The Prevalence of Urinary Incontinence and its Impact on Quality of Life among the University Female Staff in South Africa

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ABSTRACT: **Background:** *Urinary incontinence (UI) is a common problem among females and has been associated with significant decreased quality of life. Few women seek help for this condition with only a few who consult physiotherapy treatment.*

Purpose: *To determine the prevalence of urinary incontinence and its impact on quality of life among the university women in South Africa.*

Method: *A quantitative cross-sectional study design with 145 women randomly selected from the university. A questionnaire was used to determine UI Diagnosis; Impact on QOL and treatment seeking tendencies. BMI was measured objectively. Ethical clearance was obtained from University. Data was analysed using SPSS 17.0*

Results: *Forty six(32%) women reported to having UI. Risk factors associated with UI included age, race, and obesity. UI had a significant negative impact on quality of life and only 4.4% of participants with UI consulted physiotherapy for this condition.*

Conclusion: *There is a high prevalence of UI among the women at this university with a significant impact on quality of life.The role of Physiotherapy in management of UI has been demonstrated and there is therefore a need to empower women with non-invasive treatment options, like physiotherapy.*

KEY WORDS: *URINARY INCONTINENCE; IMPACT, QUALITY OF LIFE; PHYSIOTHERAPY.*

BACKGROUND

Urinary incontinence remains an underreported and embarrassing condition across all countries and cultures, with severity directly related to decreased quality of life (Minassian, Drutz & Al-Badr, 2003). Mason, Glenn, Walton and Appleton (1999) also suggest that the effects of urinary incontinence may vary according to the severity of the condition and the age of the woman. Psychological effects associated with this condition include depression, anxiety, irritability, worry, frustration and tension. The desire of affected patients to take part in recreational or sporting activities are also affected, as well as restriction of activities where toilet facilities are unknown (Mason et al, 1999). Apart from the feelings of embarrassment and anxiety, incontinence may negatively affect social participation, intimate relationships and self-esteem (Danforth et al, 2007). According to Mason et al (1999) urinary incontinence has a negative impact on sexual relationships. Studies suggest that urine leakage occurs during sexual activity in 12% of women, embedding a long term psychological impact (Barber, Dowsett, Mullen & Viktrup, 2005).

Few women seek help for this condition and it has been reported that of those who consult, they tend to wait a long time after it has developed and most women find it difficult to talk about their condition (Mason et al, 1999). Although urine leakage affects the quality of life of sufferers, only a few women consult a healthcare professional. Unfortunately, physiotherapy is often overlooked by women with urinary incontinence, maybe because of their lack of knowledge/ awareness of the role physiotherapy in the management of this condition. At times, doctors prescribe medication for prolonged periods without referring these patients for physiotherapy. Pelvic floor exercises have been shown to be a safe and effective way of improving symptoms of urinary incontinence (Aksac, et al, 2003). Despite these proven benefits, Chiarelli et al, (2003) argues that lack of knowledge of benefits of these exercises leads to poor consultation and physiotherapy referral.

However, over the years, there has been an increase in the number of women who are referred for physiotherapy by their gynaecologists, presenting with some form of urinary incontinence, especially stress incontinence. Kapoor, Meher, Watkins and Das (2009), reported that among urogynaecology referrals, 38.9% are for urinary incontinence, indicating the extent of the problem. More than a decade ago, Mantle and Versi (1991), reported that the majority of patients referred for physiotherapy, are referred by gynaecologists and more recently,

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Van Gerwen, Schellevis and Lagro-Janssen (2009) reported that only 20% are referred by general practitioners. The aim of this study was to determine the prevalence of urinary incontinence, its impact on the quality of life, as well as physiotherapy consultation tendencies among the female staff at the University of Limpopo, South Africa.

METHODS

This was a quantitative, cross-sectional study, with a sample size of 145 females who were randomly selected from the female population of 336 obtained from the Human Resource Department at the University of Limpopo, Medunsa campus. A total of 152 female staff was approached and only 145 agreed to participate in the study. The sample size was determined using Raosoft sample size calculation where n=N/2.96 = 113 and 32 was added to cater for non-response. The number for staff in each stratum (strata included academic staff, administrative staff and general workers) was calculated according to the total number of staff in each stratum. Prospective participants were selected from each stratum using a simple random sampling method. Informed consent was obtained from all identified participants. Participants were excluded if they were pregnant at the time of conducting the study. In addition, those who could not read/write were assisted by the researchers to complete the questionnaire. Before the main study, the questionnaire was piloted for face validity among 10 non-participating staff. The questionnaire was translated to SeTswana, to cater for those who did not understand English. Ethical clearance was obtained from the University Research Ethics Committee (MREC).

Three self-completed questionnaires were used to collect data and included the "Questionnaire for Urinary Diagnosis" (QUID), (Botlero et al, 2009) to determine diagnosis of UI; "Incontinence Impact Questionnaire" (IIQ-7) (Uebersax, Wyman, Shumaker, McClish, Fantl, & the Continence Program for Women Research Group, 1995), to determine the impact and "Incontinence Quality of Life" questionnaire (I-QoL), (Bushnell, Martin, Summers, Svihra, Lionis& Patrick, 2005) to determine the quality of life of those diagnosed with UI. In addition, the demographic data and anthropometric measurements and treatment options were also recorded. Data was analysed using the following scoring system, which has been previously validated by Botlero et al (2008).

QUID (Diagnosis): 5=Stress; 6-10 = Urge; ≥ 11 = Mixed Incontinence

IIQ-7 (Impact):Scores 7 – 9 = Incontinence had an impact in their life.

IQOL (Quality of life):Scores ≥ 10 showed a decreased quality of life.

Responses were analysed and the peak incidences according to age and risk factors were recorded. SPSS 17.0 statistical tool was used to analyse the data and graphical and frequency tables, were used to present the data. Chi square was used to determine associations.

RESULTS

Demographic Characteristics

A total of 145 female staffs participated in the study, 53.8% were above and 46.2% were below 40 years of age. The majority of the participants (79.3%) were black and 21% were white (Table 1).

The majority (77.2%) of women were overweight (35.2%) and obese (42.0%) compared to only 22.8% of those with normal weight. In addition, 54% of the women reported that they did not exercise. According to race, a significant number of Blacks (80%) were overweight/obese compared to 61.8% of whites (p=.005).

Most of the women had more than 2 deliveries and only 12.4% did not have children. In addition, 57.9% with children gave birth vaginally and 14.5% had both C-section and vaginal deliveries. Of the participants, 24% of those who had children had episiotomies and 17% had hysterectomies. Most of the staff had hypertension (58.6%), 19% had diabetes mellitus, 16% were diagnosed with cancer and 6.9% had a heart disease.

Of the 46 women with urinary incontinence, 14 (30.4%) scored more than 7 points on impact index, indicating that urinary incontinence had an impact in their quality of life. Also, 28% of women with urinary incontinence scored more than 11 on the quality of life index (QOL), indicating that they had decreased QOL. The majority of women with urinary incontinence (86.9%) did not consult anybody for this problem and only 4.4% consulted health practitioners. Of those 6 women who consulted, 2 (33.3%) received medication, 2 (33.3%) surgery and 2 (33.3%) were prescribed 'kegel

Table 1: The demographic characteristics of participants (N=145)

Variables		N	%
Age	<40yrs	67	46.2
	≥40 yrs	78	53.8
Race	Black	115	79.3
	White	30	20.7
Occupation	Lecturers	37	25.5
	Admin staff	58	40
	Service workers	50	34.5

Table 2: Body mass index and exercise history of participants (N=145)

Variables		N	%
BMI	Norma; weight	33	22.8
	Overweight	51	35.2
	Obese	61	42.0
Exercise (Do you exercise?)	Yes	66	45.4
	No	79	54.5

exercises'. Reasons for not consulting a health professional are highlighted in Table 4.

The majority of women (97.8%) diagnosed with urinary incontinence were not referred for physiotherapy. In addition, 95.7% did not know that physiotherapy can play a role and 89% did not know that physiotherapy exercises could help this problem.

DISCUSSION

Obesity has been reported to be one of risk factors associated to urinary incontince. Botlero et al (2009) and Luber (2004) also found that obesity was a significant risk factor for both stress and mixed incontinence. Khong and Jackson (2008) also highlighted that urinary incontinence could be attributed to the accumulation of extra weight in the midsection, which may put pressure on the bladder. The results of this study revealed that approximately 42% of women were obese which poses a risk of developing urinary incontinence.

The results of this study demonstrated a high prevalence of hypertension (58.6%)), diabetes mellitus (19%), cancer (15.5%) and cardiac diseases (6.9%) in the studies population. Barclay (2009) in his study on association between diabetes and urinary incontinence prevalence, found that 85% of subjects with diabetes had high prevalence of urinary incontinence. It is of concern that a high number of young participants in this study suffer from urinary incontinence. The results of the study showed there was no significant difference between urinary incontinence prevalence and age (p=.464). This was in contrast to the findings by Nitti (2001) which showed that the prevalence of urinary incontinence is low among young women and peak post menopause and at older ages. Botleroet al (2009) found that the peak incidence of stress and urge incontinence peaked in the ages over 40yrs. The findings of this study differ with findings of Nitti (2001) and Botlero et al (2009), and may imply that these 2 types of urinary incontinence are more prevalent across all age groups. Therefore, awareness interventions should be started as early as 20 years in this population.

In the current study black women (67.4%) had a significantly higher prevalence of urinary incontinence compared to white women (32.6%, p= .041). In contrast, Thom et al (2006), found urinary incontinence to be more prevalent in white women than in black women. Newman (2001) and Thom et al (2006) also reported that white women are more at risk of urinary incontinence because anatomically, they have a shorter urethra, weaker pelvic floor muscles, and a lower bladder neck than black women, thus making them more likely to have incontinence. It is not clear whether these physiological differences are present in the subjects of this study, and the difference in outcome can thus not be explained. The results of the current study imply that black women are vulnerable group to a higher prevalence of urinary incontinence, possibly due to increased obesity in this race.

Kim, McEwen, Sarma, Piette & Herman (2008) found that urinary incontinence affected activities after delivery more frequently among women who were less educated and that higher levels of education and income were associated with low levels of incontinence. In a study done on Chinese women by Wong, Lau, Mak, Pang, Cheon and Yip (2006), the results showed that 78% of respondents did not know that urinary incontinence is a disease entity, but for those who sought treatment, physiotherapy was their first

Table 3: Cross-tabulation between variables and UI Prevalence (N = 46)

Variables		UI Prevalence n (%)	P-value
Age	< 40yrs	22 (47.8)	.464
	≥ 40yrs	24 (52.2)	
Job Category	Lecturers	8 (17.4)	.174
	Admin staff	20 (43.5)	
	General workers	18 (39.1)	
Race	Blacks	31 (67.4)	.041
	Whites	15 (32.6)	
BMI	Normal weight	5 (10.9)	.010
	Overweight	16 (34.8)	
	Obese	25 (54.3)	
Exercise	Exercise	20 (43.5)	.438
	No exercise	26 (56.5)	
Delivery method	Normal	29 (63.0)	.601
	Caesarean Section	6 (13)	
	Mixed	4 (8.7)	
	No child	7 (15.3)	

Table 4: Reasons for not seeking medical intervention (N = 46)

Reasons for not consulting	n	%
Not serious problem	14	35
Embarrassed	2	5
It's natural	8	20
Fear to consult	1	2.5
No time	8	20
Not going to toilet	3	7.5
Did not specify	4	10

choice of treatment. The fact that the majority of staff who exercise were lecturers, compared to general staff, could be the reason why lecturers have lower levels of urinary incontinence. Danforth et al (2007) also did a study on effects of physical activity on urinary incontinence and found that increasing levels of physical activity were significantly associated with reduced risk of urinary incontinence. About 30% of women reported that urinary incontinence had a negative impact and also a decreased quality of life. Minassian et al (2003) also found that 50% of women with incontinence reported that urinary incontinence affected their quality of life.

An overwhelming 87% of women with urinary incontinence did not seek professional help. This is consistent with the study by Mason et al (1999) who stated that few women seek help for urinary incontinence. Minassian et al (2003) reported that despite 50% of the participants reporting that the leakage of urine affected their quality of life, an overwhelming 93% did not seek help. Even with severe incontinence, only 42.5% consulted a healthcare professional. This study's findings are also consistent with Luber (2004) who suggested that reasons for not consulting can be related to embarrassment to talk about the condition or fear that treatment may require surgery. In the current study, only 4% of the women knew the physiotherapists' role in this condition, with 13% knowing that there are exercises to treat this condition. This is in contrast with Wong et al (2006) who found that majority of subjects in his study consulted a physiotherapist.

CONCLUSION

There is a significant prevalence of urinary incontinence among the females in the studied population, with a significant impact on their quality of life. The majority of participants did not know the significant role of physiotherapy in managing this problem. It is therefore recommended that physiotherapists take the initiative in empowering women in general about the existing treatment options that do not involve surgery. A holistic approach should be emphasized in all high risk women, in order to identify those at risk and educate about the existence of urinary incontinence and the treatment thereof. An extensive health promotion intervention need to be done by physiotherapists to raise awareness, empower people and educate both the community and the professional colleagues about the role of physiotherapists so that there will be future referrals and patients can get the first-line, low-cost and effective treatment that is provided by physiotherapists.

Limitations of this study

Limitations of this study are that the self-reported leakage of urine questionnaire QUID does not include frequency of leakage and severity of leakage, which may lead to misdiagnosis and participants may feel that symptoms do not translate into a level of 'bother' that qualifies the condition of Urinary Incontinence. The researcher thus recommends that further studies utilize the validated tool: "Severity Index" by Hanley, Capewell, Hagen (2001) to further classify urinary incontinence into levels of severity and amount of urine loss.

Implications of this study

Urinary incontinence is a big health problem, with psychological impact that affects women of all agegroups, and race. Because of its presentation, women continue to treat UI as a closet problem. UI has an impact on quality of life of women, especially of middle age group. UI poses a public health challenge to all physiotherapists to engage in awareness campaigns so as to change perceptions; improve knowledge and empower women to seek early intervention such as physiotherapy for this problem.

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