patient care."[107, Wards1]

The ethos of a 'patient-first' approach to work was linked to the subthemes of 'knowing but not doing' healthy bladder practices; having 'no choice' of when to void; and needing to 'make a plan' for anticipated restricted voiding.

Knowing but not doing

Nurses described that they were aware that they should be looking after themselves: they knew what they needed to do, they just didn't do it. Lack of self-care was not evident as lack of knowledge but explained by prioritising patient care, job demands (often expressed as lack of time), being distracted or simply forgetting to self-care. Again, humour was commonly a part of shared experiences. As one midwife expressed: "Do what we say, not what we do." (Laughs) [85, Maternity]

No choice

Some nurses felt that they had "no choice" in their behaviour - conscious or subconscious, they had to press on and ignore the urge to void. This feeling was exemplified by the following:

> You just don't feel like you can leave the room. You feel like you can't - you've got to hold it. [65, Maternity]

Make a plan

Delaying the urge to void was commonly associated with planning how to "hold it in" when nurses anticipated restricted toilet access. Some more experienced nurses described how they had trained themselves over the years to ignore the urge to void. This training involved a purposeful limitation of fluids. Nurses agreed that they needed to plan to take voiding

opportunities, making the most of rest breaks to void "just in case." A senior intensive care nurse stated:

> I think over the years I've trained myself not to drink so much water when at work and my bladder know(s) that it can't predict what is going to happen next twelve, eight hours. I don't feel that instinct to go. [11, ICU]

Nursing team relationships

The novice, team and team leader

Social dynamics in nursing teams reflected influences to support or deter opportunities for self-care. Voiding opportunities and rest breaks were usually dependant on supportive relationships between team members, or with the team leader. While some nurses felt they had no choice in leaving clinical care for a period of time, or were unable to ask colleagues to cover their duties, other nurses described a common sense approach through being responsible for yourself. For example, a senior midwife commented:

> I think people need to take responsibility for themselves…. Really, if you need to go, you need to go. [84, Birth Unit]

It seemed that the more confident or senior the nurse, the more likely to listen to their toileting needs and negotiate with their team or team leader to leave patient care to void. Confidence in self-care stemmed from level of experience, or length of time in a clinical area. Conversely, lack of confidence or ability to self-care reflected a novice position in the team. Students and nurses new to a clinical area were perceived as less able to self-care. As one nurse commented:

> I think that comes with experience, though. Because when you first come into a nursing or midwifery role, you want to please. You're not sure of your environment. You don't know who you're working with. It's not until you've worked for a little

> while and you feel more confident and you've got your time management and your priorities of care and all of that. [112, Birth Unit]

Diverse experiences regarding voiding opportunities arose in the group discussions, reflecting differing social dynamics. When one midwife stated that she had "…never been told" [117, Birth Unit] that she couldn't leave patient care (to go to the toilet or have a rest break), another responded:

> As a student nurse, I did. No, you have to wait. You can't go. Now, going back from being an RN to now being a student again, what you're saying - I feel like I have to say, can I go to the toilet? Is that okay? Because I'm back in that student role again. [121, Birth Unit]

Consider others

For some nurses, the ability to ask for help from the team to leave patient-care involved consideration of how colleagues would interpret their need to leave. As one midwife stated:

> But sometimes people might say, well where are you going? Where have you been? [118, Birth Unit]

Another nurse shared that she felt unable to ask for help because she was reluctant to burden other members of the team. Asking for help was also challenging for those who needed quick access to toilets to manage urinary symptoms. One nurse disclosed the need to wear a continence pad "just in case" she didn't make it to the toilet in time. When bothered with urinary urgency a midwife expressed feeling "bad" by the need to request help:

> So there's a couple of times where I think I've got to go to the toilet but I'm looking after a labouring lady. It's like I get nervous that I'm not going to be able to hold it in. So sometimes I say to people can you just stay in here for five minutes while I quickly

> go to the toilet? I feel bad doing that but the alternative is not … [getting to the toilet in time] [24, Casual]

Nursing role

Patient acuity and staff-patient ratio

Requirements of the nursing role were also a barrier to voiding opportunities. Nurses stated that they could not leave their duties when dealing with emergencies or caring for patients with high needs. Busy and demanding workloads were cited as a consequence of poor staffing. Nurses indicated that often there was no available stand-in relief. For example:

> … Sometimes it's hard to go to the bathroom, because our shifts are really hectic and you've got a really busy load. Sometimes, because we're so short staffed as well, I find that I'll hold my bladder for longer periods of time. Whereas, if I was at home I'd just go. [22, Maternity]

Nurse Manager

The Nurse Manager or team leader of the clinical area was viewed as a key influence on nurses' self-care practices; overseeing the spread of patient loads, ensuring or encouraging nurses to take breaks. Lack of time to get to toilets was commonly expressed. As one nurse commented:

> It's time - lack of time. It depends on where you work as well, how conscientious your manager is to make sure that every nurse is getting their breaks. [25, Clinic]

Adequacy of amenities in the workplace

Nurses viewed lack of practical workplace access to toilets as a major barrier to voiding opportunities. For some nurses, toilet access was restricted due to either: 1) distance from clinical work area; 2) an inadequate number of toilets for the number of female staff in an

area; or 3) reluctance to use amenities where there was lack of privacy or cleanliness. When female toilets were not immediately accessible, nurses resorted to the use of patient or male toilets. In the following comments, nurses expressed frustration at this.

> I think the distance, as well. If I'm working in maternity I'm, like, oh man, the toilets are so far. [80, Maternity]

> …Standing outside. Even though it's two [toilets] - you can't wait, we have to use patients' room. [51, Wards2]

Prevention and management of urinary symptoms in the workplace

Solutions to promote healthy bladder behaviours and management of urinary symptoms at work reflected cultural, social and environmental influences on nurses' experiences.

Self-care and care of others

While self-care was described as a skill acquired "on the job", suggestions were made to assist with the development of this skill. Nurses proposed that self-care be addressed during training, both at university and in the workplace. Increased awareness of potential urinary issues, where to seek help and workplace reminders to self-care were suggested including the use of prompts:

> Just some visual stimuli, to, a) make people think about it and think, oh, maybe I do have a problem. Then they might further investigate it. Then b) remind them to just, yeah, do your little exercise, go to the toilet. When did you last do a wee? Have you drunk enough? [242, Birth Unit]

Discussions also highlighted the importance of effective team communications as a strategy to support self-care practices. Nurses' recommendations included open negotiation with team members for support for relief from face-to-face patient care, encouragement from colleagues and managers to take regular breaks, making an effort to look out for each other and being

aware of the needs of those with symptoms of urinary dysfunction. Put simply by one nurse: “Make sure you get your break and other people get their break as well” [19, Clinic]. The importance of sensitivity towards others’ needs was described as follows:

> I guess, just a discussion in the work force to say, okay, this particular person does have this issue at the moment. If she says can you watch my patient for five seconds while I go to the toilet, you don't have to feel guilty about doing that. Because that's what it is, you just feel bad. Especially those days where it is so busy that everybody is so busy. [93, Casual]

Workforce management, the physical environment and change

Nurses acknowledged the need for workplace initiatives to promote bladder heath. In addition to educational strategies for self-care, there were requests for management initiatives and practical environmental change. Nurses wanted improved access to toilets, better regulation of breaks and development of policies and guidelines for nurses’ bladder health, to assist break cultural norms:

> Then that would break the culture because I think it's a culture thing that you would [think] “oh, you're a nurse. You must not go to the toilet”. It's kind of - everyone says - the catheter joke [insert a catheter at the start of the shift] is a thing that's going around. So, if there was a policy then yeah, maybe that would break that a little bit. People take it more seriously. [87, Maternity]

However many nurses were sceptical of the support for employers for change: “If our employer doesn’t care, it’s very difficult for us to care”. [83, Casual]

DISCUSSION

This is the first known qualitative study to describe female nurses’ experiences of urinary symptoms and related workplace bladder practices in urban hospital settings. Most nurses

deliberately ignored sensory cues for bladder emptying, with some purposefully limiting fluid intakes. For many, a work culture of patient-first care over-rode healthy self-care practices. Relationships in the nursing team and the attitudes of managers also influenced nurses' perceived ability to take required work breaks to access amenities. Further, practical demands of the nursing patient-care role often restricted voiding opportunities, with time restraints for self-care explained by patient care demands or insufficient staffing. These were commonly expressed nursing cultural norms and practices: not confined to individual hospital, specialty, ward or team. Of concern, inadequacy of female amenities in some workplaces reinforced delayed voiding practices. Bladder practices predisposing to nurses' experiences of delaying voiding were generally considered an inevitable component of nursing work. Nurses offered solutions to improve their bladder health, but expressed pessimism for change, doubting the support of change from employers.

'Nurses' bladder' practice: Delaying voiding

Our study findings confirm the nurse workplace practice of delaying voiding, the 'nurses' bladder' (Bendtsen et al. 1991), as a health concern for the workforce. Habitual suppression of the desire to void may over-distend the bladder, alter bladder sensation and increase voiding dysfunctions (Palmer et al. 2012) and urinary tract infections (Nygaard and Linder 1997). These focus group analyses provide a potential explanation for the increased prevalence of LUTS in nurses compared with general populations reported internationally (Zhang et al. 2013, Liao et al. 2009), with insights into multiple socioecological factors predisposing to LUTS development. A primary antecedent to these modifiable behaviours identified in these analyses was a pervasive work culture of patient-first care, over-riding self-care practices.

Nurses' culture of caring: care of self and others

A key theme of nurses' discourse exposes a paradox of nursing: a culture of caring for others at the expense of self (Melnyk 2018, Glass and Rose 2008, Bickley 1998). Nurses' work to some extent necessitates placing self-needs on hold; however, it is the extreme of this behaviour that is problematic. An explanation for this behaviour lies in one of the main reasons nurses provide for entering the nursing profession: an altruistic call to care for the needs of another (Eley et al. 2010). If those who enter the profession already have a strong desire to serve others, it follows that they are likely to put others' needs first, perhaps to the detriment of their own. Nurses may also perceive that they are unable to leave patients; this may reflect their understanding of patient safety and concern that this not be compromised. The act of caring may also reflect a need to be needed (Badolamenti et al. 2017). If, as our study findings suggest, nurses recognise their poor health behaviours, yet continue to advocate that others "do as I say, not as I do" (Blake et al. 2011), disregarding the impact of example and role modelling, can an underlying culture of 'patient-first' care be changed - or at least modified - to accommodate self-care?

Culture is a "deep structure" of inherent beliefs and values held by a social group, that finds expression through processes of thinking and action (Suominen and et al. 1997 p.186). With the primary occupational task of nurses being care of patients, the culture and act of caring are central to the nursing profession (McCance et al. 1999). Theorists have proposed that self-care should be integral to the nurse-patient relationship (Watson 2001). Described as a self-initiated behaviour, self-care involves a sense of responsibility for one's own health, where life-style choices promote health and general well-being (Bickley 1998). In an investigation of the self-care practices of nurses in a rural hospital (N=45) most nurses valued self-care, recognised its importance and were willing to participate in self-care programmes (Lubinska-Welch et al. 2016). Despite this expressed desire to be healthy, lack of self-care persists, with many nurses' unable to transfer health knowledge to their own lifestyle behaviours (Blake et

al. 2011, Nahm et al. 2012, Perry et al. 2018). This lack of self-caring points to cultural values and influences on nurses' behaviour beyond individual choice and may go some way to explain why some nurses feel they have "no choice" and despite evident frustrations, express pessimism and lack confidence in change.

With global nursing shortages and the need to maintain the health of an ageing workforce, promotion of self-care practices in many high-income nations is a workforce and national healthcare priority (The American Nurses Association 2017, National Health Service 2016, Audit Scotland 2017, Health Workforce Australia 2014). Research discourse on nurses' health has largely focussed on nurses' individual health profiles, barriers to healthy lifestyle behaviours (diet and exercise) (Nicholls et al. 2017, Nahm et al. 2012) and reduction of occupation-specific health risks such as work stress, long work hours, irregular meal schedules and shift work (Ross et al. 2017, Kyle et al. 2016). Researchers ask why nurses leave (Eley et al. 2010, Perry et al. 2017b, Goodare 2017), with strategies offered to help them stay in the workforce (Dawson et al. 2014, Perry et al. 2017a). Our study findings indicate that strategies need to take account of the role of culture and related social factors in workers' health and health behaviours (Mastroianni and Storberg-Walker 2014, Nicholls et al. 2017). With strong underlying cultural norms that preference patient care to the detriment of nurses' self-care, solutions for improving bladder health and the overall health and well-being of nurses, are unlikely to be achievable or sustainable unless they encompass cultural and social change.

Relationships in the nursing team

In the current study, the social dynamics of interpersonal relationships within the nursing team played an important role in nurses' choices regarding whether to "hold on" or "go" in response to bladder cues. Positive work relationships between peers in the nursing team and with the team leader or Nurse Manager, facilitated self-care. Healthy teamwork is a vital

principle of effective nursing care and achievement of optimal patient outcomes (Duffield et al. 2007). Workforce studies support the value of positive workplace relationships in workers' health. In a qualitative American study of individual interviews with 19 employees from four companies, feelings of well-being were enhanced and reporting of physical symptoms reduced, when work interactions were perceived as collaborative, trusting and positive and when workers felt valued and respected (Mastroianni and Storberg-Walker 2014). Teamwork has many benefits, including for the health of team members.

Workforce management and workplace environment

Nurse staffing levels are 'hot topics' nationally and internationally. The unique demands of the nursing role, the level of care perceived to be required and the number of nurses available to provide care, are pressing issues that influence bladder self-care practices. It is likely that these issues also perpetuate nurses' work culture and social behaviours. Many clinical nurses lack role autonomy, the freedom to leave patient care to empty their bladders at will. This constancy of 'bedside' presence distinguishes the nursing role from other healthcare disciplines. With healthcare systems under increasing strain of inadequate staffing and limited resources, the role stresses of nursing are exacerbated (Chang et al. 2005, Ross et al. 2017). These findings highlight the importance of understanding the role of culture as well as workforce management, potential influences on nurses' social behaviours and the necessity of supportive organisational policies and practices to promote nurses' health as well as work.

Occupational health and safety legislation mandate the responsibilities of employers in their care of employees, while encouraging employee responsibility for their own health. Nurses' ability to access amenities may be implicit in assigned rest breaks, with minimum standards for amenities and rest breaks set out in relevant Work Health and Safety legislations and local building regulations (Industrial Relations Commision of New South Wales 2017, Australian Building Codes Board 2016). However, as many participants noted, rest breaks and access to

amenities as currently experienced are either inadequate or not enacted and fail to meet nurses' needs. Planning for voiding opportunities and deferment of the urge to void in various social contexts is a normal behaviour to maintain continence and effectively manage LUTS (Gillespie 2013). Personal attributes such as biological and habitual factors will dictate individual toileting behaviours and experience of LUTS (Wang and Palmer 2010, Palmer et al. 2017). However, in the context of nurses' work, it is neither normal nor healthy behaviour to habitually "hold on" until "busting" before responding to the "need to go".

Recommendations for nurses' bladder health

Recommendations for prevention and management of nurses' urinary symptoms at work include development of bladder health policies that break cultural norms and promote educational, managerial and nursing team strategies that support self-care. There is an urgent need to review and reconsider nursing culture, as a culture that does not care for workers cannot be expected to sustainably provide care for patients (Nahm et al. 2012). This requires a change in approach, such that policy, resourcing, facilities and practices are established and embedded that will enable and support nurse self-care (Perry et al. 2017a). Of note, nurses expected that nothing will ever change - however change is essential. Urinary symptoms should no longer be accepted as inevitable, remaining a matter of embarrassed laughter. Nurses' discourse provides compelling evidence for professional bodies and unions to support lobbying of employers and organisations for change. In addition to cultural change, organisational initiatives require provision of appropriate staffing levels, assisting nurses to take their required rest breaks and workplace architecture that supports dignified access to amenities.

Limitations and future research

Limitations of this work include the transferability of findings, as our sample consisted of female nurses and midwives working in urban hospital settings of a high-income nation. However, readers can judge for themselves to what extent findings ring true for their local settings (Rychetnik et al. 2012). Our results may not reflect all possible workplace influences on bladder behaviours, as some nurses may have been reluctant to disclose urinary symptoms in a group, due to their intimate or embarrassing nature. It is possible pre-existing work-based relationships with the group moderator may have influenced a minority of participants' disclosures during discussions. Study findings therefore reflect topics that nurses were comfortable discussing. However, the consistent responses of nurses indicate the reliability of this picture of influences on health behaviours.

Another strength of our study was the sampling of multiple clinical work areas, increasing the likelihood that issues raised were reflective of most female nurses and midwives working in urban hospital settings. We acknowledge that sampling reflected Nurse Educators' and Managers' willingness to engage in the study. Our study focussed on urinary symptoms and bladder health, but there are also likely to be issues for nurses related to bowel health and the use of amenities for menstrual needs. Though urinary symptoms generally have higher prevalence in females, there may also be issues for males, particularly as they age (Irwin et al. 2006). In addition to education for nurses' personal health behaviours, recommendations for prevention and improved management of work-related urinary symptoms include addressing self-care and teamwork, ensuring optimal staffing and provision of female amenities that reflect the unique needs of the nursing role. Future research should measure the effectiveness and impact of the introduction of bladder health initiatives into workplaces and occupational health policy.

CONCLUSION

A nurse's ability to have autonomy over bladder function in the workplace is an urgent health priority and unrecognised workforce occupational health issue. Nurses' experience of urinary symptoms at work and behaviours in response to sensory cues for bladder emptying, are largely dependent on socioecological influences. Nurses themselves indicate that suppression of urinary urge and delayed voiding arise from a work culture of 'patient-first' care, reflecting a dilemma of patient care at the expense of self. Relationships in nursing teams, the demands of the nursing role and adequacy of female workplace amenities, also play a part in supporting or deterring healthy bladder practices. In a period of increasing nursing and midwifery staffing shortages and large scale impending retirements, study results provide strong messages for Nurse Managers, employers, professional bodies and unions, with lever points for policy development to effect cultural, social and organisational change.

References

Audit Scotland (2017) NHS workforce planning. Retrieved from http://www.audit-scotland.gov.uk/report/nhs-workforce-planning.

Australian Building Codes Board (2016) National Construction Code. Council of Australian Governments. Retrieved from http://www.abcb.gov.au/Resources/Publications/NCC/NCC-2016-Volume-One

Badolamenti, S., Sili, A., Caruso, R. & Fida, R. (2017) What do we know about emotional labour in nursing? A narrative review. *British Journal of Nursing,* **26**(1), 48-55.

Bendtsen, A.L. andersen, J.R. & Andersen, J.T. (1991) Infrequent voiders syndrome (nurses bladder). Prevalence among nurses and assistant nurses in a surgical ward. *Scandinavian Journal of Urology and Nephrology,* **25**(3), 201-4.

Bickley, J. (1998) Care for the caregiver: the art of self-care. *Seminars in Perioperative Nursing,* **7**(2), 114-21.

Blake, H., Malik, S., Mo, P.K.H. & Pisano, C. (2011) 'Do as I say, but not as I do': Are next generation nurses role models for health? *Perspectives in Public Health,* **131**(5), 231-239.

Borland, R., Young, D., Coghill, K. & Zhang, J.Y. (2010) The tobacco use management system: analyzing tobacco control from a systems perspective. *American Journal of Public Health,* **100**(7), 1229-36.

Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology,* **3**(2), 77-101.

Burgio, K.L., Newman, D.K., Rosenberg, M.T. & Sampselle, C. (2013) Impact of behaviour and lifestyle on bladder health. *International Journal of Clinical Practice,* **67**(6), 495-504.

Chang, E.M., Hancock, K.M., Johnson, A., Daly, J. & Jackson, D. (2005) Role stress in nurses: Review of related factors and strategies for moving forward. *Nursing and Health Sciences,* **7**(1), 57-65.

Corbin, J. & Strauss, A. (2008) *Basics of Qualitative Research,* Sage Publications, Thousand Oaks, California.

Dawson, A.J., Stasa, H., Roche, M.A., Homer, C.S.E. & Duffield, C. (2014) Nursing churn and turnover in Australian hospitals: nurses perceptions and suggestions for supportive strategies. *BMC Nursing,* **13**(1), 10.

De Wachter, S.G., Heeringa, R., van Koeveringe, G.A. & Gillespie, J.I. (2011) On the nature of bladder sensation: the concept of sensory modulation. *Neurourology and Urodynamics,* **30**(7), 1220-6.

Duffield, C., Roche, M., O'Brien-Patas, L. & et al (2007) Glueing it together - nurses their work environment and patient safety. NSW Health. Retrieved from https://catalogue.nla.gov.au/Record/4504888

Eley, R., Eley, D. & Rogers - Clark, C. (2010) Reasons for entering and leaving nursing: an Australian regional study. *Australian Journal of Advanced Nursing,* **28**(1), 6-13.

Gillespie, J.I. (2013) What determines when you go to the toilet? The concept of cognitive voiding. *British Journal of Obstetrics and Gynaecology,* **120**, 133-136.

Glass, N. & Rose, J. (2008) Enhancing emotional well-being through self-care: The experiences of Community Health nurses in Australia. *Holistic Nursing Practice,* **22**(6), 336-347.

Goodare, P. (2017) Literature review: why do we continue to lose our nurses? *Australian Journal of Advanced Nursing,* **34**(4), 50-56.

Graneheim, U.H. & Lundman, B. (2004) Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. In *Nurse Education Today*, Vol. 24, pp. 105-112.

Harlow, B.L., Bavendam, T.G., Palmer, M.H., Brubaker, L., Burgio, K.L., Lukacz, E.S., Miller, J.M., Mueller, E.R., Newman, D.K., Rickey, L.M., Sutcliffe, S. & Simons-Morton, D. (2018) The Prevention of Lower Urinary Tract Symptoms (PLUS) Research Consortium: A transdisciplinary approach toward promoting bladder health and preventing lower urinary tract symptoms in women across the life course. *Journal of Women's Health,* **27**(3), 283-289.

Harvey, J., Finney, S., Stewart, L. & Gillespie, J.c. (2012) The relationship between cognition and sensation in determining when and where to void: the concept of cognitive voiding. *BJU International,* **110**(11), 1756-1761.

Haylen, B.T., de Ridder, D., Freeman, R.M., Swift, S.E., Berghmans, B., Lee, J., Monga, A., Petri, E., Rizk, D.E., Sand, P.K. & Schaer, G.N. (2010) An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *International Urogynecology Journal,* **21**(1), 5-26.

Health Workforce Australia (2014) Nursing workforce sustainability: Improving nurse retention and productivity. Department of Health, Commonwealth of Australia. Retrieved from www.health.gov.au/

Holman, D. & Borgstrom, E. (2016) Applying social theory to understand health-related behaviours. In *Medical Humanities*, Vol. 42 BMJ Publishing Group Ltd and Institute of Medical Ethics.

Industrial Relations Commision of New South Wales (2017) Health Employees Condition of Emloyment (State) Award 2017. Vol. 2018. Retrieved from http://www.health.nsw.gov.au/careers/conditions/Awards/hsu_he_conditions.pdf

Irwin, D.E., Milsom, I., Hunskaar, S., Reilly, K., Kopp, Z., Herschorn, S., Coyne, K., Kelleher, C., Hampel, C., Artibani, W. & Abrams, P. (2006) Population-based survey of urinary incontinence, overactive bladder and other lower urinary tract symptoms in five countries: Results of the EPIC Study. *European Urology,* **50**(6), 1306-1315.

Kyle, R.G., Neall, R.A. & Atherton, M. (2016) Prevalence of overweight and obesity among nurses in Scotland: A cross-sectional study using the Scottish Health Survey. *International Journal of Nursing Studies,* **53**, 123-133.

Liao, Y.-M., Yang, C.-Y., Kao, C.-C., Dougherty, M.C., Lai, Y.-H., Chang, Y., Chen, H.-L. & Chang, L.-I. (2009) Prevalence and impact on quality of life of lower urinary tract symptoms among a sample of employed women in Taipei: A questionnaire survey. *International Journal of Nursing Studies,* **46**(5), 633-644.

Liao, Y.M., Dougherty, M.C., Boyington, A.R., Lynn, M.R. & Palmer, M.H. (2006) Developing and validating a Chinese instrument to measure lower urinary tract symptoms among employed women in Taiwan. *Nursing Outlook,* **54**(6), 353-361.

Lowder, J.L., Berry, A., Brady, S., Fok, C., Gahagan, S., Herbert-Beirne, J., Lewis, J., Lewis, B., Low, L.K., Palmer, H., Mary, Smith, A. & Lukacz, E.S. (2017) Defining bladder health in women and girls: implications for research, clinical practice and public health. In *47th Annual Scientific Meeting of the International Continence Society* Florence, Italy. Retrieved from https://www.ics.org/2017/abstract/531

Lubinska-Welch, I., Pearson, T., Comer, L. & Metcalfe, S.E. (2016) Nurses as instruments of healing. *Journal of Holistic Nursing,* **34**(3), 221-228.

Lukacz, E.S., Sampselle, C., Gray, M., Macdiarmid, S., Rosenberg, M., Ellsworth, P. & Palmer, M.H. (2011) A healthy bladder: a consensus statement. *International Journal of Clinical Practice,* **65**(10), 1026-1036.

Mastroianni, K. & Storberg-Walker, J. (2014) Do work relationships matter? Characteristics of workplace interactions that enhance or detract from employee perceptions of well-being and health behaviors. *Health Psychology and Behavioral Medicine,* **2**(1), 798-819.

McCance, T.V., McKenna, H.P. & Boore, J.R.P. (1999) Caring: theoretical perspectives of relevance to nursing. *Journal of Advanced Nursing,* **30**(6), 1388-95.

Melnyk, B. (2018) A national study links nurses'physical and mental health to medical errors and percieved worksite wellness. *Journal of Occupational and Environmental Medicine,* **60**(2), 126.

Morse, J.M. (2015) Analytic strategies and sample size. *Qualitative Health Research,* **25**(10), 1317-1318.

Nahm, E.-S., Warren, J., Zhu, S., An, M. & Brown, J. (2012) Nurses' self-care behaviors related to weight and stress. *Nursing Outlook,* **60**(5), e23-e31.

National Health Service (2016) Boorman: where are we now? Retrieved from http://www.nhsemployers.org/your-workforce/retain-and-improve/staff-experience/health-work-and-wellbeing/the-way-to-health-and-wellbeing/outcomes-from-the-boorman-review-recommendations

Newman, D., Cockerell, R., Griebling, T.L., Rantell, A., van Houten, P. & Palmer, H., Mary (2017) Primary prevention, continence promotion, models of care and education. In *Incontinence: 6th International Consultation on Incontinence, Tokyo, September 2016*, Vol. 2 (Abrams, P., Cardozo, L., Wagg, A. and Wein, A. eds.) ICS.

Nicholls, R., Perry, L., Duffield, C., Gallagher, R. & Pierce, H. (2017) Barriers and facilitators to healthy eating for nurses in the workplace: an integrative review. *Journal of Advanced Nursing,* **73**(5), 1051-1065.

Nygaard, I. & Linder, M. (1997) Thirst at work - an occupational hazard? *International Urogynecology Journal,* **8**(6), 340-3.

Palmer, M.H. (2002) Primary prevention research on incontinence in older adults. *Western Journal of Nursing Research,* **24**(4), 390-405.

Palmer, M.H., Athanasopoulos, A., Lee, K.S., Takeda, M. & Wyndaele, J.J. (2012) Sociocultural and environmental influences on bladder health. *International Journal of Clinical Practice,* **66**(12), 1132-1138.

Palmer, M.H., Willis-Gray, M.G., Zhou, F., Newman, D.K. & Wu, J.M. (2017) Self-reported toileting behaviors in employed women: Are they associated with lower urinary tract symptoms? *Neurourology and Urodynamics*, 1-9.

Perry, L., Nicholls, R.J., Gallagher, R. & Duffield, C. (2017a) Building expert agreement on the importance and feasibility of workplace health promotion interventions for nurses and midwives: a modified Delphi consultation. *Journal of Advanced Nursing,* **73**(11), 2587-99.

Perry, L., Xu, X., Duffield, C., Gallagher, R., Nicholls, R. & Sibbritt, D. (2017b) Health, workforce characteristics, quality of life and intention to leave: The 'Fit for the Future' survey of Australian nurses and midwives. *Journal of Advanced Nursing,* **73**(11), 2745-2756.

Perry, L., Xu, X., Gallagher, R., Nicholls, R.J., Sibbritt, D. & Duffield, C. (2018) Lifestyle health behaviours of nurses and midwives: The 'Fit for the Future' survey. *International Journal of Environmental Research and Public Health,* **15**, 945.

Pierce, H., Perry, L., Gallagher, R. & Chiarelli, P. (2017) Limited fluid intake and restricted toileting are behaviours associated with reduced work productivity for women with storage lower urinary tract symptoms at work. In *47th Annual Scientific Meeting of the International Continence Society* Neurourology & Urodynamics, Florence, Italy. Retrieved from https://www.ics.org/2017/abstract/530

Pierce, H., Perry, L., Gallagher, R. & Chiarelli, P. (2018) Severity of urinary incontinence and its impact on work productivity among nurses and midwives in urban Australia. *Australian and New Zealand Continence Journal,* **24**(1), 7-15.

Ross, A., Bevans, M., Brooks, A.T., Gibbons, S. & Wallen, G.R. (2017) Nurses and health-promoting behaviors: Knowledge may not translate into self-care. *AORN Journal,* **105**(3), 267-75.

Rychetnik, L., Bauman, A., Laws, R., King, L., Rissel, C., Nutbeam, D., Colagiuri, S. & Caterson, I. (2012) Translating research for evidence-based public health: key concepts and future directions. *Journal of Epidemiology and Community Health,* **66**(12).

Sallis, J., Cervero, R., Ascher, W. & Henderson, K. (2006) An ecological approach to creating active communities. *Annual Review of Public Health,* **27**, 297-322.

Sallis, J.F. & Owen, N. (2015) Ecological models of health behaviour. In *Health behaviour. Theory, research and practice*.(Glanz, K., Rimer, B. K. and Viswanath, K. eds.) Jossey-Bass, San Fransisco, pp. 43-64.

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H. & Jinks, C. (2018) Saturation in qualitative research: exploring its conceptualization and operationalization. *International Journal of Methodology,* **52**(4), 1893-1907.

Sorokin, I., Mamoulakis, C., Miyazawa, K., Rodgers, A., Talati, J. & Lotan, Y. (2017) Epidemiology of stone disease across the world. *World Journal of Urology,* **35**(9), 1301-1320.

Stokols, D. (1996) Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion,* **10**(4), 282-98.

Suominen, T. & et al. (1997) Nursing culture: some viewpoints. *Journal of Advanced Nursing,* **25**(1), 186-190.

The American Nurses Association (2017) Healthy nurse, healthy nation. Retrieved from https://www.nursingworld.org/practice-policy/hnhn/

Thornton, S.N. (2010) Thirst and hydration: physiology and consequences of dysfunction. *Physiology and Behavior,* **100**(1), 15-21.

Wan, X., Wu, C., Xu, D., Huang, L. & Wang, K. (2017) Toileting behaviours and lower urinary tract symptoms among female nurses: A cross-sectional questionnaire survey. *International Journal of Nursing Studies,* **65**, 1-7.

Wang, K. & Palmer, M.H. (2010) Women's toileting behaviour related to urinary elimination: concept analysis. *Journal of Advanced Nursing,* **66**(8), 1874-1884.

Watson, J. (2001) Jean Watson: Theory of human caring. In *Nursing theories and nursing practice* Parker, M. E. ed. Davis, Philadelphia, pp. 343-354.

Xu, D., Chen, L., Wan, X., Zhang, Y., Liu, N. & Wang, K. (2016) Toileting behaviour and related health beliefs among Chinese female nurses. *International Journal of Clinical Practice,* **70**(5), 416-423.

Zhang, C., Hai, T., Yu, L., Liu, S., Li, Q., Zhang, X., Xu, T. & Wang, X. (2013) Association between occupational stress and risk of overactive bladder and other lower urinary tract symptoms: A cross-sectional study of female nurses in China. *Neurourology and Urodynamics,* **32**(3), 254–260.

Zhou, J., Kelsey, K.T., Giovannucci, E. & Michaud, D.S. (2014) Fluid intake and risk of bladder cancer in the Nurses' Health Studies. *International Journal of Cancer*, **135**(5), 1229 - 1237.