ORIGINAL ARTICLE

Malaysian Occupational Therapy Students' Knowledge and Attitudes Towards Urinary Incontinence

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ABSTRACT

Introduction: Urinary incontinence (UI) is a common health issue that affects people throughout the world, but stigma and misunderstandings about it still exist. This study investigates the knowledge and attitudes of Malaysian undergraduate occupational therapy (OT) students toward UI. **Materials and Method:** Using a cross-sectional design, data were collected through an online structured questionnaire distributed among OT students in Malaysian universities. Sections measuring participant demographics, the Urinary Incontinence Knowledge Scale (UIKS), and the Urinary Incontinence Attitude Scale (UIAS) were all included in the questionnaire. **Results:** The survey was completed by 230 (n = 230) undergraduate OT students from five different institutions. Their ages ranged from 19 to 26 years old, with a mean age of 22.67 (SD = 1.93). The majority, 43.9% (n=101) of respondents, had low knowledge of UI but had a positive attitude towards UI with a mean of 45.66 (SD = 4.28). The results showed a significant relationship between knowledge of UI and factors like year of education (p = 0.00) and level of study (p = 0.00). Furthermore, there was a significant correlation between gender and attitudes towards people with UI (p = 0.00). **Conclusion:** In conclusion, although OT students showed positive attitudes towards urinary incontinence, their limited knowledge highlights the need for improved educational strategies that address identified gaps and demographic influences. Initiatives aimed at destigmatising UI and promoting awareness among healthcare professionals are essential to foster a more inclusive and supportive healthcare environment for individuals affected by this condition in Malaysia.
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INTRODUCTION

Urinary incontinence (UI) is a prevalent and embarrassing condition that affects people of all ages, but it is particularly common in women, the elderly, patients with certain neurologic conditions, children born with spinal cord disorders, spinal trauma, and other spinal cord diseases, as well as following certain pelvic and prostatic surgeries (1). According to the World Health Organisation (WHO), UI, or involuntary loss of urine, is a common geriatric ailment that affects 9.9% to 36.1% of people. Older women are twice as likely as older men to suffer from this disorder (2, 3). Stress incontinence, urge incontinence, and mixed incontinence are the three most common forms of UI (4). Urine leakage after sneezing, coughing, laughing, or other physical activities that increase strain on the bladder is known as stress incontinence. Urge incontinence is characterised by an unexpected urge to pee, leaking urine before reaching the toilet, and experiencing more frequent urination than normal. Meanwhile, mixed incontinence is a mix of both symptoms. For example, childbirth or hysterectomy can weaken or impair the muscles that support the bladder and may result in UI. Hormonal changes, chronic illnesses such as asthma and diabetes, and certain medications can contribute to UI. Excess weight can also cause UI by straining the bladder and surrounding muscles (4).

In spite of health problems, UI is related to negative psychological, social, and economic outcomes (5). Furthermore, among women with UI, the two most

common psychological problems are anxiety and depression (6). Additionally, UI may affect older adults' subjective health, subjective quality of life, depression, and care needs (2). Unfortunately, this issue is often underreported and ignored due to the notion that UI is a natural aspect of ageing, as well as lack of suitable treatment choices, fear, and embarrassment (7). Urinary dysfunction is often treated in an outpatient environment by healthcare professionals, particularly occupational therapists in primary care settings. They should screen for urinary dysfunction and educate patients to self-manage related symptoms of routine and regular care in order to increase awareness of the profession's role in treatment and improve people's access to resources on managing urine dysfunction, occupational engagement, and quality of life (8). The future healthcare professional's knowledge of the risk factors for stress UI in women concluded that general medical students and physiotherapy students had less knowledge, while students studying other medical faculties had the least (9). That is worrisome since the healthcare profession is responsible for educating and spreading awareness to the public about UI and providing effective treatment, which requires adequate knowledge of UI and an understanding of its significance.

Urinary dysfunction is frequently treated in an outpatient setting by healthcare professionals, especially occupational therapists in primary care settings. In order to recommend a successful therapy for UI, an occupational therapist must possess the necessary information. Given that UI is not a defined accrediting criterion in occupational therapy education, which leads to diversity in the level of readiness, further research is required to investigate occupational therapy's knowledge and attitude towards UI (10). Although nurses and physicians have traditionally handled UI care, emerging evidence points to the necessity for a multidisciplinary approach that includes occupational therapists. Despite urinary incontinence (UI) being a prevalent condition that significantly impacts individuals' quality of life, research indicates that occupational therapists often possess limited knowledge and awareness regarding its management. This gap in understanding can hinder the delivery of comprehensive care and effective intervention strategies. Several studies have highlighted that both practicing occupational therapists and students frequently report insufficient training and exposure to UI-related content within their curricula, contributing to a lack of confidence in addressing UI issues in clinical practice (11). Moreover, while attitudes toward individuals with UI are generally positive, these attitudes do not always translate into proactive clinical engagement or competence. Enhancing educational frameworks to include more focused and practical training on UI is essential to bridge this knowledge gap and ensure that occupational therapists are fully equipped to support clients experiencing UI (12). Occupational therapists possess the necessary skills that considerably mitigate the intensity of UI associated with the surrounding environment and particular demands for assistance and modifications (13). In order to generate occupational therapy practitioners with the skills sufficiently trained to treat UI, ongoing education about UI is essential. However, UI training in Malaysian undergraduate occupational therapy programs has yet to be discovered. Therefore, this study is to raise awareness of UI as an occupational therapist participating in urinary management care by examining the knowledge and attitudes of UI possessed by undergraduate occupational therapy students in Malaysia as well as the factors that are related to it.

MATERIALS AND METHOD

Design

Ethical approval for this cross-sectional study was obtained from the Ethics Committee of Universiti Teknologi MARA (UiTM) (FERC/FSK/MR/2022/0354). A total of 230 undergraduate occupational therapy students from five Malaysian universities were recruited through purposive sampling, exceeding the calculated sample size of 223 based on Raosoft online calculator. Data collection was conducted over six months, from October 2023 to April 2024. Only participants who met the inclusion criteria and provided informed consent prior to completing the survey were included in the study.

Samples

Undergraduate occupational therapy students from five Malaysian universities; Universiti Teknologi MARA (UiTM), Universiti Kebangsaan Malaysia (UKM), KPJ Healthcare University College, Perdana University, and University College MAIWP International (UCMI) participated in the study. Participants were included if they met the following criteria: (a) full-time undergraduate occupational therapy students from 1st to 4th year, and (b) Malaysian citizens. Exclusion criteria were part-time or postgraduate occupational therapy students and international (non-Malaysian) students.

Data collection procedure

An online Google form survey was distributed using social media (Facebook and WhatsApp). Age, gender, race, university, level of study, and year of study are among the sociodemographic details included in the first of its three parts. Students' knowledge of UI is assessed using a questionnaire from the Urinary Incontinence Knowledge Scale (UIKS) in the second section. Items 1–5 on this measure include knowledge of risk factors; items 6–10 on symptoms; items 11–15 on effects; items 16–20 on prevention; items 21–25 on therapy; and items 26–30 on management. Correct = 1; False or Do not know = 0 are the three possible responses that participants will have. Total scores ranged between 0 and 30. Less than 60% of the time, or a total score of less than 18, denoted low knowledge; 60–80% of the time,

or a sum score of 18–24, denoted moderate knowledge; and more than 80% of the time, or a sum score of more than 24, denoted strong knowledge. The UIKS's psychometric qualities make it valid and dependable; five experts evaluated the content validity index, which came out at 0.75 (14, 15).

The third section consists of a questionnaire known as the Urinary Incontinence Attitude Scale (UIAS). The tool is a 4-item Likert-type scale with 15 items about attitudes towards UI. Items 1 through 4 gauge attitudes towards symptoms of the lower urinary tract, items 5 and 6 gauge attitudes towards preventing UI, items 11 and 15 gauge attitudes towards managing UI, and items 6 through 10 gauge attitudes towards therapy. In order to prevent response bias, the instrument included eight negatively worded items (items: 1, 2, 3, 4, 6, 7, 10, 12) and seven favourably phrased items (items: 5, 8, 9, 11, 13, 14, 15). Reverse coding the negative items and adding together the item scores yields the overall score. A positive attitude is indicated by higher scores, which range from 15 to 60 points. For nurses, Cronbach's alpha is 0.65, whereas for community members, it is 0.70 (14, 15).

Data Analysis

Occupational therapy students' self-report questionnaire data was analysed using the Statistical Package for the Social Sciences (SPSS) version 28. The Urinary Incontinence Knowledge Scale (UIKS), the Urinary Incontinence Attitude Scale (UIAS) score, and the sociodemographic characteristics were all analysed using descriptive analysis. Using the Chi-square, Mann-Whitney, and Spearman's rank correlation coefficient tests, the relationship between UI's knowledge and attitude and the demographic characteristics of occupational therapy students' gender, level of study, and year of study was examined.

RESULTS

All 230 participants met the inclusion criteria and submitted completed surveys. Table 1 presents the demographic characteristics of the occupational therapy students. The majority of participants (90.0%, n=207) were female, with a mean age of 22.67 (SD=1.93), ranging from 19 to 26 years. Malay people made up the bulk of the study's participants (80.4%, n=185), followed by Chinese (12.2%, n=28), Indians (4.8%, n=11), and Other Asians (2.6%, n=6). The bulk of responses (60.0%, n=138) to the university are from UiTM, and 69.6% (n=160) of the occupational therapy students had bachelor's degrees, with another 30.4% (n=70) having diplomas. Most responses were second-year occupational therapy students (n=62; 27.0%).

Table I: Demographic data of participants

Variables	Mean	SD	Frequency (%)
Gender			
Female			207 (90.0)
Male			23 (10.0)
Race			
Malay			185 (80.4)
Chinese			28 (12.2)
Indian			11 (4.8)
Orang Asli			6 (2.6)
University			
UiTM			138 (60.0)
UKM			42 (18.3)
KPJ			1 (0.4)
Perdana			26 (11.3)
UCMI			23 (10.0)
Level of study			
Bachelor in OT			160 (69.6)
Diploma in OT			70 (30.4)
Year of Study			
First-year			56 (24.3)
Second year			62 (27.0)
Third year			53 (23.0)
Fourth-year			59 (25.7)
Age (Year)	22.67	1.93	

Overall, Urinary Incontinence Knowledge Scales (UIKS) scores among occupational therapy students were as illustrated in Table 2. Majority with 43.9% of the students have low knowledge (n=101), 39.6% have moderate knowledge (n=91) and 16.5% have strong knowledge (n=38) of urinary incontinence. Results suggest that occupational therapy students possess insufficient knowledge about UI prevention and management, such as avoiding constipation (21.7%, n=50), smoking cessation (37.8%, n=87), and limiting strenuous exercise (39.6%, n=91). Most participants (74.3%, n=171) knew that pelvic floor exercise could help with treatment for urinary incontinence, while only 19.1% (n=44) knew that surgical treatment could solve the problem of urinary incontinence.

Table II: Urinary Incontinence Knowledge Scales (UIKS) scores among occupational therapy students

	Frequency (n)	Percentage (%)
Level of UI knowledge		
Low knowledge	101	43.9
Moderate knowledge	91	39.6
Strong knowledge	38	16.5
Knowledge on UI prevention		
Avoiding constipation	50	21.7
Smoking cessation	87	37.8
Limiting strenuous exercise	91	39.6
Pelvic floor exercise	171	73.4
Surgical treatment	24	19.1

On the Urinary Incontinence Attitude Scale (UIAS), the occupational therapy student's overall mean score 45.66 (SD=4.28) indicate the participants' attitudes on UI were mostly positive. As illustrated in Table 3. Among undergraduate occupational therapy students, 90.5% (n=208) believed that UI was doable, and 92.2% (n=212) said that family support was crucial. However, 66.1% (n=152) of students felt that discussing UI would be difficult since it is an embarrassing issue, and 60.9% (n=140) of students said that taking care of UI would be irritating. Roughly 90% (n=207) of students think it is impossible to overlook the first signs of involuntary urine loss.

Table III: Urinary Incontinence Attitude Scale (UIAS) scores among occupational therapy students

	Frequency (n)	Percentage (%)	Mean (SD)
Score of UI attitude			45.66 (4.28)
Attitude towards UI			
Doable	208	90.5	
Family support is important	212	92.2	
Embarrassing issue	152	66.1	
Taking care of UI would be irritating	140	60.9	
Initial onset of involuntary urine loss cannot be ignored	207	90.0	

As shown in Table 4, there was a significant association between knowledge of UI in occupational therapy students with level of study (X2=15.908(2), p<0.001) and year of study (X2=70.828 (6), p<0.001). Therefore, the level of study and year of study were associated with the knowledge of UI in occupational therapy students. However, Table 5 showed that attitudes regarding UI varied significantly by gender among occupational therapy students (Z=-4.744, p<0.001). Occupational therapy students' knowledge and attitude towards UI did not significantly correlate (r=0.102, p=0.122), as shown in Table 6. Therefore, an occupational therapy student's understanding will not necessarily represent how they feel about UI.

Table IV: Association between demographic variable (gender, level of study, year of study) with knowledge of urinary incontinence among occupational therapy student.

Variables	Knowledge n (%)			X^2	P-value
	Poor	Moderate	Good		
Gender					
Female	88 (42.5)	83 (40.1)	36 (17.4)	2.020 (2)	0.364
Male	13 (56.5)	8 (34.8)	2 (8.7)		
Level of study					
Bachelor's degree	57 (35.6)	70 (43.8)	33 (20.6)	15.908 (2)	0.00*
Diploma	44 (62.9)	21 (30.0)	5 (7.1)		
Year of study					
First year	34 (60.7)	22 (39.3)	0 (0.0)	70.828 (6)	0.00*
Second year	46 (74.2)	13 (21.0)	3 (4.8)		
Third year	8 (15.1)	28 (52.8)	17 (32.1)		
Fourth-year	13 (22.0)	28 (47.5)	18 (30.5)		

*Significant p-value<0.05

Table V: Significant difference between demographic variable (gender, level of study) with attitude toward urinary incontinence among occupational therapy student.

Variable	Attitude		
	Median (IQR)	Z statistic	p-value
Gender			
Female	47(6)	-4.744	0.00*
Male	40(5)		
Level of study			
Bachelor	46(6)	-1.165	0.244
Diploma	46(8)		

*Significant p-value < 0.05

Table VI: Association between knowledge and attitude of occupational therapy students toward urinary incontinence

Variables	Knowledge	
	Spearman rho (r)	p-value
Attitudes	0.10	0.122

*Significant p-value < 0.05

DISCUSSION

Investigating Malaysian undergraduate occupational therapy (OT) students' attitudes and understanding on UI was the aim of the study. The outcome suggested that occupational therapy students' understanding of UI may be more promising and that they lack appropriate understanding of UI treatment and prevention. Despite having insufficient knowledge of UI, occupational therapy students show a positive attitude towards UI. In this study, the majority of the undergraduate occupational therapy students thought UI was manageable. Putting information into practice requires an optimistic attitude since knowledge alone is insufficient for constructive conduct (16). Therefore, as occupational therapy incorporates UI management, practitioners need to have a positive attitude towards UI. Occupational therapy practitioners treated UI using electrical stimulation, encouraged voiding, behavioural training, pelvic floor training, and lifestyle changes (17).

In the home setting, occupational therapists and nurses often work together since their specialised certifications in treating and controlling UI complement each other (18). Attitudes were a crucial inner power that gave professional work its character and purpose (19). Thus, occupational therapy students must have a positive attitude towards UI to boost patients' worth, dignity, and sense of value. Additionally, the majority of patients claimed they were too ashamed to discuss bladder control problems with their doctors, therefore they did not ask (20). Therefore, occupational therapists must be optimistic about UI and not disregard this issue. Occupational therapists are educated to treat the whole individual physically and mentally. Therefore, they can recognise and address UI's physical and psychological effects and intervene to encourage optimal performance in the activities essential to the client (10). This study has revealed gender differences in students' attitudes towards UI, possibly influenced by societal norms and perceptions associated with masculinity and femininity (9). It is imperative to address these gender-specific attitudes and perceptions through educational interventions aimed at improving understanding and management of UI among occupational therapy students. By recognising and addressing these differences, educators and healthcare professionals can develop tailored strategies to educate future practitioners and promote inclusive care practices.

Informing the public and healthcare professionals that UI is treatable or at least managed is part of continuity promotion, education, and primary prevention (21). Through advocacy campaigns, the planning of care delivery, and worldwide public access to information, advancements have been achieved in raising awareness of continence. Professional education and primary prevention of incontinence, especially UI, have made these possible. The way that people seek care for these problems hasn't altered much (21). In addition, educational establishments and UI-specific training are essential for fostering favourable attitudes towards treating UI patients (22).

The increased availability of computers, phones, and other electronic devices has demonstrated that e-learning is a useful innovation in medical education (23). E-learning modules may therefore be used to assist close this gap in allied health schools and may also be used in other healthcare-related educational fields. Furthermore, self-directed learning modules, relevant feedback, effective teaching methods and resources, and well-informed clinical practices are all critical to enhancing UI knowledge and attitudes (24). To enhance the understanding of this issue, for example, it would seem to be sensible to investigate UI content in Chinese undergraduate nursing curriculum (24). A hospital's knowledge, observable care behaviours, and care documentation will all be enhanced by an educational intervention (online course) for managing and preventing UI (25). In addition, it is essential to raise awareness of UI and the value of physical therapy in both preventing and treating UI (26).

Different universities in Malaysia offer varied undergraduate occupational therapy diploma and degree curricula, reflecting differences in students' knowledge shaped by the methods, approaches, and experiences of educators. The degree curriculum is more detailed and emphasizes evidence-based practice, while the diploma focuses more on the basic administration of services. Students enrolled in degree programs demonstrated significantly greater knowledge of UI compared to their counterparts in diploma programs. This may be

due to the more comprehensive and evidence-based curriculum in degree programs, which places greater emphasis on pathophysiology, clinical reasoning, and evidence-based management (27). In contrast, diploma programs often focus on foundational clinical skills, providing less in-depth exposure to specialized topics such as UI (28). The association between academic progression and knowledge of UI emphasizes the importance of embedding continence care education early and progressively throughout occupational therapy training. Research has shown that early exposure enhances confidence and competence in managing UI, a crucial skill given its prevalence and significant impact on quality of life (29,30). Furthermore, this study's use of closed-ended questions limited its ability to examine the study population's level of comprehension and attitudes towards UI. It is advised that this research be continued by determining the best ways to impart UI knowledge, ways to enhance UI attitudes, and ways to put UI knowledge into practice in order to achieve better results.

CONCLUSION

In conclusion, despite their lack of understanding regarding UI management and prevention, Malaysian occupational therapy students have positive attitudes towards UI. Moreover, the results show no discernible relationships suggesting that an occupational therapy student's knowledge is a reflection of their attitude towards UI. The results contributed to the body of information regarding the attitudes and capabilities of Malaysian students studying occupational therapy. The results of this study highlighted the need for a health promotion program designed to educate occupational therapy students on user interfaces. People's comprehension of UI can be enhanced by such a program. Furthermore, the data gathered from this study may help the higher education system for occupational therapy and healthcare plan and coordinate the best strategy to increase students' understanding of UI.

However, the study's cross-sectional design limits the ability to establish causal relationships, and the sample's homogeneity may reduce the generalizability of the findings to broader populations of occupational therapy students. Additionally, the reliance on self-reported data may introduce biases, such as social desirability or recall bias, potentially affecting the accuracy of the reported knowledge and attitudes toward urinary incontinence. The results also highlight a particular gap in continence care knowledge among occupational therapy students, underscoring the need for enhanced curriculum content in this area. Addressing this educational gap is essential, as many students may be inadequately prepared to manage UI in clinical practice. Future research should explore potential mediating factors such as clinical exposure, supervision quality, and students' prior experience with continence care that may influence UI knowledge. Interventions aimed at integrating comprehensive continence care training into occupational therapy programs may not only improve students' knowledge but also enhance the quality of care provided to patients with UI.

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