

# Staff experiences of the management of older adults with urinary incontinence

Lise-Lotte Jonasson <sup>1\*</sup>, Karin Josefsson <sup>1</sup>

<sup>1</sup> Faculty of Caring Science, Work Life and Social Welfare, University of Borås, Sweden

## Abstract

**Background:** Urinary incontinence is a complex public health problem for older adults both in Sweden and internationally. It is estimated that 50–80% of older adults in residential care facilities have problems with urinary incontinence. Several studies illuminate an attitude among residential care staff that incontinence is as a natural consequence of aging, which means that assessment and treatment are overlooked. There is also a lack of knowledge and compliance as to whether or not care staff follows guidelines appropriately. Therefore, the aim of the present study was to describe staff experiences of the management of older adults with urinary incontinence in residential care facility.

**Methods:** This explorative study took an inductive approach using 17 individual interviews with residential care staff. Data were analyzed using qualitative content analysis.

**Results:** Staff members' experiences fell into three categories: staff members' management, the impact of the residential organization, and the creation of well-being factors for older adults with urinary incontinence. Members of staff had different views about what an investigation is and what measures are needed to manage patients effectively. To achieve a good individual patient care there is need of a greater knowledge about good nursing, communication and dialogue between the various working groups.

**Conclusions:** Staffs' management, the organization's impact, and creating wellbeing factors are central to older adults' influence and to experience quality of life. Implementing evidence-based practice requires a long-term process-focused approach to improve the structure of daily work and to encourage staffs' learning and competence development.

**Citation:** Jonasson L-L, Josefsson K (2016) Staff experiences of the management of older adults with urinary incontinence. Healthy Aging Research 5:16. doi: 10.1097 /01.HXR.0000511875.79710.e9

**Received:** December 30, 2015; **Accepted:** May 24, 2016; **Published:** November 10, 2016

**Copyright:** © 2016 Jonasson et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Competing interests:** The authors have declared that no competing interests exist.

\* Email: lise-lotte.jonasson@hb.se

## Introduction

Urinary incontinence (UI) is a complex international public health problem. In Sweden, more than half a million people over the age of 65 have UI [1]. The majority are women, but a quarter of all 80-year-old men also 'leak urine'. In the United Kingdom, it is estimated that 5–10 million women over the age of 20 have UI [3], with the majority of this population being frail women over the age of 80 years, who also have multiple morbidities, cognitive impairment, and need extensive help [4–5]. UI is the second largest reason

for persons with dementia to move to a residential care facility. Nearly 70% of people with UI also have depression [3]. Many older adults are frail and have co-existing disabilities and comorbidities, conditions that can influence the clinical presentation and assessment of UI, as well as patients' responsiveness to interventions [6]. UI is related to older adult's quality of life and, since it is expected that the number of older adults with complex care needs will increase, so will quality of life decrease in this population [2, 7]. It is estimated that 50–80% of older adults in residential care facilities have problems with UI [7].

Since they are dependent on their interactions with nursing staff, older adults in residential care facilities should be assured of an optimal quality of life and care [8]. Management strategies previously been found to reduce UI problems include specific behaviour changes during training and exercises, and changing residents' drink intake [9]. Several studies examine physical exercise interventions, namely bladder and pelvic floor exercises, have successfully reduced UI [10–11]. However, the results of some studies have demonstrated the opposite, or uncertainty in their interpretation. One study investigated the use of a training program to improve pelvic floor muscles, bladder and physical functioning in older women. Physical performance improved in the intervention group, but a decline in UI problems was not significantly associated with the results [12]. Another study examined whether receiving training in activities of daily living, combined with physical exercise, could reduce UI. At follow-up, the intervention group showed improvements in UI while the control group deteriorated [13]. A further study showed that older adults suffered more extensively with UI in residential care facilities with a greater staff turnover [14]. Continence exercises for older adults were given a lower priority than meals [15]. Exercises for the bladder, habits and bowel emptying all went under the same exercise, which meant the variety of actions went unnoticed. The lack of continence exercises practiced in residential care facilities has received attention in several studies [16–17].

Residential care staffs take the attitude that UI is a natural consequence of aging, so assessment and treatment is often overlooked [15, 18–22]. There also seems to be a lack of knowledge and compliance as to whether or not guidelines are followed appropriately by members of different levels of staff hierarchy [23]. There are several problems associated with deficits in understanding the impact of UI problems on older adults [24]. A study of practitioners revealed weaknesses in commitment, time and knowledge, and raised awareness of the beliefs that co-morbidity, low motivation and older persons' acceptance of the problem existed. Similar results emerged among registered nurses, where UI problems were seen as a symptom of aging that can be addressed using

incontinence protection. However, as mentioned previously, nurses' focus was on the choice of incontinence protection instead of on the investigation of underlying causes [25]. These results are also supported by earlier research in which medical diagnoses were put before UI problems. Staff showed a lack of understanding of problems and failed to ask older adults about UI [26]. Further, residential and or nursing staff has different educational needs and require different levels of support, depending on what level(s) of UI they have to deal with, whether mild, moderate, or catheter managed (6).

Earlier research about members of residential care staff's experiences revealed deficits in time and prioritisation of tasks; staff did not take the older adult to the lavatory in time. However, there was no expectation that UI could be improved because UI was seen as a normal consequence of aging [15]. Nursing staff who worked most closely with older adults exhibited weaknesses in recognising UI problems sufficiently to undertake investigative measures [3]. Similar results emerged with proposals to train registered nurses in the same way as nursing staff about UI problems [17, 27]. Deficiencies in documentation were also found, whereby documentation of bladder and bowel movements was overlooked, instead being described as 'incontinence occurring', but with no investigation being conducted [20]. Having a positive attitude, being responsible for fewer residents, less than 100, and continuous training courses were found to improve registered nurses' care of residents with UI, while enrolled nurses' care improved thanks to basic knowledge in the form of training activities were carried out [27]. Research has showed that staff attitudes to changes in training failed to demonstrate any effect with respect to the investigation and treatment of UI [22].

There is a need for residential care staff to increased knowledge of UI treatment, and to improve the management of staffs who face residents with UI. An individual patient-centered approach is needed, focusing on preventive measures for older adults' well-being. The aim of the present study, therefore, was to assess the experiences of residential care facility staff members in terms of the management of older adults with UI.

## Methods

### *Research design and ethics*

The study was performed during 2015 within a geographic area in the south of Sweden. The design was explorative with an inductive approach using individual interviews [28]. Data were analysed using qualitative content analysis [29]. Ethical principles were followed for medical research involving humans [30]. Members of staff were provided with information about the study before giving their informed consent. They were told their participation was voluntary, and that they could end the interview at any time without giving a reason. Participants were guaranteed confidentiality and anonymity.

### *Sample and data collection*

Participants were selected appropriately from three residential care facilities to be able to achieve the aim of the study [28]. Informants were with prior knowledge of UI management were recruited, as well as those with varied types of work experience, ages and professional affiliations such as registered, district and enrolled nurses, and unit managers from various sectors.

Approval to conduct the study at the three chosen centres was granted by the heads of residential care in three municipalities. An invitation was sent to request the participation of three registered nurses, one of whom at each location should be a member of night staff. Furthermore, the interviewer asked a registered nurse with responsibility for prescribing alternative district nurses to participate in the study. The interviewer also contacted a person with primary responsibility for the area of incontinence in the region.

Seventeen informants were approved to participate in the study, all women aged 31–65 years. Participants' prior work experience in a residential care facility ranged between 3 and 45 years. Thirteen interviews were conducted by phone and four were face-to-face. Nursing staff were coded A1–A9; management or supervisory staff were coded as B10–B17.

At the start of the interview, the interviewer briefly informed the participant about the study and its purpose, and let them know that the interview would be recorded. Participants were asked a few brief introductory questions about their age, education and work experience, so as to put them at ease with the situation. This was followed by the open-ended question (which was the same for all informants): "How many of the residents you care for do you perceive to have UI problems?" Follow-up questions varied slightly depending on the participant's duties in relation to the study's topic.

All interviews were conducted in private, were recorded, and then stored to prevent unauthorized access. Each interview lasted 25–50 minutes.

### *Data analysis*

Data collected from the interviews was identified, encoded and categorized [29]. Interview transcripts were read repeatedly to obtain an understanding and an overview of the collected material. Thereafter, sentences or phrases that answered questions in the study were identified, and then condensed to make them more readable while and at the same time retaining important information. Table 1 shows an example of the content analysis process.

**Table 1.** Example of the qualitative content analysis process

Meaning unit	Condensed meaning unit	Code	Subcategory	Category
...so of course they do investigations, but perhaps not so insufficient investigations if it says why it is impossible to keep the urine and so...	...they do investigations but perhaps not so insufficient investigations...	Do insufficient investigations	Insufficient management	Staffs' management

## Results

Table 2 shows the results presented in three separate qualitative categories, which emerged from content analysis.

**Table 2.** Overview of the results with categories and subcategories

Subcategories	Categories
Insufficient management	
Attitudes towards older adult's problems with UI	Staff members' management
Obstructions affecting nursing	
Communication and organization - a cross-professional work	Impact of the residential organization
Toilet assistance and other routines	Creating wellbeing factors for older adults
Nursing actions	

### Staff management

#### Insufficient management

Some residential care facility staff was confused about what an incontinence investigation is, and how often an investigation needed to be carried out. The experience of what constitutes an investigation also varied among different staff groups. Investigations were reportedly carried out when a staff member suspected that the older adult might need other incontinence protection. Records were sometimes kept about how often residents go to the toilet and whether they experienced any urinary leakage; if so, incontinence was deemed to have occurred.

*"...yes, the need to know when they go to the toilet, and if they have leaked a lot or if there's come a lot into the incontinence protection, then we investigate of course..." (A2)*

Some members of staff perceive that incontinence investigations are made relatively rarely, occurring only when older adults receiving home service have a prescription for UI treatment, which comes with them when they transfer to the residential care facility.

Some older adults arriving at residential care facilities bring their own incontinence materials from home, which can be used for themselves and also by other residents. Despite this, an investigation in a diagnostic setting is not always carried out.

*"...it is not investigated because you assume in a way that when you get old, well, no investigation is needed by a doctor and that's something that I think can be questioned. No, I think there is a sort of lack of respect for the elderly that you just assume that they become incontinent in some way..." (B14)*

Another perception by staff is that some older adults in residential care facilities have physical handicaps and a greater need for help, therefore investigations are rarely carried out – as some staff see it, UI is a natural consequence of aging. Investigations should be carried out to a greater extent than they are now, and in accordance with management and supervisory staff.

*"...personally this is a failing of mine and to look into it further later, I would like to work with that more actually..." (B 10)*

According to nursing staff, a medical investigation and diagnosis of possible causes of UI is relatively rarely performed with older adults. However, some reported that, if older adults are found to have urinary leakage, care planning meetings take place, during which the resident is reviewed according to a quality register. Investigations are then carried out, for example, by checking for suspected urinary tract infections or other possible medical causes.

*"...we assistant nurses often sit down with a registered nurse and talk about it and what you can do, and improve..." (A4)*

*"...I believe it is much underdiagnosed or there are very few investigations done. Yes, my feeling is that investigations aren't done..." (B16)*

It is seen as natural for older men and women to have problems with UI. For men, UI problems are relatively often linked to the prostate, when in fact, there is no diagnosis. Management and supervisory staff only usually take action causes when older adults experience recurrent urinary tract infections, in which case they will contact the district doctor who in turn refers the patient to an urologist. Doctors'



investigations can be facilitated with a schedule to assess how often the older adult goes to the toilet, by assessment of urine quantity, and by checking whether the bladder is emptied using Bladder Scan. Incidence of UI sometimes leads to investigation and diagnosis, for example if the informant notes that a person has symptoms and needs to go to the toilet often. They are not taking part in activities, or need to go to the toilet several times at night. Care staff initiates basic investigations when older adults begin to have trouble holding urine. Members of managerial and supervisory staff reflect on what may be causing the problem.

Quality registers are used for investigations in residential care facilities to ensure smooth actions and optimal healthcare from management, guidance and caring staff. This tool allows risk assessments to be carried out in, among other things, nutrition. Registered nurses are responsible for ensuring that this register is used. According to nursing staff, the quality register is a good as source of knowledge.

*"...it's great with quality registers because then you work more preventatively..." (A5)*

During investigations, underlying causes of UI are suggested by supervisory personnel; nursing staff then determine practical actions; better adapted toilet times, for example. Nursing staff do not have access to the documentation on adapted UI problems, but they do have notes from management and supervisory staff.

#### *Attitudes for older adult's problems with urine incontinence*

Nursing staff who work closely with service users perceive that problems with UI are more or less a natural part of the aging process. Older adults ask about urinary symptoms and "how it works" in terms of their bladder when they move in to a residential care facility. Staff describes the picture that the majority of older adults have UI problems – according to the interviewees in this study, approximately 75% of residents need some help, some people need help with every aspect of incontinence care, and others require only a little help. Some older adults need less incontinence protection for safety's sake; the latter made evident by the following quote:

*"...it gives a feeling of security to have a little incontinence protection in reserve..." (B 10)*

Further, members of nursing staff expressed that there are some older adults with regular toilet habits, while others find it difficult to get to the toilet in time, hence the need for incontinence protection. Some take diuretic drugs that mean they need to visit the toilet more frequently. A further perception is that some older adults need less help during the day and a greater need during the night, or those who need no help during the day but require incontinence protection at night. According to informants, other older adults have difficulty using the toilet at all, resulting in a need for several changes of incontinence protection.

*"...yes, there are some that need help several times a day and many that can't manage to use the toilet at all and maybe you just change their diapers ..." (A4)*

Some older adults do not want to take an active role in their care, which – according to nursing staff – may be a result of dementia. These residents would, for example, fail to use incontinence protection but also fail to get help with going to the toilet. To meet this need, nursing staff must be attentive to the elderly person and interprets signals that suggest they need to use the toilet. Nursing staff also describe that they see older adults with dementia starting to get worried, but when they ask them if they need to go to the toilet:

*"...no", the older adult answers. And then a second later they ask "where is the toilet?" and then we assistant nurses are not exactly where the older adult is..." (A8)*

#### **The organization's impact**

##### *Obstructions affecting nursing*

Several older adults highlighted staffing and the way in which work at the care facility is organized as a factor that affects work. For example, the following quotes by members of management and supervisory staff:

*"...they urinate a lot at night and the staff doesn't have time to change them and so the assistant nurses put two diapers on them and that is a shortfall quite simply..." (B15)*

*“...it’s the basics in caring...yes, it’s here it has failed a little bit over the years one notices...” (B10)*

Members of management and supervisory staff mentioned that they feel uncertainties when there is turnover in the staff group and how this affects nursing work. Economy-related personnel issues and the propensity for change were perceived to affect the quality of care, as evident in the following quotes:

*“...these kinds of overarching things such as a lot of staff turnover, and the budget, control a lot. A lot of staff turnover can mean that the care quality does not develop in a good way ...” (B17)*

Differences were observed in terms of in nursing staff members’ approaches to the ways in which care should be described by management and supervisory staff.

*“...it seems like for certain staff members it is the easiest possibility that matters. And for others completely the opposite, who have good knowledge and want it to be as good as possible, maybe they work so hard for it that they become almost burnt-out...” (B12)*

#### *Communication and organization - a cross-professional work*

Management and supervisory personnel described that the ways in which work is organized, how communication occurs and how different groups of employees work together, can affect the quality of investigations and evaluations. The goal is to make the organization work so that all employees are involved.

Residential care staff suggested that a well-functioning nursing team responds to incontinence problems by establishing best practice routines. It is also important for staff members to help and trust each other. Nurses should be the ones to raise questions about incontinence problems with the registered or district nurse, and this information can then be discussed at monthly meetings and used to inform or improve a nursing plan. These meetings, which involve enrolled nurses and registered nurses, occupational therapists, physiotherapists, and device managers, are used to discuss incontinence problems and other nursing problems. According to some

managerial and supervisory staff, schema is developed to ensure that all older adults are discussed at meetings each autumn and spring. Nursing staff who are not present at the meetings can read the information later.

*“...it is then that we staff at care meetings discuss one or two care recipients and go through, among other things, Senior Alert and an implementation plan for how Berta is doing just now. We discuss one or two older adults for an hour and it’s good because you go to, like, the basics...” (B11)*

In another specific residential care facility, perceived changes in the patterns of individual older adults’ incontinence problems were documented by management and supervisory staff. Information about individual prescriptions and what interventions should be used in individual cases should be easily accessible for nursing staff. Responsible contact agents play a key role in the transfer of information. Power of attorney addresses the issues with the nurse prescribing treatments. Sometimes a message is written to the nurse responsible for a particular patient on special forms. Dialogue is important within a nursing staff team, especially at night, because according to nursing staff, this is when most urinary leakage occurs.

*“...the night staffs are very involved in that for it is most often at night that there is a lot of leaking among the older care recipients...” (A 2)*

#### **Creating wellbeing factors**

##### *Toilet assistance and other routines*

According to some informants, it is good practice to install wellbeing factors to facilitate older adults’ continence; that is to say, the health service must give older adults daily assistance in using the toilet. Good habits include establishing routine help with going to the toilet in the morning, at night and at lunch and dinner. Nursing staff described how they try to find the appropriate ways to help those who need it. An example of a procedure to try and reduce UI at night is a review of fluid intake during the day, with the goal being to retain residents’ continence. The following quotes are from nursing staff and management and supervisory staff.

*"...going to the toilet with them makes it easier both for them and us to sort of take care of it..." (A 6)*

*"...I believe in this, the possibility to get to go in seclusion to the toilet and that you do irregularly, I believe that ..." (B 16)*

*"....and you try to help them so they can do pelvic floor exercises for example ..." (B 17)*

### *Nursing actions*

Communication and nursing interventions are closely linked. According to the informants in our study, communication is important for nursing staff to understand the needs of their service users; nursing staff should also maintain regular dialogue with one another and with the responsible contact agent for the person receiving care. If necessary, care personnel should also make contact with the prescribing authorities. Communication is important so as to manage the experiences and possible misconceptions of members of staff when their residents start to get "red in the groin area". The way that management and supervisory staff members tackle this is to ask questions and encourage nursing staff to reflect. Communication is also important to deal with different understandings and possible misunderstandings in the staff group, e.g. when and why a care recipient becomes red in the groin area.

*"...why do you believe that the older adult is red in the groin or the bottom or between the buttocks ..." (B15)*

A suggested course of action might be, for example, to try 'washing and wiping dry' for a few days, then if it does not get better, reasons for this should be investigated. Is it, for example, because the resident is using the wrong incontinence protection? The goal is to minimize the suffering of the person receiving care. Measures mentioned by management and supervisory staff include reducing the resident's fluid intake after 18 pm and increasing their intake in the morning and during the day. In the evening, yoghurt or similar could be given, whereas the amount of coffee should be reduced. In addition, there is the registration of fluid intake.

*"...we try different things and we report when we are in agreement, we test a few days and then we*

*investigate, what is good and or bad? So will we return to the first way or will we continue with the new way ..." (A4)*

It is important to have good practices in place a range of appropriate measures to take in the event that urinary tract infection is suspected. Symptoms of suspected urinary tract infection are fever, frequent urination, foul-smelling urine and possible disorientation. When older adults have urinary tract infection, nursing measures are recommended, such as to drink a cranberry-based drink, lemon water, and plenty of fluid. Some older adults eat cranberries and drinking cranberry juice at every breakfast. On these occasions incontinence protection may be needed temporarily. Some older women have found it helpful to start taking oestrogen to prevent recurrent urinary tract infections.

## **Discussion**

### *Results*

Enrolled, registered and district nurses, and residential care unit managers, reported that most older adults have incontinence problems. Different staff members have different views about what an investigation is, and what measures are needed. Similar experiences included the idea that more sufficient knowledge is needed to give older adults the best individual care. For this, good practice, communication and dialogue between the various working groups and team is recommended. In this study, these areas were found to be central to the management of older adults with UI, and should therefore influence an improved quality of life.

As reported in other studies, most older adults have incontinence problems [5]. However, nursing staff may regard incontinence and the wearing of incontinence protection as 'normal'. Incontinence protection is an easy intervention that is often seen as most appropriate. There is a need to move towards a more person-centred approach [31].

With this in mind, questions about the adult's UI need to be addressed: what is 'natural' for that individual, and how staff can help based on their needs? An additional measure may be to motivate older adults to take part in physical activity, either individually or in

groups. Previous studies in this area show positive results [10–13]. The goal for each patient should be to implement person-centred care as far as possible, using incontinence care as a last resort after other measures have been tried [31].

Instilling toilet habits based on the resident's needs is beneficial for maintaining health and well-being [32]. A person with cognitive disorders often perceives it as natural to go to the bathroom.

Studies have shown that older women choose to restrict physical activity because of the embarrassment and discomfort of urinary leakage [33]. This demonstrates an urgent need for nursing staff, registered nurses and district nurses to understand older adult needs and know what options are available to help older adults with UI problems. For this to happen, older adults should be offered an investigation, which according to the present study is done relatively infrequently. Regardless of the physical or assistance needs that older adults have, they need an investigation to be able to receive individualized, relevant nursing care. This result is consistent with those of other studies [15, 18, 21]. The ALINKO project [34] showed that when residents are offered an investigation and receive individually tailored care and proper treatment, their quality of life is improved. In fact, 70% of people receiving health services experienced an improved quality of life.

This study draws attention to several areas that may be improved, for example, communication and organization. To build up the person receiving care, they should be treated sympathetically, and close, open communication should be maintained [35]. Furthermore, well-developed communication is necessary between nursing staff during the day, between day and night staff, and between the nursing staff and nurses. The need for good communication between managers and employees is emphasized; good practices and a well-developed approach are important areas to develop. The interviewed in this study took part in regular care planning meetings where older adults' problems with UI are discussed and reviewed. At these meetings, staff at different levels of hierarchy are present. Documentation of what has been determined during the meeting, and the monitoring procedures agreed are other important

elements that should be carried out in accordance with informants.

Managers are often regarded as the driving force of a team, providing a cohesive link between care management and nursing staff. The leader must manage multiple requirements from a political point of view, as well as practicing good health care [36]. A leader's mission is to organize and create good health care practices within a unit, while also offering older adults good, high quality care and attention on a personal individual level. 'Good health care' means that the older adult's mental, emotional, and social needs, while at the same time being treated with dignity and respect. In order to offer good, high quality health and long-term care, it is essential for health professionals to be experienced, competent, knowledgeable, and to have the right attitude to work as part of a well-functioning team [37].

The results of this study, which concur with several similar studies [23, 26], demonstrate a need for greater knowledge and better skills about how to handle UI problems. There is a need for nursing staff to have knowledge about UI treatments and diagnosis [38], as well as the treatment of urinary tract infections. Symptoms such as fatigue, confusion and anxiety are not usually associated with urinary tract infection [39], thus when these non-specific symptoms are present, they should not be treated with antibiotics, without first looking for other, more likely causes. In this study, informants mentioned that they give service users a cranberry drink or capsules when they have suspected urinary tract infection. However, the effects of taking cranberry drinks or capsules are uncertain [40].

Nursing staff management and supervisory staff in our study said residential care businesses should implement working methods and procedures to benefit older adults and their relatives. To do this, teamwork and team management is important. In addition to nursing, care managers will gladly allow occupational therapists and physiotherapists to be involved in the change process. Several authors have described how successful changes browsers could be implemented [41]. The National Board of Health and Welfare [41] recognizes the need that the interviewees described. In this report, suggestions are made as to what improvements can be made and used to support



leaders to involve all employees in the change process. Implementing an evidence-based practice requires a long-term, process-focused approach in order to improve the structure of daily work and to encourage learning and skills development.

### Limitations

To achieve reliability, the analysis process was discussed with the research team and was also the reference group [28–29]. The intention was to clearly describe the method and results with descriptive quotations. A semi-structured interview was considered an appropriate qualitative method to reveal insights into a complex problem area such as that studied here. A benefit of our methods was that it included staff at different hierarchical levels from three specific residential care facilities in different municipalities. A weakness was that 13 interviews were conducted via phone and four interviews were face-to-face. It is possible that some information may have been lost over the phone. No ethical problems or conflicts occurred.

## Conclusions

### Recommendations for practice

- It is important that older adults receive individual care.
- A patient-centred approach may be the best way to manage older adults with UI.
- Older adults with UI need to go to the toilet daily.
- Older adults with UI need to be individually tested.
- There is a need for good routines to be established as well as good communications between groups of staff to optimally manage older adults with UI.

The management of older adults with UI by residential care staff, the impact of the organization, and creating wellbeing factors are central to influence older adults' quality of life. Implementing evidence-based practice requires a long-term, process-focused approach to improve the structure of daily work and to

encourage staff learning and competence development.

Future research should explore older adults' perceptions of UI, and develop and implement models to improve the management of older adults with UI.

## Acknowledgements

We are grateful to all residential care facility residents who formed the reference group for this study. This study was supported by Sjuhärad Welfare, a Swedish welfare research and development centre.

## References

1. Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU). Behandling av urininkontinens hos äldre och sköra äldre. En systematisk litteraturoversikt. [Treatment of urinary incontinence in the elderly and frail elderly. A systematic literature review] Stockholm: SBU; 2013. Swedish.
2. Statistics Sweden. Befolkningspyramiden har blivit ett torn. [Population pyramid has become a tower]. Stockholm: Statistics Sweden; 2014. Swedish.
3. Davis C. The cost of containment. *Nurs Older People*. 2008;20:24–6.
4. Flanagan L, Roe B, Jack B, Barrett J, Chung A, Shaw C, et al. Systematic review of care intervention studies for the promotion of continence in older people in care homes with urinary incontinence as the primary focus (1966–2010). *Geriatr Gerontology Int*. 2012;12:1–12.
5. Fonda D, DuBeau CE, Harrari D, Oulsander JG, Palmer M, Roe B. Incontinence in the frail elderly: report from the 4th International Consultation on Incontinence. *Neurourol Urodyn*. 2010;29:165–78.
6. Wagg A, W Gibson, Ostaszkievicz J, Johnson III T, Markland A, Palmer MH, et al. Urinary incontinence in frail elderly persons: report from the 5th International Consultation on Incontinence. *Neurourol Urodyn*. 2015;34(5):398–406.
7. Crimmins EM, Beltrán-Sánchez H. Mortality and morbidity trends: is there compression of morbidity? *J Gerontol B Psychol Sci Soc Sci*. 2010;66:75–86.
8. Bishop AH, Scudder J R. Nursing ethics: therapeutic caring presence. Boston: Jones and Bartlett Publishers; 1996.
9. Talley K, Wyman J, Shamlian T. State of the science: conservative interventions for urinary incontinence in frail community-dwelling older adults. *Nurs Outlook*. 2011;59: 215–20.

10. Aslan E, Komurcu N, Beji NK, Yalcin O. Bladder training and Kegel exercises for women with urinary complaints living in a rest home. *Gerontology*. 2008;54:224–31.
11. Sackley C, Rodriguez N, Van den Berg M, Badger F, Wright C, Besemer J, et al. A phase II exploratory cluster randomized controlled trial of a group mobility training and staff education intervention to promote urinary continence in UK care homes. *Clin Rehabil*. 2008;22:714–21.
12. Tak EC, van Hespren A, van Dommelen P, Hopman-Rock M. Does improved functional performance help to reduce urinary incontinence in institutionalized older women? A multicenter randomized clinical trial. *BMC Geriatr*. 2012;6:51.
13. Vinsnes A, Harkless G, Nyronning S. Unit-based intervention to improve urinary incontinence in frail elderly. *Nord J Nurs Res*. 2007;27:53–6.
14. Temkin-Greener H, Cai S, Zheng NT, Zhao H, Mukamel DB. Nursing home work environment and the risk of pressure ulcers and incontinence. *Health Serv Res*. 2012;47:1179–200.
15. Resnick B, Keilman LJ, Calabrese B, Parmelee P, Lawhorne L, Pallet J, et al. Nursing staff beliefs and expectations about continence care in nursing homes. *J Wound Ostomy Continence Nurs*. 2006;33:610–8.
16. Taunton RL, Swagerty DL, Lasseater JA, Lee RH. Continent or incontinent? That is the question. *J Gerontol Nurs*. 2005;31:36–44.
17. Saxer S, de Bie RA, Dassen T, Halfens RJ. Nurses' knowledge and practice about urinary incontinence in nursing home care. *Nurse Educ Today*. 2008;28:926–34.
18. Ehlman K, Wilson A, Dugger R, Eggleston B, Coudret N, Mathis S. Nursing home staff members' attitudes and knowledge about UI: the impact of technology and training. *Urol Nurs*. 2012;32:205–13.
19. Lawhorne LW, Ouslander JG, Parmelee PA, Resnick B, Calabrese B. Urinary incontinence: a neglected geriatric syndrome in nursing facilities. *J Am Med Dir Assoc*. 2008;9:29–35.
20. Mangnall J, Taylor P, Thomas S, Watterson L. Continence problems in care homes: auditing assessment and treatment. *Nurs Older People*. 2006;18:20–2.
21. Palmer MH. Urinary incontinence quality improvement in nursing homes: where have we been? Where are we going? *Urol Nurs*. 2008;28:439–44, 453.
22. Mathis S, Ehlman K, Dugger B, Harrawood A, Kraft C. Bladder buzz. The effect of a 6-week evidence-based staff education program on knowledge and attitudes regarding urinary incontinence in a nursing home. *J Contin Educ Nurs*. 2013;44:498–506.
23. Lin S, Wang R, Lin C, Chiang H. Competence to provide urinary incontinence care in taiwan's nursing homes: perceptions of nurses and nurse assistants. *J Wound Ostomy Continence Nurs*. 2012;39:187–93.
24. Teunissen D, van den Bosch W, van Weel C, Lagro-Janssen T. Urinary incontinence in the elderly: attitudes and experiences of general practitioners. *Scand J Prim Health Care*. 2006;24:56–61.
25. Dingwall L, McLafferty E. Do nurses promote urinary continence in hospitalized older people? An exploratory study. *J Clin Nurs* 2006;15:1276–86.
26. Norheim A, Guttormsen Vinsnes A. Ansatte på sykehus sine holdninger til eldre pasienter med urininkontinens [Staff at the hospital their attitudes to elderly patients with UI] *Nordic Journal Of Nursing Research* 2005;25:21-5. Norwegian.
27. Park S, De Gagne JC, So A, Palmer MH. Knowledge, attitudes, beliefs and practices in registered nurses and care aids about urinary incontinence in Korean nursing homes. *J Wound Ostomy Continence Nurs*. 2015;42:183–9.
28. Polit DF, Beck CT. *Nursing research: Generating and assessing evidence for nursing practice*. Philadelphia: Lippincott Williams & Wilkins; 2012.
29. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*. 2004;24:105–12.
30. World Medical Association. World Medical Association Declaration of Helsinki. Ethical principles for medical research involving human subjects. *Bull World Health Organ*. 2013;310:2191–4.
31. Brooker, D. *Person-centred dementia care: Making services better*. London and Philadelphia: Jessica Kingsley Publishers; 2006.
32. Orem D. *Nursing concepts of practice*. St. Louis: Mosby; 2001.
33. Brown W, Miller Y. Too wet to exercise? Leaking urine as a barrier to physical activity in women. *J Sci Med Sport* 2001;4:373–78.
34. ALINKO. Kvalitetsutveckling av inkontinensvården i Alingsås kommun. Inkontinenscentrum [Quality management of incontinence care in Alingsås municipality. Incontinence Center] Västra Götalandsregionen Regionservice: Alingsås kommun; 2009. Swedish.
35. Hägglund D, Wadensten B. Fear of humiliation inhibits women's care-seeking behaviour for long-term UI. *Scand J Caring Sci*. 2007;21:305–12.
36. Ekholm, B. Middle managers in elderly care under demands and expectations. *Leadership Health Serv*. 2012;25:203–15.
37. Gjerberg E, Förde R, Pedersen R, Bollig G. Ethical challenges in the provision of end-of-life care in Norwegian nursing homes. *Soc Sci Medline*. 2010;71:677–84.
38. Lauritzen M, Andersson G. *Utredning och bedömning. Urininkontinens [Investigation and assessment. UI]* Stockholm: Handbook for Healthcare; 2014. Swedish.

39. Sundvall PD. Diagnostic aspects of urinary tract infections among elderly residents of nursing homes. Dissertation. University of Gothenburg: Sahlgrenska Academy; 2014.
40. Hägglund D, Wadensten B, Andersson C, Aflarenko M. Effekten av tranbärsjuice och personalutbildning i vårdhygien för att förebygga urinvägsinfektioner inom särskilt boende [The effect of cranberry juice and staff education in hygiene care for preventing urinary tract infections]. Nord J Nurs Res. 2009;29:28–32. Swedish.
41. National Board of Health and Welfare. Att leda en evidensbaserad praktik - en guide för chefer inom socialtjänst [To conduct an evidence-based practice - a guide for managers within the social services]. Stockholm: The National Board of Health and Welfare; 2012. Swedish.