

# Nurses' Perception, Attitudes and Practices towards Continence Aids Use in a Teaching Hospital in Singapore

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## Abstract

Admissions among the older adults in hospital will increase as the world ages. Urinary incontinence (UI) is common among the elderly, which often led to the myth that UI is synonymous with ageing. Routine application of continence aids, especially among the elderly patients, is a common practice, particularly in the busy acute ward setting. This practice leads to dependency on continence aids, function decline, cost and caregiver burden after discharge. Nurses' attitudes, seniority in work experience, lack of knowledge on UI, family expectations, fall risk, manpower resources were among some of the factors found to have a role in deciding the usage of continence aids. Improving knowledge on UI, in-depth assessment and a multidisciplinary holistic management of UI may reduce routine prescription of continence aids in acute hospital setting.

**Keywords:** Continence aids, Elderly, Nurses' attitudes, Urinary incontinence.

## INTRODUCTION

Urinary incontinence (UI) and faecal incontinence (FI) are worrisome, inconvenient and embarrassing medical conditions for many people, young and old, in society. Both urinary and faecal incontinence increase in prevalence with increasing age [1,2]. There are 400million persons worldwide living with UI [3] and the prevalence of FI among community dwelling United State adults was estimated at 8.39 percent [2]. A Singapore study in 1991, conducted on 919 community dwelling seniors aged 65years and older found that the prevalence of urinary incontinence was 4.6 percent and

83% of seniors with UI had to live with some physiological or social consequences of the incontinence [4]. Another local study in a long term care homes by Chan et al found that 25% of the elderly nursing home residents, and 78% of the residents in the chronic sick unit, had urinary incontinence [5].

Despite well-recognized ill effects on health, well-being and quality of life, incontinence is often seen by care providers as a social problem, rather than a health related one [6]. Generally, people believe that incontinence is part of the ageing process [7,8]. Women in particular, believed that incontinence is an inevitable consequence of childbirth and aging [9]. A large proportion of persons living with UI are socially isolated and often do not seek medical help because they are often embarrassed by their incontinence which also carries with it a social stigma [4, 10,11].

According to the national audit of Continence care in United Kingdom (2010), even if people sought help for UI, they often received suboptimal care from either the acute or primary care setting. Patients' feedback showed 20% of the specialist assessments were conducted by providers without basic trainings (lacking in experience in history taking, knowledge and aetiology of incontinence). Unfortunately, UI was managed with disposable diaper (> 60%) in both acute hospital and the community settings [12]. Diaper use may result in skin breakdown, diaper dermatitis [13], dependency, immobility and associated complications [14,15], recurrent urinary tract infections [16], delirium and even death.

Nurses are usually the first contact for the patients have in healthcare settings and are therefore the ideal personnel for the initial assessment and management of incontinence. Generally, nurses from all clinical areas knew of the importance of promoting continence, and yet, continence aids were frequently the first approach. Studies reported factors such as time constraints, knowledge and attitude deficits, improper

assessment, poor documentation, low prioritisation, lack of manpower, limited access to resources, and lack of institutional support as the main deterrents in providing appropriate care for managing UI. Incontinence programs and pathways are poorly established in most healthcare settings. Hence suboptimal management of incontinence will likely remain [17–20].

Assessment and management of UI need to be multi-disciplinary in approach with input from various healthcare professionals. Continuous education is important for all levels of healthcare providers, together with development of guidelines and pathways to ensure standardized care across different specialities. A systemic review highlighted the complex nature of continence management. Hence, a nursing specialist who oversee the trainings and management of continence will improve incontinence care [21].

This study aims to explore the nurses' perception, attitudes, knowledge and routine practice towards use of diaper and catheter in a teaching hospital in Singapore. The results from this survey may be the prelude to quality improvement initiatives and education programmes to improve continence care in the hospital.

## METHOD

This study was a quantitative cross-sectional survey. The objective of the study was to explore the nurses' perception, attitudes and practices toward usage of continence aids among patients admitted to a teaching hospital.

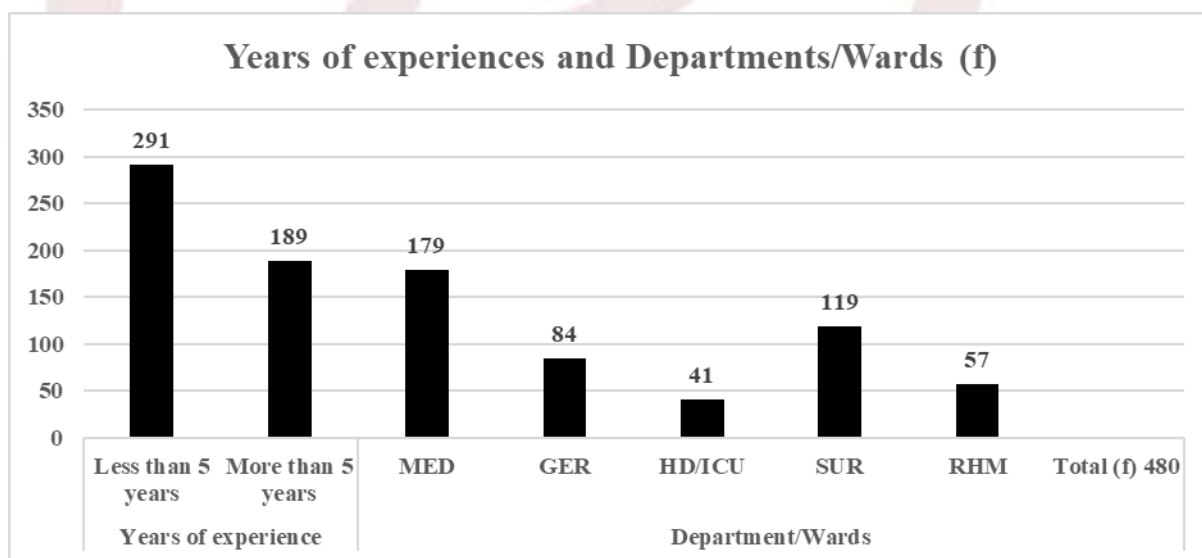
The study was conducted from October to December 2021 using a survey form which was distributed to nurses throughout the hospital. The survey was entirely anonymous, voluntary and the nurses were not under duress to participate. Verbal consent was obtained from the participants prior to answering the survey form, a link was then sent to the nurses' preferred personal electronic devices.

Data collected included years of working experience; the department / ward where they were working in; commonly used continence aids, attempts and measures to wean off continence aids; common practice for continence care and education on continence care.

The categorical variables were analysed in the proportions and re-grouping of the variables were done as necessary. For statistical analysis, the chi-square test was used to assess the independence between two variables. For some variables with small sample size, p-value from Fisher's exact test was described. p value less than 0.05 was considered statistically significant in this study.

## RESULTS

There were 480 respondents for this survey. The nurses' working experience and distribution of departments/wards are shown in Figure 1. Among the 480 nurses, 291 (60.6%) participants were junior nurses with less than 5 years work experience. Majority of the participants, 320 (66.7%), were from medical disciplines, which consisted of General Medical, Geriatrics and Rehab wards while 119 (24.8%) were from surgical wards, 41 (8.5%) nurses were from High Dependency/ Intensive Care units.



**Legends:** MED = Medical ward, GER = Geriatric ward, HD = High dependency unit, ICU = Intensive care unit, SUR = Surgical ward, RHM = Rehabilitation ward

**Figure 1:** The frequency of the participants according to the years of working experience and department

Close to 70% of the nurses felt that urinary incontinence (UI) is inevitable among the seniors and persons living with dementia (Table 1). Putting diapers for the new admissions was a common practice among 387 (80.6%) of the ward nurses. Once the patients were put on diapers, most nurses (81.5%) actively attempted to trial off diaper by scheduling toilet rounds. For the patients who needed indwelling urinary catheter insertion after admission, 82% of the nurses would

remind the team doctors to wean off catheters.

For the elderly patients who were independent, 433 (90.2%) nurses actively promoted continence. More than 80% of the nurses actively initiated trial off diaper by promoting active toilet rounds, while 81.7% of nurses reminded team doctors to remove catheter rather than continued to rely on continence aids until discharge.

	No	Yes
Incontinence is inevitable in older people	156 (32.5%)	324 (67.5%)
Incontinence is inevitable in person with dementia	149 (31%)	331 (69%)
Have you ever initiate diaper for new admission patient upon arrival to ward?	93 (19.4%)	387 (80.6%)
Do you actively initiate trial off diaper for the patient?	89 (18.5%)	391 (81.5%)
Do you actively do toilet round for patient?	63 (13.1%)	417 (86.9%)
Do you actively remind team doctor to remove urine catheter?	88 (18.3%)	392 (81.7%)
Do you try all means to promote continence in elderly who are independent?	47 (9.8%)	433 (90.2%)

**Table 1:** The perception, attitude and the practices of nurses towards incontinence

There were patients who would routinely be put on diapers at admission, such as bedridden patients, known UI, dependence on diapers such as nursing home residents, patients with unsteady gait, cognitively impaired or occasionally, requested by patients' family to do so. It was heartening to know that only 30% of the nurses put diapers for patients for comfort, especially in the local tropical climate. (Table 2)

	No	Yes
Patient was known to have incontinence	85 (17.7%)	395 (82.3%)
Patient was on diaper from home/NH	73 (15.4%)	400 (84.6%)
Patient was bedridden	35 (7.3%)	445 (92.7%)
Patient was mobility impaired	90 (18.8%)	390 (81.3%)
Patient was cognitive impaired	142 (29.6%)	338 (70.4%)
Patient was at high fall risk	263 (54.8%)	217 (45.2%)
Patient/Family request	208 (43.3%)	272 (56.7%)
For patient's comfort	336 (70%)	114 (30%)

**Table 2:** Reasons for using diapers among the elderly patients

Factors which deterred nurses from weaning off continence aids included, patients who were unable or refused to be sat out or walked to toilet. Shortage of nursing manpower (58%) was also a deterrent to mobilise patients for scheduled toilet rounds. (Table 3)

	No	Yes
Lack of manpower to do toilet round	202 (42%)	278 (58%)
Not sure of the toilet round regime	456 (95%)	24 (5%)
Toilet is too far from patient's cubicle	429 (89.4%)	51 (10.6%)
Patient's condition is contraindicated to ambulate/sit on commode chair	40 (8.3%)	440 (91.7%)
Patient refuses to walk or sit on commode chair	131 (27.3%)	349 (72.7%)

**Table 3:** The barriers for promoting continence among the elderly patients

Near 59% junior nurses (less than 5 years working experience) agreed that the UI is inevitable with ageing and dementia. While only 41% of the more senior nurses agreed that UI is part of ageing. Among the 387 participants who initiated diapers for the new admissions, 59.4% were junior nurses. Junior nurses (60%) were more likely to initiate trial off diapers, put their patients on regular toilet rounds and reminded their medical team to trial off indwelling urinary catheters. (Table 4)

		less than 5 years f (%)	more than 5 years f (%)	Total f (%)	P-value
<b>Incontinence is inevitable in older people</b>	No	100 (64.1)	56 (35.9)	156 (100)	0.279
	Yes	191 (58.95)	133 (41.05)	324 (100)	
<b>Incontinence is inevitable in person with dementia</b>	No	99 (66.44)	50 (33.56)	149 (100)	0.08
	Yes	192 (58.01)	139 (41.99)	331 (100)	
<b>Have you ever initiate diaper for new admission patient upon arrival to ward?</b>	No	61 (65.59)	32 (34.41)	93 (100)	0.275
	Yes	230 (59.43)	157 (40.57)	387 (100)	
<b>Do you actively initiate trial off diaper for the patient?</b>	No	54 (60.67)	35 (39.33)	89 (100)	0.992
	Yes	237 (60.61)	154 (39.39)	391 (100)	

<b>Do you actively do toilet round for patient?</b>	No	35 (55.56)	28 (44.44)	63 (100)	0.377
	Yes	256 (61.39)	161 (38.61)	417 (100)	
<b>Do you actively remind team doctor to remove urine catheter?</b>	No	64 (72.73)	24 (27.27)	88 (100)	0.010**
	Yes	227 (57.91)	165 (42.09)	392 (100)	
<b>Do you try all means to promote continence in elderly who are independent?</b>	No	28 (59.57)	19 (40.43)	47 (100)	0.877
	Yes	263 (60.74)	170 (39.26)	433 (100)	
<b>Do you rather use the diaper/catheter/urosheath than doing toilet rounds?</b>	No	193 (63.49)	111 (36.51)	304 (100)	0.092

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

**Table 4:** Years of working experience and practice of continence care

Among the wards which initiated continence aids at admission, the wards with the highest prevalence were nurses from the acute medical wards (39.5%), followed by acute surgical wards (26.9%). The acute Geriatric wards (16.3%) and rehab wards were less likely to initiate continence aids at admission. Correspondingly, the wards which expressed preference for continence aids usage instead of toilet rounds were also high among the acute medical and surgical wards. (Table 5)

	Medical	Geriatric	HD/ICU	Surgical	Rehab	P-value
<b>UI is inevitable with ageing</b>	124 (38.3%)	46 (14.2%)	31 (9.6%)	91 (28.1%)	32 (9.9%)	0.004*
<b>UI is inevitable with dementia</b>	131 (39.6%)	49 (14.8%)	29 (8.8%)	86 (26.0%)	36 (10.9%)	0.11
<b>Initiated diaper at admission</b>	153 (39.5%)	63 (16.3%)	36 (9.3%)	104 (26.9%)	31 (8.0%)	0.000***
<b>Would rather use continence aids than doing toilet rounds?</b>	68 (38.6%)	24 (13.6%)	20 (11.4%)	55 (31.6%)	9 (5.1%)	0.000***

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

**Table 5:** The comparison between different disciplines on use of continence aids.

## DISCUSSION

The survey was conducted in 2021. The hospital has 2 main buildings, the Main Building (MB) houses the general medical and surgical wards, including the various high dependency wards and ICUs. The other block is the Integrated Building (IB) which houses the inpatient wards for Geriatric and Rehabilitation Medicine. Patient turnover is higher at the MB compared to the IB wards. Due to the rapid turnover of patients at MB, the workload is higher while the nursing manpower remains the same. There were 480 nurses who participated in this survey 70% worked in the MB wards.

More than 60% of the nursing staff surveyed believed that incontinence is inevitable in older people and the persons living with dementia. In a cross-sectional descriptive study on the knowledge and practice behaviours among healthcare providers in hospitals, 542 out of the 756 (about 70%) healthcare workers (physicians, nurses, certified caregivers) accepted urinary incontinence is more common with aging (over 65years) [22]. There are physiological changes to the urinary tract as one ages, which predispose to UI, such as reduced bladder capacity, inability to delay voiding, bladder neck obstruction due to benign prostatic hyperplasia/uterine prolapse, reduced bladder contractility and a higher residual urine post void [23]. Believing that UI is part of ageing may lead to stigmatisation [7,8], missed opportunities to diagnose an underlying medical or surgical issues which caused UI. In the long term care setting, like nursing homes, most of the older adults were put on continence aids like diapers and catheters for ease of nursing care. In acute hospital settings, there are various reasons for initiating use of continence aids especially among the older adults like knowledge gaps, heavy workload, time limitation, lack of thorough assessment and those who considered UI as low priority health condition [24].

This study found that up to 80% of the nurses put patients on continence aids at admission to

the wards. The commonest indications cited for this practice were, bedridden patients, pre-existing UI on diapers and residents from nursing homes. Patients with impaired mobility and cognition were also frequently placed on continence aids at admission. Continence aids, though convenient, poses risk of dependency. Furthermore, being on continence aids seemed to reduce the need to get out of bed. For the nursing staff, while the patients were on continence aids, they frequently informed the patients to rely on the continence aids, rather than using the toilets, especially if manpower is tight. There is therefore a risk of functional decline due to over-dependency on continence aids leading to functional decline and complications associated with immobility and poor quality of life even after the discharge [14,15]. Taking the initiatives to wean off continence aids prior to discharge and getting patients to mobilise are important measures prior to discharge, to save cost, improve function and reduce caregiver burden after discharge.

In cross-sectional prevalence survey study in 2016, the overall prevalence rate of diaper usage during hospital admission was 37.9% and the top four reasons of diaper usage in all departments were faecal/urinary incontinence, poor patient condition, confusion and poor mobility [25]. In an acute hospital setting where patient turnover is high, it is expected that patients may be put on continence aids, especially the older patients who need assistance for toilet rounds. However, it is prudent to assess patients in depth after admission to determine if the patients can be continent with regular toilet rounds, be weaned off the continence aids as early as possible as continence aids are uncomfortable and expensive. Using continence aids over longer periods are known to cause continence associated dermatitis, urinary tract infections, pressure sores, etc. [14,15]. The main concern for blanket usage of continence aid is the risk of functional decline and dependency on incontinence aids [26,27], which may increase cost and caregiver burden after discharge. In this study, even

though the nurses had the liberty of initiating incontinence aids on admission, 90% of the nurses surveyed took the initiatives to wean patients off incontinence aids by mobilising patients to toilet and to remind the medical team to trial off catheters.

In the acute hospital setting, the workload may be higher compared to long term care setting, thus partially explained the application of continence aids being so rampant among the hospitalised elderly patients, particularly for the seniors with cognitive and mobility impairment. This study illustrated a difference in use of continence aids among the nurses in the high turnover general medical/surgical wards, length of stay <7 days compared to the Geriatric and Rehab medicine wards where the length of stay is generally between 12-20 days. Contributing to the heavy workload is perhaps a general lack in knowledge on UI. The Geriatric and rehab wards put more emphasis on continence training for the medical and nursing staff, hence the slightly lower rate of initiation of continence aids, more toilet rounds and higher likelihood of weaning off continence aids prior to discharge, although the difference did not reach statistical significance.

A cross-sectional study from Brazil showed that nurses presented appropriate knowledge about the negative effects of disposable diapers, but a deficit in depth of knowledge for the appropriate indications for disposable diaper use [28]. In a Taiwanese Nursing home study, knowledge on UI among registered nurses was higher than in the nursing assistants but nurses had more negative attitudes than the assistants. Registered nurses did minimal assessment and were less active in the management of incontinence [29]. Although there was a high level of interest in learning about urinary incontinence, the overall knowledge on urinary incontinence was poor among the nursing students in China [30]. In general, UI is poorly taught among the healthcare workers, even among the nurses in the authors' hospital.

Lack of basic knowledge and outdated attitude of continence management limited nurses' engagement in continence care, while many nurses had the opinion that UI is a normal, expected consequence of aging [22]. A exploratory study by Dingwall and McLafferty found that nurse-led strategies for continence care tend to focus on product identification and containment of incontinence, rather than active treatment [18]. Conflicting clinical priorities, varying approaches to UI and lack of knowledge were the barriers to promoting continence [18]. These findings were consistently reported across acute, community and long-term care for older people [17,31,32]. Since medical therapy for UI is limited, most assumed continence aids to be the ultimate management strategies for UI. To avoid dependency on continence aids especially among the elderly, it is crucial to provide definite pathways and guidelines to follow and timely involvement of specialized nurses to augment on UI as the next level of services [21]. Introducing UI in the in-service training and postgraduate training for the nursing staff may improve outcomes for the patients, without resorting to routine usage of continence aids [35–35].

The nurses surveyed denied initiating continence aid for patients assessed with high fall risk. A study in Brazil found that the UI was a strong predictor of falls postulating that the more frequent need to urinate cause increased fall risk, especially if there is associated urgency [36]. Patients may either fall near the vicinity of toilets or at their bedsides while they got up to go to toilet. More research to assess the local inpatient fall risk among the elderly on continence aids may give more insight to the validity of such practice.

There were patients whose relatives asked to be put on continence aids while hospitalised. Commonly cited reasons for doing so included, reduce need to get out of bed, hence reducing fall risks. Immobility resulting from such practice risks function decline. The nursing staff, particularly community nurses, may have a role in improving public education



on managing UI without the use of continence aids compulsorily. Taking opportunities to mobilise patients while hospitalised is important to reduce risk of function decline.

Improving public knowledge may improve management of UI without relying on continence aids. Social stigma and common belief that UI is part of ageing [7,8] led to delay in seeking diagnosis and management. A quantitative study in Netherlands found that elder people in the community were less likely to discuss UI with their doctor than younger people. Only half of older people with incontinence sought help for their symptoms depending on the duration and severity of the incontinence, the physical and emotional impact [10]. Following diagnosis and work up, a multidisciplinary approach to managing UI may prevent complications further down the line [37-39].

### CONCLUSION

Urinary incontinence is common among the seniors with negative impact on the individuals and their caregivers. Unfortunately, there is a general lack of knowledge among the medical and nursing staff on management strategies for urinary incontinence with most believing that continence aids are convenient, without realising the potential harms associated with its routine use. Improving knowledge and implementing stricter rules, and guidelines on routine usage of continence aids may improve the management of this common condition. Moreover, it is important that a multi-disciplinary team approach is essential to manage an elderly patient to provide holistic care and to prevent urinary incontinence and its complications.

### LIMITATIONS

The study may not be representative for all nurses' practice on continence care as data collection was by convenient sampling. Further studies are needed for a more general census. Another drawback was the young and less experienced

nurses comprised 60% of the study participants. In addition, this was an exploratory study; p-values should be interpreted carefully. Significant results might be due to chance and will need to be confirmed in targeted studies with larger sample population.

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