Daily-living management of urinary incontinence: A synthesis of the literature

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Abstract

This is a comprehensive review of the research literature on daily-living management of urinary incontinence by people who live in the community. While most self-management literature investigates how people self-manage clinical treatments and therapies, this review focuses on how urinary incontinence symptoms are managed in everyday living to maintain social functioning. Control of urinary incontinence in everyday living is achieved using a range of strategies, which were identified and conceptualised as: Containing, Restricting, Concealing, and Modifying. Understanding the strategies people use to manage UI in daily life will enable health professionals to provide more appropriate and personally tailored advice to clients.
INTRODUCTION

This is a comprehensive review of the research literature on daily-living management of urinary incontinence by people who live in the community. While most self-management literature investigates how people self-manage clinical treatments and therapies, this review focuses on how urinary incontinence (UI) symptoms are managed in everyday living to maintain social functioning. Control of UI in everyday living is achieved using a range of strategies, which were identified and conceptualized as: Containing, Restricting, Concealing and Modifying approaches.

MANAGING URINARY INCONTINENCE IN THE COMMUNITY

Despite available treatments and therapies, many people living in the community continue to experience UI. In Australia, it is estimated that there are 3.84 million people with UI – approximately 3.1 million (38.1%) women and 780,000 (10.2%) men. UI has a major impact on physical, quality of life, emotional and social health and wellbeing, including sleep problems, self esteem, depression, psychological distress, restrictions in physical activity, travel, leisure, work, relationships and sexuality. The consequences of UI include embarrassment, odour, loneliness and social isolation, stigma, financial cost, and can lead to institutionalisation and depression.

Great energy is devoted to managing and normalising UI into daily life. Self-management is the person’s ability to manage their symptoms, treatment, as well as the physical and psychosocial consequences and life style changes inherent in the underlying chronic condition. Daily-living management of UI involves creating order, discipline and control, not only to manage the physical consequences of
urinary leakage, but also its emotional and social effect. Most literature on self
management tends to focus on how patients adhere to treatment or therapy, rather than
how they live their lives every day with the impact of symptoms, treatments and
therapies. However, understanding how clients feel and the strategies they use to
manage their daily lives is central to provision of holistic care. For the purposes of
this review, we have defined daily-living management as strategies used to integrate
UI into daily-living, rather than strategies designed to treat or cure it. This
comprehensive review of the literature provides a conceptual synthesis of evidence
from the literature in relation to strategies adult men and women living in the
community use to manage the symptoms of incontinence in everyday living.

SEARCH STRATEGY

A review protocol was designed to explore the literature in relation to the
question. A broad search strategy was required as most research into daily-living
management of UI in community settings has been descriptive, an adjunct to other
investigations, or has used qualitative methodologies; and there have been few
randomized controlled trials.

Multiple computerized medical, nursing and sociological databases were
searched (Table 1). A full internet search was also carried out using Google to
uncover grey literature such as government reports, newsletters, fact sheets and
conference proceedings. National and international continence websites were
searched for related information. In addition reference lists of accessed documents
were hand searched. A range of keywords were used to enable an expansive search:
UI (including stress, urge and mixed), self-management (including -care, -help, -
control), management/ therapy/ strategies (conservative, behavioral, coping),
adaptation, and adjustment. Types of self-management strategies were also used as search terms (such as fluid intake, incontinence pads, toileting). English language publications were included (although abstracts from non-English papers were included if written in English), with no limits set on publication date. Papers were excluded if UI was directly related to dementia, stroke, Parkinson’s disease or older people living in residential aged care facilities, because the focus of this analysis was on people living in the community who are able to self manage. Papers were also excluded if management was complicated by spinal cord injury or diabetes. Publications related to devices (such as catheters) were included if their focus was on daily-living management by community-dwelling adults, as opposed to treatment.

Based on our review of the literature, management of UI in daily-living was synthesized into *Containing, Restricting, Concealing* and *Modifying* approaches. Included papers were then re-analyzed to focus on findings related to these approaches. These interlinked approaches are applied in strategies related to everyday functions including: planning, routines, toileting, using pads and aids, adjusting fluids, body care and hygiene, physical activity and exercise, social interactions and structuring the environment. Publications were summarized, noting their research design, participant group characteristics, sampling, context, and approaches for living with UI. Studies identifying *Containing, Restricting, Concealing*, and *Modifying* daily-living management strategies are outlined in Table 2.

**URINARY INCONTINENCE AND DAILY-LIVING**

How UI is managed may vary, but the need to control urinary leakage in order to maintain a normal lifestyle remains the underlying theme of daily-living management. Management approaches and strategies are influenced by individuals’ functional and cognitive ability, UI severity, UI type, age, and
gender. These approaches are also influenced by the individual’s normal daily patterns and contexts such as whether the person is mainly at home or at work. Incontinence is socially stigmatized and fear of recurrence is a driving force behind daily-living management. Management strategies evolve as the person seeks to normalize UI into their lifestyle. People who find their UI difficult to manage have reported using significantly more self-care behaviors than those who said it was not difficult to manage.

**Containing Strategies**

Containing strategies are usually the first reactive approach to managing UI. Incontinent episodes may be contained by collecting urine using an absorbent product or collection device. Containment strategies are used to deal with expected or unexpected UI episodes or to provide a sense of security for people who are mainly continent, but fear an incontinent episode.

Containment strategies are usually personalized, related to the severity and type of UI and personal circumstances, such as age, activity level, social context and personal preference. Although absorbent products such as pads and pants are used by both men and women, they are more favored by women. Brown and Miller\(^8\) found that in Australian women with UI, 17.4% of young women and 63% of middle aged women and 74% of older women wore pads. Studies about pad use identify that between 40% and 61% of women wear pads or some type of absorbent product\(^22,26,33,31\) as compared to 20% of men.\(^31\) Stoddart and coworkers\(^34\) found that mini pads were the commonest device used by women. Although there is a large range of continence-specific products available, some women with UI use menstrual pads because they are considered more ‘normal’\(^35,32,36\).
Boyle and associates\textsuperscript{37} reported that men wear protective pads and Johnson\textsuperscript{38} identified that continence pad use by men was more common when UI is severe. In contrast men with mild to moderate UI prefer to ensure a toilet was nearby in preference to using a pad. For example Eastwood and coinvestigators\textsuperscript{23} found men with multiple sclerosis preferred to make sure they could reach a toilet even if this meant altering where and when they went out.

Reported use of other types of urine collecting and protective devices include: catheters and urinals by both men and women;\textsuperscript{41} pants, used towels, paper towels, tissue paper,\textsuperscript{39} absorbent cloth\textsuperscript{40} catheters, urinals and leg-bags by men;\textsuperscript{42} and plastic bedcovers, cotton, and toilet paper by women.\textsuperscript{43,44}

**Restricting Strategies**

People tend to avoid or limit factors, activities and situations that may provoke episodes of UI.\textsuperscript{33} Restrictions and limitations may influence social activity, travel, physical activity, fluid intake, choice of occupation, and intimate relationships.\textsuperscript{33,45} People limit travel to places and routes where they know the location of toilets, prefer to drive themselves so they can stop when they need to, drink less fluid if planning to go out, restrict certain physical activities such as lifting, and go out less.\textsuperscript{46}

Major and potentially life-changing restrictions on social activity can result from UI.\textsuperscript{28} Some will stop going to places (such as public transport or the theatre) where they know it will be difficult to get to a toilet,\textsuperscript{47,46,42} and curtail social activity to the extent that they stop going out altogether and become isolated.\textsuperscript{41,47} For those who do go out, social activity may be restricted,\textsuperscript{28,48,14} or limited to private places, such as a friend’s home.\textsuperscript{49} Social and intimate relationships may be restricted to the extent that new relationships, sexual intercourse and/or orgasm are avoided.\textsuperscript{8,32}
Many physical activities may provoke UI. Therefore, activities such as lifting, strenuous activity, sport (such as jogging) and standing for long periods are avoided to reduce the risk of urine leakage. Another physical restriction relates to fluid intake. Particular fluids, such as caffeinated drinks or alcohol, may be eliminated or avoided. General fluid intake may be restricted, particularly when going out, prior to exercise, or prior to bedtime to avoid nocturia. These restrictions have the potential for profound negative health impacts on a person’s lifestyle, psychological status, social life, social relationship, hydration and physical fitness.

**Concealing Strategies**

Concealing activities aim to prevent others from being made aware of incontinence, even when urine loss occurs in public. Many clues can point to urinary leakage such as the smell or sight of wet clothing, wet patches on furniture, or a variety of objects or activities that indicate an individual suffers from UI. Concealing incontinence maintains social continence, a public identity and a person’s sense of self.

Research suggests that secrecy and concealment are major preoccupations for those experiencing UI. Mitteness and Barker reported that people with UI will control information about their condition carefully, only revealing their problem to very close family and friends, while Ashworth and coinvestigators noted that some failed to inform even close family members.

In addition to Containing, pads and related devices conceal UI episodes by preventing clothing from becoming wet. However, these devices may reveal the presence of incontinence if they become visible. For example, post-prostatectomy,
men may use pads to conceal immediate incontinence, but they also report feeling self-conscious about the bulge created by the pad.36,52

Continence pads or aids are usually effective, but failures may occur. Therefore, in order to ensure secondary concealment, people with UI often wear clothing made of suitable fabrics (eg. dark colored or patterned) and design (eg. skirts, long jackets) to further conceal urinary leakage.8,23,24,43,44,48,53,54 Persons with UI also report engaging in efforts to distract or disguise in order to conceal UI. For example, Eastwood and colleagues23 described how one man would splash water onto the front of his trousers or carry his jacket in front of him to conceal evidence of urine loss.

Deodorizers or frequent hygiene routines are used to conceal odor associated with incontinence.32,35,43 This constant worry43 about the possibility of odor leads some to launder their underwear, clothing or bedding frequently whether soiled or not “just in case it smells”.41

Frequent toileting also may attract attention, resulting in a fear that others will discover UI. Efforts are made to conceal the reason for non-attendance at particular social occasions (eg. the football) or for the need to go to the toilet frequently.23, 24, 42,55

Modifying Strategies

In addition Containing, Restricting and Concealing, people with UI also use Modifying strategies, which are developed over time to prevent UI episodes or attain social continence. Modifying strategies enable participation in a broader range of daily-living social activities, assisting the person to normalize UI into their daily lives. Modifying strategies include altering fluid intake, medications, toileting, physical activities, sexual practices, use of pads and devices, social activities, clothing, the environment and the way an individual conceptualizes their UI.
People who experience UI frequently modify or manipulate their fluid intake, either increasing or decreasing intake. They also alter the timing of fluid intake to ensure urine is passed before leaving home. Types of fluids consumed can be modified, for example, by replacing alcohol and caffeinated drinks. Some participants use nutritional or home remedy strategies such as vitamins, calcium, zinc, white willow bark, cherry juice and pickle juice. There is also evidence that people with UI alter medication amounts and timing as a modification strategy. Individuals may take a particular medication or omit a dose of a drug, particularly before going out.

Many studies have identified that people with UI modify their toileting behaviors in order to achieve social continence. Strategies include scheduled or regular urination, urination before leaving home or beginning a journey, going to the toilet immediately on arriving somewhere, frequent emptying of the bladder and going to the toilet immediately when the need to urinate is perceived. Mitteness and Barker labeled the strategy of going to the toilet ‘just in case’ and maintaining an empty bladder ‘preventive peeing.’ Talbot and coworkers used the term ‘dysfunctional continence’ to describe behaviors such as very frequent toileting or getting up to the toilet at night. Although these strategies serve to maintain continence, they can have a negative impact on a person’s social and physical health and bladder function if used over the long term.

People with UI modify many of the physical activities they undertake. For example, skiing may be continued, but jogging may be replaced with walking because it is less likely to cause urine leakage. In order to improve bladder emptying, men may modify their typical voiding posture and sit rather than stand. Pelvic floor exercises can be used as a modifying strategy to control leaking and the pelvic
floor muscles may be routinely contracted before a maneuver likely to provoke urine loss, such as a cough or sneeze.\textsuperscript{25,50} Sexual activities may be planned,\textsuperscript{59} with some voiding immediately before sexual intercourse because of a fear of UI,\textsuperscript{58} while others use a towel in bed during sexual activity.\textsuperscript{32} Over the longer term, some try to reduce weight.\textsuperscript{33}

As people with UI learn about their condition, they often modify the way absorbent or collecting devices or containing strategies are used, based on the time of the day, and whether they are at home or out.\textsuperscript{48} Product use is modified for specific activities known to cause leaking.\textsuperscript{25,50} Available products may be modified to suit individual requirements, for example by using one pad inside another pad or combining home made pads with commercial products for improved comfort and cost saving.\textsuperscript{35} Clothing will be altered,\textsuperscript{60} changed more frequently\textsuperscript{54} and laundered more often.\textsuperscript{60} Underwear and pads will be bought in bulk for economy,\textsuperscript{43} and slightly soiled underwear will be thrown away.\textsuperscript{43}

The social and physical environment can have an important impact on UI. The environment may be modified to ensure easy cleaning, protect furniture and equipment,\textsuperscript{43} enable better access to the toilet, and reduce the risk of being embarrassed in public. Close friends and same sex family members who are included in the secret,\textsuperscript{41,61} can be recruited in management strategies. Women can play a significant role in their husbands’ daily-living management of incontinence, for example by purchasing pads and helping with pad changes.\textsuperscript{14,62}

To control negative feelings about the self\textsuperscript{41} and integrate UI into their lives, people may redefine the meaning of incontinence\textsuperscript{41} and modify the way they think about UI and the place it has in their lives. Paterson\textsuperscript{14} described how people with UI revise their private identity by learning about anatomy and physiology, family history,
life events and rejecting cultural attitudes toward UI. People may manage UI in their lives by not thinking of it as a problem when it occurs at home (as opposed to outside the home) or ignoring accidents and continuing with normal activities. Other approaches include working to re-establish normality quickly, by clearing up immediately or throwing away slightly soiled underwear. Many reconceptualise their idea of what UI is or modify their expectations about UI by minimizing its importance, renaming it, getting used to it, putting up with it and learning how to manage it; accepting urine loss as a normal part of the recovery process after surgery, or redefining what is considered ‘wet’ and ‘dry’, and expanding the number and type of locations or receptacles in which it is OK to urinate. Where trust has developed, people may gain support and share experiences with others with the same problem.

While social activities can be severely restricted, most people with UI use modifying, containing and concealing strategies in order to socialize outside the home. Although some will select only ‘safe’ outings or activities, many are determined that UI will not change their lives and keep them at home. Once people with UI have established modifying strategies that work for them, they will establish a routine that gives some mastery and control over their condition. Modifying involves careful planning, particularly when out socially. People with UI will plan toileting at home and when out, know when leakage is more likely to occur, reorganize daily activities to void at home and ensure accidents only take place in private, may drive themselves to a destination rather than take public transport and on arriving at a destination, will immediately make an effort to locate and then stay near a toilet. They may plan activities according to their proximity to toilets, will generally make a conscious effort to find out where the toilets
are located, develop a cognitive map of toilets in their area and neighbourhood. Disabled toilets can be preferred because there is more space and privacy.

Once at a destination, people with UI plan for the possibility that they may need extra pads, have an accident and/or need to dispose used pads and aids. This may require carrying changes of pads, underwear, cleansers, materials for disposal and/or clothing.

**DISCUSSION**

The strength of this body of research is that it describes what people with UI actually do to manage UI in their daily lives. While some studies’ sampling and designs enable conclusions to be drawn about the extent of particular activities and behaviors, many do not. While this limits our ability to draw conclusions about this under-researched area, it should be noted that this review sought information about how people behave in naturalistic settings. In particular, qualitative studies add to understanding because they provide rich and detailed descriptions. Further, we found the consistency of findings related to particular activities and behaviors across multiple studies striking. Although more research in this area is needed, these studies provide a picture of the difficulties and creative thinking people employ to manage UI in their daily lives.

The research also revealed that UI imposes multiple changes and restrictions in people’s lives. While Containing and Concealing approaches are important for attaining social continence, they do nothing to address underlying conditions or reduce the chances of a UI episode. Modifying strategies, which are developed over
time, represent a proactive approach to taking control and managing to live more positively with UI, particularly in social contexts.

It is important to note that certain Modifying strategies used by people with UI may conflict with advice for good bladder management. Examples include toileting frequency, limiting fluid intake, altering medication regimens, and reducing physical activity. Professional advice is often not followed if people perceive it will result in an episode of incontinence. Further, if these modifying strategies are practiced over time, they may have a negative impact on both general health and lower urinary tract health.

Conclusions

Understanding the strategies used by people with UI has many implications for practice. Complying with advice related to good bladder habits may at times be difficult, especially when patients seek to engage in a full range of social activities. It is important to acknowledge the impact of UI on the patient’s psychosocial health and how this effects their daily-living management. Advice about bladder management strategies should be tailored to each individual’s condition and needs. Consideration should be given to the individual’s contexts, relationships and perspectives and assistance provided in relation to physical, psychological and social issues. Advice should be differentiated for social and private contexts. In addition, clients should be provided with sufficient information and advice to enable them to make appropriate decisions about modifications that will enable them to live their daily lives more fully.
Key Points

1. Urinary incontinence is a common problem that has a major impact on physical, emotional and social health and wellbeing.

2. People with urinary incontinence use *Containing, Restricting, Concealing* and *Modifying* strategies to manage their everyday lives.

3. To achieve social continence, people with UI will modify fluids, medications, physical activity and bladder habits in ways that may have negative impacts over the long term.

4. Health professionals need to consider clients’ social contexts, relationships and perspectives and provide differentiated advice for managing urinary incontinence in social and private contexts.

Key words: continence, daily living, elimination, fluid intake, self care, self management, urinary incontinence
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<p>| Skoner25, 50 1993;1994                   | Qualitative, interviews, n=8 women with UI; aged 31-50 years; US                     | Use pads; incontinence pads a last resort - when UI cannot be contained by sanitary pads (less costly and bulky); Restricting: Avoid strenuous exercises (eg. aerobics and running); Alter physical activities; Limit fluid intake particularly before exercising or going place with no toilets nearby; Avoid or limit beverages associated with UI (eg. tea, coffee); Modifying: Keep bladder empty by urinating frequently, limiting fluid intake, or both (particularly before exercising or where there are no toilets nearby); Know where every public toilet in locality is; Do pelvic floor muscle exercises; Modify physical activities, eg. continue skiing, substitute walking for running, stop swimming completely; Contract pelvic floor muscles before a cough or sneeze; Use pads for specific activities known to cause leaking; Drink de-caffeinated tea and coffee. |
| Stoddart and associates.34 2001          | Survey, stratified random sample of community living ♀&amp;♂; n=1540 / 2000; aged 65 years; UK | Mini-pads (1% Male, 22% Female); Sanitary pads (1% Male, 10% Female); Incontinence pads (5% Male, 14% Female); Change clothes (51% Male, 36% Female); Use paper (13% Male, 12% Female); Medication (11% Male, 5% Female); Exercises (8% Male, 21% Female) | Some subsets of women experiencing UI appear to be less likely to engage in sexual activity than continent women. |
| Tannenbaum and associates.67 2006        | Randomly selected from postal survey participants n=2361/5000 ♀; continent n=1436; incontinent n=925; aged 55-95 ( ⎯ = 71) | Restricting: Some subsets of women experiencing UI appear to be less likely to engage in sexual activity than continent women. |</p>
<table>
<thead>
<tr>
<th>Authors and Year</th>
<th>Research Methodology</th>
<th>Sample Description</th>
<th>Containing:</th>
<th>Restricting:</th>
<th>Modifying:</th>
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</thead>
<tbody>
<tr>
<td>Teunissen and associates. 2006</td>
<td>Qualitative/quantitative analysis of interview data; ( n=370 ) (56(♂), 314(♀)); with uncomplicated UI; aged (≥ 60); recruited from client populations of nine family practices</td>
<td>Wear pads;</td>
<td>Going places when uncertain about availability of toilets (31-37%); Physical activities (10%); Shopping and outdoor activities; Imposed clothing restrictions ((♂)); Carrying or lifting; Avoid leaving home; Prevent odours; Stay near toilet; Take extra pads and clothing when leaving the house; Always look for a toilet; When shopping, plan route to be near toilets.</td>
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<td>Thomas &amp; Morse 1991</td>
<td>Semi structured telephone interviews; ( n=60 ) (53(♀), 7(♂)) living independently with UI; aged 51-88 years; Canada</td>
<td>Use sanitary pads or commercial incontinence garments; use a combination of sanitary pads, commercial garments, or homemade pads; Feel restricted in their daily activities (11.6%); Do not significantly reduce activity outside of the home (83%). Many were determined that UI would not keep them at home; Drink more fluids (12%); Reduce fluids (20%); Tell no one about the problem (15%); Hygiene was particularly important for those respondents who expressed feeling embarrassed because of odour or leakage; Discuss problem with someone close (70%); Void before leaving home; Plan trips in relation to availability of a toilet; Frequent or regular toileting; Consider UI as something you just “got used to”, “learned how to manage” and “put up with”; Practise pelvic floor exercises; Unusual strategies included: drink pickle juice as a bladder astringent; take hot baths; wear warm clothes to prevent ‘chilling of the kidneys.’</td>
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<td>Umlauf and associates. 1996</td>
<td>Survey, ( n=1490/2800 ) community-dwelling (♂) from a senior citizens group; aged 52-99 years; U.S.</td>
<td>Of 20% of sample responding to question on product use (( n=127/434 )) the men used: toilet tissue (28%), paper towels (16%), adult diapers (22%), sanitary pads (9%), panty liners (9%), absorbent cloth (6%);</td>
<td>Do not stand for long periods; Limit caffeine use;</td>
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