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KNOWLEDGE, ATTITUDES AND REPORTED PRACTICES OF GENERAL PRACTITIONERS RELATED TO ADULT FEMALE PATIENTS WITH URINARY INCONTINENCE IN GREATER JOHANNESBURG

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Research Report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of

Master of Family Medicine

Johannesburg, 2009

DECLARATION

I, Moganambal Padayachey declare that this dissertation is my own work. It is being submitted in partial fulfilment for the degree of Master of Family Medicine to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

……..

……..day of……., 2009.

Dedicated to Merven, Khailan, Kouselay and the Govinda Family

In memory of my late father

Sababathy Veerappen Padayachey

1930-1982

ABSTRACT

BACKGROUND

There is an extraordinary common medical condition that affects millions of people, mostly women. It is associated with high levels of disability, discomfort and loss of productivity. People seldom talk about it and suffer in silence and have a fear of being ridiculed or embarrassed. It is not breast cancer, nor osteoporosis, nor heart disease nor is it depression. It is urinary incontinence – the loss of bladder control, which affects the lives of millions of people globally. General Practitioners (GP's) do not have a good knowledge about the topic and are therefore not managing Urinary Incontinence (UI) appropriately.

AIM

To assess the knowledge, attitudes and reported practices of general practitioners related to adult female patients with urinary incontinence in Greater Johannesburg.

OBJECTIVES

- To determine the demographics of the respondents belonging to the various Independent Practitioner Associations (IPA's). Variables include age, sex, year qualified, postgraduate qualifications, and the number of years in clinical practice.
- To determine the demographics of the respondents practice. Variables include, age distribution, gender distribution, and the number of patients seen with urinary incontinence per month.
- To determine the knowledge of the respondents regarding urinary incontinence in adult females. Variables include prevalence, aetiology, types of urinary incontinence, associated risk factors and reversible factors.

- To determine the attitudes of the respondents regarding urinary incontinence in adult females. Variables include feelings of empathy, frustration, etc.
- To determine the management of the respondents regarding urinary incontinence in adult females. Variables include access of referral facilities, screening, examination, investigation, and medication.

METHODS

The study was done amongst the Independent Practitioner Associations in the greater Johannesburg area. A questionnaire was administered to GP's attending IPA meetings, data was collected with regards to the demographics of the GPs and their practices as well as the knowledge, attitudes and reported practices of the GPs.

RESULTS

The response rate cannot be calculated as the number of GPs who attended the IPA meetings is not known. One hundred and thirteen respondents met the inclusion criteria for the study. The data was collected over a 10-month period during 2006. Males accounted for 76 (68.5%) and females for 35 (31.5%) of all respondents. Two (1.8%) respondents had three postgraduate qualifications, 11 (9.7%) respondents had two postgraduate qualifications and 38 (33.6%) respondents had one postgraduate qualification.

The prevalence of patients with UI was higher amongst female respondents, 33 (97.1%) as compared to male respondents 67 (88.2%). Feelings of empathy was experienced by 94 (88.7%) respondents and 81 (81%) respondents would never avoided the discussion about UI with patients. Most respondents rated their knowledge on aetiology 82 (78.1%), diagnosis 79 (73.8%), investigation 58

(54.2%) and management 58 (54.7%) as good and very good.

More respondents were aware of stress 81 (71.7%) and urge incontinence 62 (54.9%) and they were less aware about the other types of incontinence. Respondents managed patients with stress incontinence 97 (85.8%) better than patients with urge incontinence 28 (26.6%). Only 23 (21.1%) respondents would manage patients with UI and 75 (77.3%) respondents would refer patients to a gynaecologist.

Most respondents, 77 (68%) would do a urine dipstix only. An abdominal palpation and doing a post void residual volume of urine was not mentioned by respondents. Assessing for pelvic prolapse was only stated by 23 (20.5%) respondents and 12 (10.6%) would do a stress test.

CONCLUSIONS

UI is a common problem amongst female patients and this study has demonstrated that the reported practices of the respondents is inadequate.

Respondents were more empathetic when dealing with patients with UI and were unlikely to feel upset. The rated knowledge and the assessed knowledge on aetiology was good, however the respondents had overrated their knowledge on diagnosis, management and investigation when compared to their assessed knowledge and reported practices.

Most respondents were unlikely to manage patients with UI as they felt that it was beyond their scope of expertise and patients were referred to the gynaecologist or urologists.

This study cannot be generalised to all GP's in SA. It is important that further research needs to be done. This study clearly demonstrates that the respondents

inadequately managed patients with UI and there is an urgent need to improve clinical training at undergraduate and postgraduate levels.

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1 INTRODUCTION AND RATIONALE

The World Health Organisation (WHO) has defined urinary incontinence (UI) as the involuntary loss of urine, which is objectively demonstrable, and has both social and hygienic consequences for the patient. Urge incontinence and stress incontinence are the most prevalent forms of incontinence. WHO considers urinary incontinence a worldwide problem, which affects individuals of all ages, irrespective of sex or ethnic group. Incontinence becomes more prevalent with age and becomes a greater public health issue as the population ages.[1]

In 1996, UI affected around 13 million women in the United States of America.[2] The prevalence has increased and by the year 2006, approximately 17 million American women were affected with UI.[3] The figure for incontinence prevalence in South Africa has yet to be determined[11,4]. Urinary incontinence is related to a lower health status, lower self-esteem, greater health and social needs. A large number of psychosocial problems are associated with UI. Psychological conditions such as depression, anxiety, frustration with an associated low self-esteem, embarrassment and social isolation are most commonly associated with UI. It is a demoralising and costly problem with widespread human, social and financial implications. Women with UI reported significantly lower subjective health, purpose in life, personal growth, positive relations with others, and self-esteem and higher scores for depression when compared with women without UI.[5]

The estimation of urinary incontinence is extremely difficult as patients are reluctant to discuss these issues with their treating doctors. Shyness was one of the main reasons given for not seeking medical help as stated in a study done to investigate the prevalence of UI and the knowledge, attitude and practices of Taiwanese women aged 60 years and older.[6] Studies have shown that fewer than 50% of women with UI discuss their symptoms with their GP's. Some of the factors that affect help seeking behaviour was attributed to women's perceptions that UI is "normal", lack of knowledge of the treatment options that were available as well as the embarrassment

of discussing such a personal problem which may have been a reflection of their personal hygiene.

When women do present to their GP's, studies have shown that GP management of women with UI is suboptimal. Of women who had discussed their UI with their GP, 50% had not been assessed for over a year and 30% had never had any form of assessment.[7] The number of GP's seldom refer patients to a continence advisory service even when it is accessible and its success has been well established. Medication is often prescribed without examining the patient and without a diagnosis.[8]

Many healthcare professionals consider incontinence a normal part of the aging process with which individuals must learn to live with. UI is often not addressed because of the lack of awareness on the part of the healthcare professionals, caregivers and patients. Jolley's had reported that 88% of women with stress incontinence had improved after 12 weeks of pelvic floor exercises, explained by a GP and that 41% were totally cured.[9]

The GP being the primary care provider is the ideal person to identify and treat patients with UI. However, this is not addressed due to the lack of awareness from the provider and patients.

The researcher practiced as a family physician in a cosmopolitan residential area and did not feel confident enough to treat patients with UI and after discussion with many colleagues who were also family physicians in private practice, it became evident that they felt that their knowledge was not adequate and therefore did not feel competent enough to treat patients with UI and therefore referred these patients to specialists for further management.

The researcher felt that it was possible that this was an area that was not managed appropriately in general practice. A literature survey demonstrated that GPs in other countries were also not managing UI appropriately, and this was evidenced by many

underlying factors.[43,44,46] Furthermore, this research has not been done in South Africa and hence, this will be the first study to be conducted among South African GPs.

2 AIM AND OBJECTIVES OF THE STUDY

2.1 AIM

To assess the knowledge, attitudes and reported practices of general practitioners related to adult female patients with urinary incontinence in Greater Johannesburg.

2.2 OBJECTIVES

The study had the following objectives:

- To determine the demographics of the GPs belonging to the various IPA's. Variables include age, sex, breakdown of clinical time, year qualified, university from which degree was obtained, postgraduate qualifications, and the number of years in clinical practice.
- To determine the demographics of the practice. Variables include suburb of practice, age distribution, gender distribution, employment of a nurse who assists in the management of incontinence, and the existence of an incontinence clinic in the practice.
- To determine the knowledge of the general practitioner regarding urinary incontinence in adult females. Variables include prevalence, aetiology, types of urinary incontinence, associated risk factors and reversible factors.
- To determine the attitudes of general practitioners regarding urinary incontinence in adult females. Variables include feelings of empathy, frustration, etc.
- To determine the management of general practitioners regarding urinary incontinence in adult females. Variables include access of referral facilities, screening, examination, investigation, and medication.

3 LITERATURE REVIEW

Urinary incontinence is a common problem in the general population. Although it is not a life threatening condition, it interferes with daily life and consequently influences the quality of life for sufferers. The prevalence is expected to increase as life expectancy increases and UI is associated with aging. Incontinence is a common symptom and many unrecognised cases appear to exist and there is considerable scope for improving its management at a primary care level.[10]

The exact prevalence of UI is not known in South Africa.[11] However, from studies in other countries it is apparent that the magnitude of the problem is great. In the USA the prevalence of UI is about 31% in women between 42 and 50 years of age and 38% in community dwelling women and men who are older than 60 years of age.[2]

Accurate estimates of prevalence depend on the age group as well as the sex of the patient. In older women estimates range from 17% to 42% and in older men it is reported at about 20%.[12] UI prevalence can range from 8.5% in one general practice to 41% in another general practice. [13] Another study of women who had ever leaked urine reported a prevalence of 53.2%.[14]

In a study done in Denmark where 5,795 women older than 45 years were interviewed, the UI prevalence was 20% amongst women less than 60 years of age and 44% amongst those older than 80 years of age.[15]

Studies on the prevalence of incontinence have yielded varying results, largely because each study has used different populations and criteria to define incontinence. Overall estimates indicate that about one-half of the homebound and institutionalised elderly are incontinent, as are 25 to 30 percent of older patients discharged after hospitalisation for acute medical illnesses. Among community dwelling, ambulatory, non-homebound persons over 60 years of age, approximately 10 to 15 percent of men and 20 to 35 percent of women have incontinent episodes.

Continuous or daily incontinence occurs in about 5 percent of community-dwelling older persons.[16,17]

Although urinary incontinence is common, it is frequently not identified because fewer than 50 percent of affected patients report the problem to their physicians. Many patients believe incontinence is a normal result of aging and that nothing can be done about it or that nothing can be done except surgery (and they are not interested in surgery). Thus, if urinary incontinence is to be detected, often physicians must ask about it.

There are five types[11] of urinary incontinence, namely:

- Urge incontinence, also referred to as “hyperactive bladder” or “ overactive bladder” or “irritable bladder”
- Stress incontinence, which results from poor urethral sphincter function (primary urethral incompetence)
- Mixed incontinence
- Overflow bladder
- Continuous “ True” incontinence

Urge incontinence is due to involuntary and uninhibited detrusor contractions, due to detrusor instability, as the cerebral centre is unable to inhibit these contractions. These uncontrollable contractions can also occur because of inflammation or irritation within the bladder resulting from calculi, malignancy, infection or atrophic vaginitis-urethritis.[24]

They can also occur when the brain centres that inhibit bladder contractions are impaired by neurologic conditions such as stroke, parkinson’s disease or dementia, drugs such as hypnotics or narcotics, or metabolic disorders such as hypoxemia and encephalopathy. Patients with uncontrolled bladder contractions can also develop

incontinence when high urine volumes are introduced rapidly into the bladder (e.g. diuretic therapy, glycosuria-induced osmotic diuresis).

Finally urge incontinence can be exacerbated when mobility is impaired (for example, in patients with arthritis), making it difficult for patients to get to the bathroom in time. This condition is sometimes referred to as “functional” incontinence.[24]

Stress incontinence is caused by a malfunction of the urethral sphincter as a result of weakness of the pelvic floor muscles that causes urine to leak from the bladder when intra-abdominal pressure increases, such as during coughing, laughing, walking or sneezing. Classic or genuine stress incontinence is caused by pelvic prolapse, urethral hypermobility or displacement of the urethra and bladder neck from their normal anatomic alignment.

Stress incontinence can also occur as a result of intrinsic sphincter deficiency, in which the sphincter is weak because of a congenital condition or denervation resulting from alpha-adrenergic blocking drugs, surgical trauma or radiation damage. Stress incontinence is the most prevalent form of incontinence in geriatric patients, largely because women predominate this group.[24]

Mixed incontinence is a combination of bladder and urethral dysfunction resulting in a combination of urge and stress incontinence. Patients present with a combination of the above symptoms. Many elderly persons, particularly women, have mixed incontinence in which urge and stress incontinence coexists.[24]

Overflow bladder is due to an acontractile detrusor (e.g. diabetic neuropathy) or bladder outflow obstruction (e.g. prostatic enlargement) which results in urine retention with bladder distention. Urine accumulates in the bladder until bladder capacity is reached. It then leaks through the urethra by “overflow,” usually manifesting as dribbling.

Overflow bladder is relatively uncommon. However, it is an important problem because without treatment it can lead to hydronephrosis and renal damage. Urinary incontinence due to overflow bladder is more common in men because of the prevalence of obstructive prostate gland enlargement.[24]

Continuous incontinence is also referred to as “true” incontinence. The most likely causes are a vesico-vaginal fistula or sphincter damage (e.g. after a prostatectomy). The patient presents with a constant leakage of urine and there is no urge to void, as the bladder never fills up.[24]

There are a number of **aetiological factors** that are associated with UI and will be further discussed:

With **increasing age** pelvic muscle relaxation in women rapidly accelerates after menopause due to an oestrogen deficiency in the genito-urinary tissues and this also has an effect on the oestrogen receptors in the pelvic floor, which results in a decline in intra-urethral pressures. The hydrostatic pressure in the urethral muscosa is dependant on satisfactory vasculature, which decreases post menopausally[18,27]

Childbirth causes the loss of integrity of the pelvic floor and fascial support by physical stretching and causing trauma as well as disrupting the neurological innervations to the pelvic muscles[18]. UI is related to risk factors in childbirth such as forceps delivery, episiotomy, third degree tears and pudendal anaesthesia.[19]

There is an increased risk of UI after **pelvic (hysterectomy) and prostate surgery** due to damage of the neurological supply to the pelvic muscles as well as disruption to the sphincter mechanism.[20]

Nicotine may have a contractile effect on the detrusor muscle. Smokers may have a chronic cough, which may lead to the damage of the urethral and vaginal supports.[21]

Weight gain and morbid **obesity** may increase the susceptibility for UI.[22]

Approximately one third of women experience urine loss during **high impact physical activity** as reported by Nygaard, Thompson, Svengalis and Albright.[23]

Many **chronic diseases** may cause bladder neuropathy and increase the risk for UI or OAB and include multiple sclerosis, spinal cord injury, diabetes mellitus, parkinson's disease, rheumatoid arthritis and stroke.[11]

Many **medications**[24] are associated with UI.

Anticholinergics, antidepressants, antipsychotics, sedative hypnotics, antihistamines, narcotics, alcohol, calcium channel blockers, alpha-adrenergic agonists and beta-adrenergic blockers cause overflow incontinence as a result of a decrease in bladder contractions with urinary retention and subsequent overflow.

Alpha-adrenergic antagonists cause stress incontinence as a result of sphincter relaxation with urinary leakage.

Diuretics, caffeine, sedative hypnotics and alcohol cause urge incontinence as a result of a diuretic effect and depressed central inhibition of micturition.

The **physiologic systems that control micturition** (urination) are quite complex. However, family physicians with a general understanding of the detrusor and sphincter mechanisms can manage most patients with urinary incontinence. The bladder smooth muscle (the detrusor which contracts via parasympathetic nerves from spinal cord levels S2 to S4). Urethral sphincter mechanisms include proximal urethral smooth muscle (which contracts with sympathetic stimulation from spinal

levels T11 to L2), distal urethral striated muscle (which contracts via cholinergic somatic stimulation from cord levels S2 to S4), and musculofascial urethral supports.

In women, these supports form a two-layered "hammock" that supports and compresses the urethra when abdominal pressure increases. Micturition is coordinated by the central nervous system: Parietal lobes and thalamus receive and coordinate detrusor afferent stimuli; frontal lobes and basal ganglia provide signals to inhibit voiding; and the pontine micturition center integrates these inputs into socially appropriate voiding with coordinated urethral relaxation and detrusor contraction until the bladder is empty. Urine storage is under sympathetic control (inhibiting detrusor contraction and increasing sphincter tone), and voiding is parasympathetic (detrusor contractor and relaxation of sphincter tone).[18]

UI is an important and more common problem in the older person as most elderly patients consider UI as a part of aging or did not know why they were incontinent.[25,26]. Menopause is associated with the lack of oestrogen in females, which results in pelvic muscle relaxation and associated pelvic prolapse and symptoms of UI.[27]

The severity of UI is the main reason why patients seek help. The identification of incontinence does not appear to be affected by the patient's psychosocial characteristics, nor by the generally expected benefit from medical treatment, nor by the patients perceived health status.[28]

As in so many areas of health care, the focus needs to be on prophylaxis and prevention rather than crisis management. We are currently faced with an aging population and the number of elderly patients is increasing, hence the problem of UI needs to be addressed. South Africa has the second largest elderly population (3.7 million in 2007) in Sub-Sahara Africa after Nigeria[29].

In most cases, the evaluation of urinary incontinence requires, a detailed medical history as this is absolutely essential to ensure that patients with UI are diagnosed

and managed correctly, a physical examination, urinalysis and measurement of postvoid residual urine volume.

The first goal of the basic evaluation is to identify **transient** (i.e. easily reversible) **causes** of incontinence so that effective treatments can be instituted. The second goal is to identify conditions that may require special evaluation or referral to an urologist or an urogynaecologist. If the patient does not appear to require referral and a reversible cause is not identified, the third goal is to categorize the patient's symptoms as typical of either urge or stress incontinence and treat the patient accordingly.[11]

Transient causes are responsible for about one half of hospitalised female patients with incontinence and about one third of incontinent persons in the community. Some of these causes are: delirium hypoxia, recent prostatectomy, excessive fluid intake, impaired mobility, atrophic vaginitis, faecal impaction, urinary tract infection and glycosuria.

If none of these transient causes are identified or suspected after history, physical examination, urinalysis and PVR urine volume determination, the incontinence probably does not have a transient cause.[11]

A general **clinical examination** should be conducted before focusing on the cause and severity of incontinence. The patient is best evaluated with a comfortable, full bladder. The abdomen is palpated and if the bladder is distended, it must be emptied and checked after voiding. A neurological examination should assess the lower extremities for normal sensation, strength and deep tendon reflexes.

Pelvic examination entails inspection of the vulva and vagina for signs of oestrogen deficiency, skin irritation or infection. Prolapse is best evaluated by using a Simm's speculum. A vesico-vaginal fistula may be diagnosed by using a speculum or by manual vaginal examination.[11]

The cough test can be done with the patient in the supine position giving a few vigorous coughs. If it is negative, it should be repeated with the patient standing.

Side room investigations are important and may further assist with a diagnosis. . The voided urine volume is measured. The dipstix should be done on a fresh mid-stream clean-catch urine. The dipstix will test for blood, leucocytes, nitrites, glucose and protein.

If the dipstix tests positive the urine should be sent for microscopy, culture and sensitivity and the appropriate treatment should be instituted. After voiding the post-void residual (PVR) is determined by abdominal palpation, which may be inaccurate and can be more accurately assessed by abdominal ultrasound or catheterisation. Catheterisation should only be done by an experienced examiner. A PVR of 100mls or less can be considered normal.[11]

It is essential that the management of UI should have a multidisciplinary approach.

This is a most valuable tool in the management of UI and OAB. The patient is asked to fill in a 3-day **bladder diary** and return for a consultation for discussion and initiation treatment. The urinary diary is used to assess fluid intake, urine volume, the number and time interval between voids per day, incontinence episodes, number of pads used, and activities associated with incontinence. This will help assist in the management of the patient.

Prior to initiating any drug therapy, the GP can direct the **behavioural treatment** options specific to the patient's diagnosis of stress, urge, or mixed UI and OAB. If properly motivated, most patients respond to behavioural techniques with improvement ranging from complete dryness to decreased incontinence episodes.

Adequate fluid intake – patients with a high fluid intake of more than 2.4 litres per day should decrease their fluid intake while those with a low fluid intake of less than 1.5 litres per day may benefit by increasing their fluid intake, but should be stopped at 6 pm.[11]

Smoking cessation – nicotine is irritating to the detrusor muscles and a chronic cough may cause UI.[21]

Weight reduction is associated with an improvement in symptoms of UI due to the decrease in intra-abdominal pressure.

Increased fibre, exercise and increased fluid intake will **prevent constipation** and straining, and thereby decrease UI.

Dehydration can potentiate constipation, concentrate urine and increase the irritative effects of dietary substances. The recommended daily fluid intake is 1.5 litres per day. With aging, urine output increases during rest in the supine position. A bladder diary can help determine if the patient is experiencing reverse diuresis.

Pelvic floor muscle exercises are the most effective in stress incontinence. For pelvic floor physiotherapy and bladder retraining, the GP should refer patients to a physiotherapist or other health professionals with specialised training in these techniques. Pelvic floor muscle rehabilitation involves pelvic muscle exercises (PME) known commonly as “Kegel” exercises. An average of 76% improvement in UI after 4 to 6 weeks of intensive daily PME has been reported. Weighted vaginal cones provide proprioceptive biofeedback providing the women with the sensation to contract her pelvic floor muscles and may be used alone or in conjunction with PME.

Hay-Smith et al have shown that about a third of women have UI and up to a tenth have faecal incontinence after childbirth. Pelvic floor rehabilitation has shown an

improvement but there is not enough evidence to show that these effects last after the first year[30].

PME with biofeedback therapy has shown improvement in incontinence that ranges from 80 to 85%.

Bladder retraining involves a strictly timed schedule of voluntary voiding “on the clock”. These intervals are increased progressively to increase functional bladder capacity. Urge strategy focuses on the cortical ability to delay voiding by using strategies such as concentration on a task, slow deep breathing, or rapid intense pelvic muscle contractions.

The OAB responds to those **drugs** that reduce bladder contractility. The aim is to decrease detrusor instability and increase functional capacity. A significant body of clinical evidence demonstrates that muscarinic receptor antagonists are effective in the treatment of OAB. However, treatment limiting adverse effects are, dryness of mouth, constipation and blurred vision, and have restricted the use of these agents, which include the following:

Anticholinergic agents eg oxybutynin and tolterodine which act at postganglionic parasympathetic cholinergic receptor sites on the detrusor, reducing the strength of contractions.

Tricyclic antidepressants, e.g. imipramine, which blocks presynaptic uptake of amine neurotransmitters and also has anticholinergic effects, which directly inhibits the detrusor muscle.

Stress incontinence may be treated using alpha-adrenergic agonist, e.g. phenylpropanolamine, to increase outlet resistance by stimulating smooth muscle of the urethra and bladder neck.

Oestrogen replacement reduces filling symptoms including urge incontinence. A combination with alpha-agonists may be beneficial in milder forms of stress incontinence.

Overflow bladder due to bladder outlet obstruction usually requires **surgery or clean intermittent catheterization**, but may be treated with alpha-adrenergic antagonists, which reduce outlet resistance

Firstly, there is the use of **incontinence pads and regular toileting**. However, difficulties arise with skin erythema over the sacral region, resulting from contact with ammoniacal urine and this can lead to pressure sores. Secondly, there is urinary catheterisation, which effectively eliminates the skin problems mentioned above. However, because an indwelling catheter is a foreign body, the risk of bacteriuria is great.

If treatment fails or a presumptive diagnosis of urge or stress incontinence cannot be reached, the final step would be to perform more sophisticated tests or refer the patient for testing to define the cause and determine the best treatment.

Medically, incontinence is associated with considerable morbidity including decubitus ulcers, urinary tract infections, sepsis, renal failure, fungal infections and increased mortality. Incontinence is often a key factor in the decision to place elderly persons in nursing homes. In the United States alone, the cost of managing urinary incontinence and its complications exceeds $1.5 billion per year.[33]

The social and psychological effects on a patients quality of life includes feelings of **hopelessness, shame and fear**. This leads to loss of self-esteem, restriction of social and sexual activities, depression and, in severe cases, dependence on caregivers.[32]

Many elderly patients experience feelings of **hopelessness** because they perceive that UI is a normal part of ageing and that there is no treatment or cure available.[31] Many elderly patients fail to recognise that their UI may be caused by a disease or may be the side effect of medication, which can be corrected.[32]

They feel **ashamed** because they believe that they are behaving in a manner that is unacceptable to society and is only acceptable in the early years of childhood .[32]

This is particularly evident amongst elderly patients. **Fear** is a natural response to any loss of normal body function. Fear would normally motivate people to seek help however, elderly people have another fear that they will be obliged to accept institutional care.[31]

Seim A et al[33] reported that the associated psychosocial aspects such as mental distress, practical inconvenience and social restrictions were significantly reduced after these patients received treatment from their general practitioners over a three, six and nine month period.

In contrast to the above a study done by Lagro-Janssen et al the broad based psychosocial aspects amongst patients with UI were not evident even amongst women with severe UI.[34] In this study the women were not exceptionally worried about the UI and this did not restrict their activity much. Social isolation and lack of support were not more prevalent amongst the group with UI and the women in this study coped well with the condition.

In the USA, urinary incontinence imposes a significant **financial burden** on individuals, their families and healthcare organisations. In 1995 societal cost of incontinence for individuals aged 65 years and older was $ 26.3 billion, or $ 3 565 per individual.[35] Societal cost included:

a) direct cost (97% $23.6 billion) – medical investigations and management thereof, this included cleaning of laundry.

b) indirect cost – value of lost earnings.

c) intangible cost – monetary value of the pain and suffering resulting from urinary incontinence.

This total cost was greater than the Medicare total costs for open heart surgery and end stage renal failure.

With public awareness about UI more patients are turning to their primary care physician for help with this problem. In a study done by Jeter[31] patients expressed the fact that the **doctors were not knowledgeable** about UI and patients who sought medical advice were often disappointed and continued to have misconceptions about their medical condition.

In the United Kingdom it was found that the education of UI to medical students amounted to an average of 70 minutes and the United Kingdom Residency Training for Family Practitioners which is a three year course, rarely touched on the subject of incontinence.[36] This study was done in the United Kingdom and it is likely that the scenario is not much different in South Africa.

Many health care professionals consider UI a normal part of the aging process with which individuals must learn to live with, however 70% of patients can be either resolved or improved.[37] Eriksen and colleagues[38] found that more than 50% of cases of incontinence were inadequately managed. Even when a problem had been identified, treatment had not been discussed in more than half the cases. Surveys done of primary care physicians in the United States[39], Netherlands[40], Ireland[41] and New Zealand[42] have identified deficiencies in the knowledge required to evaluate and treat patients with UI. This is further supported in a study done by Dovey, et al[42] where fewer than half of the respondents felt confident to diagnose the causes of UI which is similar for this study.

Swanson et al[43], undertook a study in Canada to look at the knowledge attitudes and practices of family physicians in Canada.. The overall result from the survey was that the family physicians felt unprepared to deal with patients with UI.

A Study done in Scandinavia in 1998 demonstrated that family physicians and incontinence teams can treat patients successfully without referral to a specialist.[44]

Szonyi and Millard[45] demonstrated that GP's who expressed an interest in receiving and education package on incontinence demonstrated a significant improvement in their knowledge with regards to aetiology, diagnosis and treatment of incontinence and this was directly attributable to the education package that the GP's received.

In another study done by Thomas[28] respondents expressed frustration at the medical profession by stating that their health care provider was " not helpful", "too busy" and even embarrassed to manage patients with UI. Many patients expressed a need to have more education for themselves as well as their health care professionals, affordable products that work and desired to be cured.

Barriers to communication could be reduced if professionals were more aware of their biases and that of their patients, which will influence the way information is obtained during the consultation. Good professionals are objective and should be aware of their own biases as this can have an effect on their approach to managing patients.

The management of UI can be greatly improved as demonstrated in a study done by Seim A et al[46] UI can be effectively managed in general practice provided that doctors are interested in continence care, gain competence in a few fairly simple treatment options and preferably work in a team with nurses and physiotherapists. Simple treatment works and most women will be satisfied.

Further more GP's need to receive the necessary training that is required to effectively manage patients with UI. This will result in alleviating patients' physical and psychological distress that is associated with UI.

4 METHODOLOGY

4.1 Study Design

This is a cross-sectional descriptive study.

4.2 Definition of terms

General Practitioner - A general practitioner, or GP is a medical practitioner who provides primary care and specializes in family medicine. A general practitioner treats acute and chronic illnesses and provides preventive care and health education for all ages and both sexes. They have particular skills in treating people with multiple health issues and co-morbidities.

Independent Practitioner Association – the Independent Practitioner Association is an organisation of physicians founded in 1979 to provide a network of doctors who will address the various issues within the health industry. Some of these functions include negotiating with managed care organisations with regards to provider networks and providing appropriate clinical care to their members.

Urinary Incontinence – Urinary Incontinence is the involuntary loss of urine which is objectively demonstrable.

4.3 Population

The population comprised of the doctors who are members of the seven Independent Practitioner Associations (IPA's) that were functional in the Greater Johannesburg area. The majority of GPs belong to one of the IPA's. Previous research within the Department of Family Medicine has found the IPA's to be fairly representative of

GP's in private practice within the region. A complete list of all the general practitioners practicing in Greater Johannesburg is not available. The list from the HPCSA will not be representative as many of the doctors are not practicing in the Greater Johannesburg area.

The following IPA's are functional in the Greater Johannesburg:

- Northern Independent Medical Practitioners Association (NIMPA Healthcare)
- Alexandra and Wynberg Independent Practitioners Association (AWIPA)
- East Rand Medical Group (ERMG)
- Johannesburg City Medical Group (JCMG)
- Kyalami Independent Practitioner's Association (KHALIPA)
- South East Rand Independent Practitioners Association (SERIPA)
- Soweto Independent Practitioner's Association (SOIPA)

The total membership for the IPA's in the Greater Johannesburg at time of the study was 396.

4.4 Sample

The survey included five of the IPA's that were functional in the greater Johannesburg, namely: ERMG, JCMG, AWIPA, SERIPA and SOIPA. Two IPA's did not participate due to structural dysfunction. The researcher recognizes that this is a convenience sample since only those attending the sampled academic meetings were invited to participate. No randomisation was performed. Those not attending the meeting on that day were not included in the sample of respondents. The conclusions will take into account this bias. The data was collected over a ten month period from February to November 2006.

The membership for the IPA's that participated in the survey was 396, while average attendance at meetings were between 30 and 50%. The sample size was likely to range from 92 to152 respondents. The actual sample size was 158. Five meetings took place with the various IPA's.

4.5 Inclusion Criteria

The study population included all the medical doctors who were members of the various IPA's in the Greater Johannesburg and attended the monthly IPA meeting at which the questionnaire was distributed.

NIMPA was undergoing management changes and were also in the process of looking at amalgamating with another IPA and did not meet formally. The Kyalami IPA were a smaller group and met intermittently and despite securing an appointment on two occasions the meetings were cancelled.

4.6 Exclusion Criteria

Non IPA members and IPA's members who belonged to the various allied medical disciplines that attended the IPA meeting were excluded from the data analysis.

4.7 Pilot Study

A pilot study was conducted in February 2006 amongst the Family Medicine postgraduate students who attended the evening monthly meetings in the Wits Family Medicine Department to detect possible problems with the questionnaire. The questions that posed ambiguity were rephrased and four questions were omitted from the original questionnaire, namely breakdown of clinical time, university from which degree was obtained, suburb of practice and employment of a nurse who assists in

the management of incontinence. It was decided that these questions would not provide data relevant to the topic.

4.8 Data Collection

The chairperson of the various IPA's were contacted telephonically and the requirements of the research was discussed.

A formal letter (appendix 1) was addressed to the chairpersons of each IPA outlining the researcher's request. Copies of the GP information sheet (appendix 2) and of the questionnaire (appendix 3) was also forwarded to the chairperson.

The respective chairpersons consulted with their relevant IPA committee and reverted back to me with regards to a suitable date.

On the date of the respective IPA meetings the researcher was given an agenda time slot. The researcher arrived before the commencement of the meeting and addressed the IPA group outlining the details of the research and also highlighted the fact that the questionnaire was confidential and anonymous and was restricted to GP's. The GP's were not obliged to fill in the questionnaire and would not be prejudiced in any way if they chose not to answer the questionnaire and a copy of the guidelines was handed to all attendants at the IPA meeting.

The GP information sheet (appendix 2) and the questionnaire (appendix 3) was handed out to all doctors attending the meeting.

A structured questionnaire was administered by the researcher and was designed to collect data about the demographics of the GP's, demographics about the practices, the knowledge, attitudes and reported practices of GP's related to adult females over the age of 18 years related to urinary incontinence. The questionnaire consisted of

closed and open-ended questions. The questionnaire was based on the recommendations of South African Committee for Guidelines on the Treatment of Urinary Incontinence[11].

All completed questionnaires were collected at the end of the meeting and a copy of the guidelines, Treatment of Urinary Incontinence and Overactive Bladder by Moodley I, Heyns CF and the South African Committee for Guidelines was handed out to all attendants at the IPA meeting.[11] (Appendix 4)

4.9 Data analysis

The data was analysed using EpiInfo6 statistical package and the assistance of a statistician from the Medical Research Council was sought.

4.10 Limitations

The use of convenience sampling did not allow the researcher to generalize the findings to all GP's.

4.11 Ethical considerations

The GP's who were members of the IPA and attended the IPA meetings were invited to partake in the study and were advised that they were under no obligation to complete the form and that the questionnaire was anonymous and confidential. They would not be prejudiced if they did not complete the questionnaire. All attendants at the IPA meeting were given a copy of the South African Guidelines for the Management of Urinary Incontinence.

The study was approved by the Human Research Ethics Committee (Medical), of the University of the Witwatersrand, Johannesburg and the reference number is PROTOCOL M020227 (Appendix 5). The study was also approved by the Postgraduate Committee (Appendix 6).

5 RESULTS

There were 158 IPA members who attended the IPA meetings of which 120 questionnaires were completed and 113 of the respondents were GP's belonging to the IPA and were therefore eligible to be included in the study. A total of 113 questionnaires were analyzed from the 120 completed questionnaires. The true response rate cannot be calculated because the number of GPs who attended the IPA meeting was not known. The total membership for the IPA's in the Greater Johannesburg was 396. This sample comprised of 30.4% of the total membership of IPA's in the greater Johannesburg area.

The age range of the respondents was from 27 to 71 years of age. The mean age was 43 years and the median was 42 years.

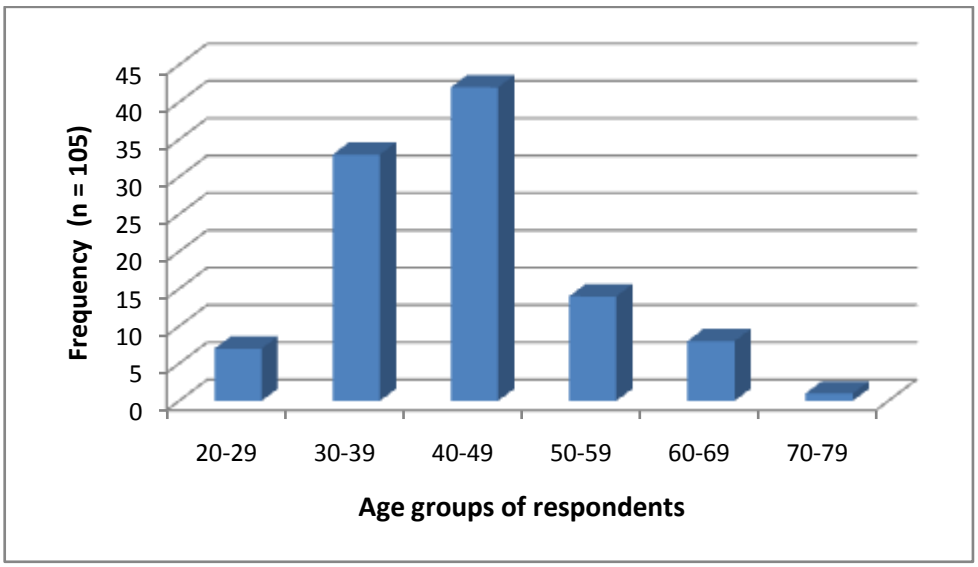


Figure 1: Frequency of the age groups of respondents

Figure 1 reflects the age group distribution of the respondents, 82 (78.1%) were under 50 years of age. A majority of 42 (40%) respondents belonged to the 40 – 49 year age group followed by 33 (31.4%) respondents belonging to the 30 – 39 year age group.

Males accounted for 76 (68.5%) and females for 35 (31.5%) of all respondents (n=111).

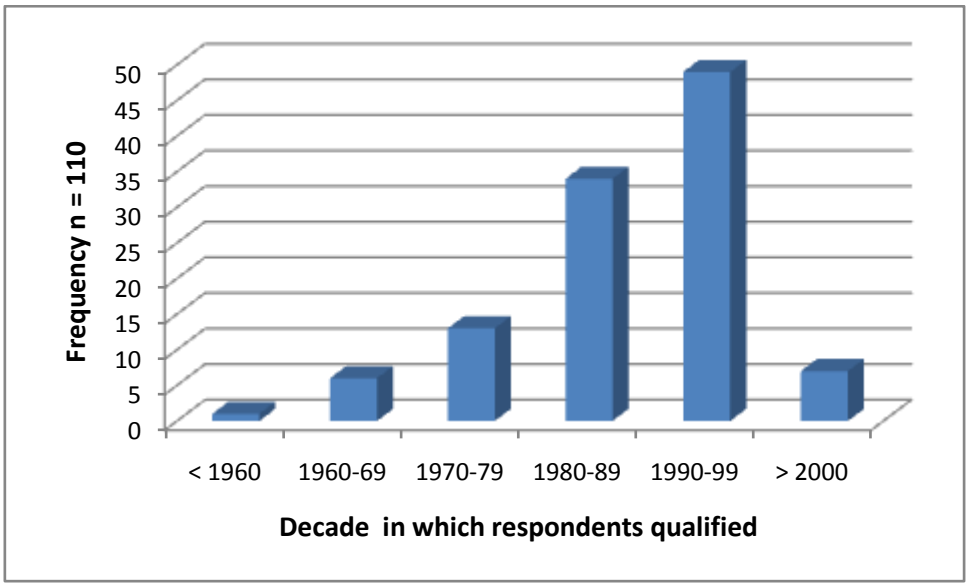


Figure 2: Frequency of the decade in which respondents qualified

Figure 2 reflects that 54 (49.1%) respondents qualified before 1990 and 56 (50.1%) qualified after 1990. Most of the respondents 49 (44.5%) qualified between the period 1990 to 1999.

Table 1: IPA membership

	IPA membership				
	AWIPA	ERMG	JCMG	SEREPA	SOIPA
Frequency	6	34	22	30	19
% of respondents	5.4%	30.6%	19.8%	27.0%	17.1%
% of IPA membership	31.6%	73.9%	42.3%	55.6%	18.6%

Table 1 illustrates the IPA membership of the respondents. The ERMG repondents accounted for 34 (73.9%) of the total IPA membership and SOIPA accounted for 19 (18.6%). The ERMG had the highest representation of IPA respondents and SOIPA and AWIPA had the least, AWIPA and SOIPA were given the questionnaire during in winter which may account for the lower response.

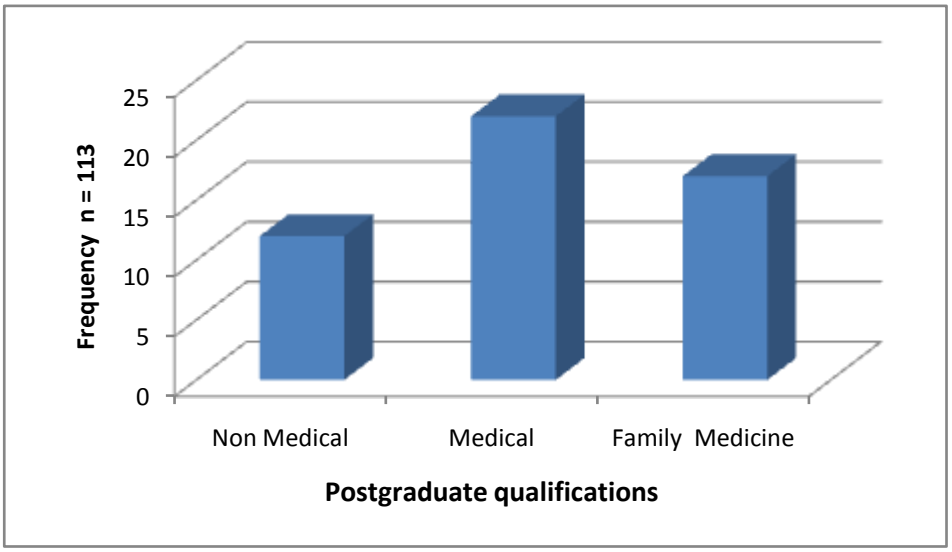


Figure 3: Frequency of respondents' postgraduate qualifications

Figure 3 demonstrates the total number of postgraduate qualifications amongst all the respondents. There was a total of 51 (45.1%) postgraduate qualifications amongst all the respondents. Medical postgraduate qualification was defined as any medical qualification other than a Family Medicine qualification e.g. Diploma in Tropical Medicine, Diploma in Anaesthetics, etc. Non medical post graduate qualification included all other post graduate degrees e.g. Master in Business Administration, Diploma In Finance, etc.

Family Medicine post graduate qualifications included all post graduate qualifications specifically relating to Family Medicine. Amongst the respondents who had postgraduate qualifications 12 (23,5%) were non medical postgraduate qualifications, 22 (43.1%) were medical postgraduate qualifications and 17 (33.3%) were Family

Medicine postgraduate qualifications. Two (1.8%) respondents had three postgraduate qualifications, 11 (9.7%) respondents had two postgraduate qualifications and 38 (33.6%) respondents had one postgraduate qualification.

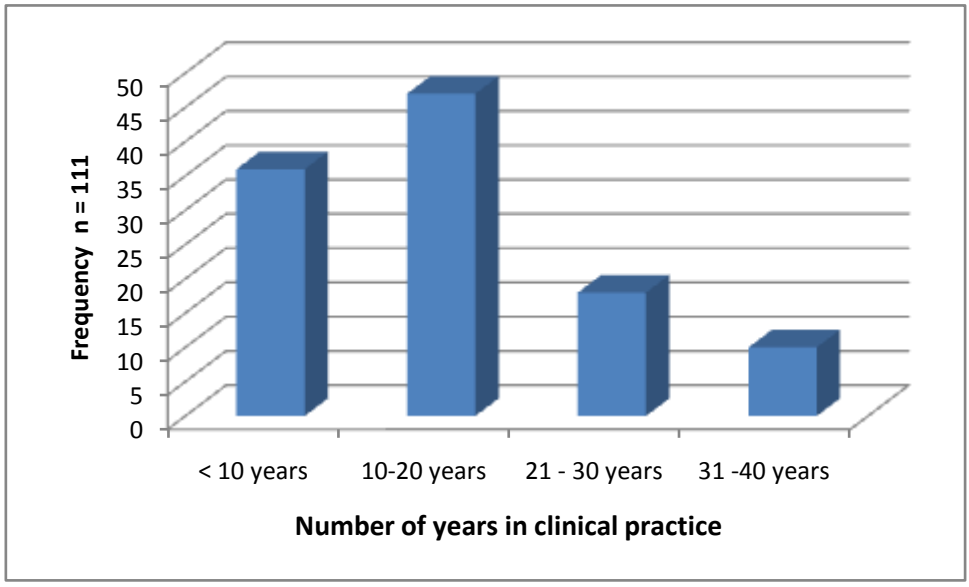


Figure 4: Frequency of the number of years in clinical practice of respondents

Figure 4 reflects the years of clinical practice which varied within the group, with 75 (67.6%) respondents being in practice for more than 10 years, 36(32.4%) of respondents were in practice for less than 10 years, 47 (42.3%) respondents were in practice between 10 and 20 years, 18 (16.2%) respondents were in practice between 21 – 30 years, 10 (9%) were in practice between 31 – 40 years.

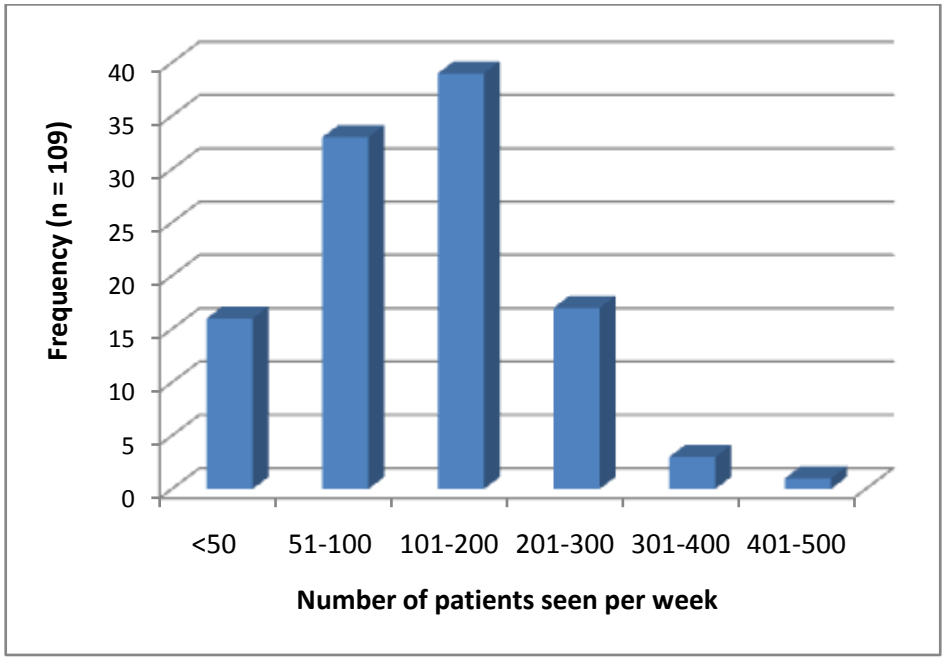


Figure 5: Number of Patients seen per Week

Figure 5 reflects the number of patients seen by the respondents. Sixteen (14.7%) respondents consulted < 50 patients per week and most, 72 (66.1%) respondents consulted between 51 - 200 patients per week; 17 (15.60%) respondents consulted 201-300 patients per week; 3 (2.8%) respondents consulted 301-400 patients per week and 1 (0.9%) respondents consulted between 401-500 patients per week.

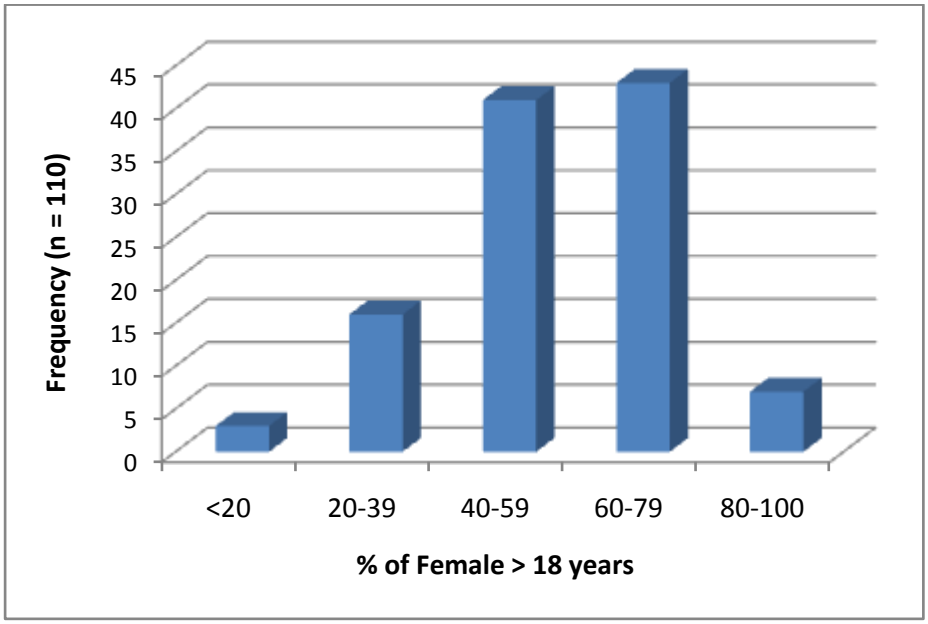


Figure 6: Frequency of the respondents estimated prevalence of adult female patients over the age of 18 years

Figure 6 reflects that 3 (2.7%) respondents estimated that they had < 20% female patients in their practice; 16 (4.6%) respondents had between 20 – 39% female patients in their practice; while 84 (76.4%) respondents had between 40 -79% of female patients in their practice. A small number of 7 (6.3%) respondents had between 80 -100% of female patients in their practice.

Table 2: Response rate of domains related to estimated ranges of female patients

	Estimated prevalence of female patients (n=110)				
Sex of respondents	**< 20%**	**20-39%**	**40-59%**	**60-79%**	**80-100%**
Female	**1 (2.9%)**	**3 (8.6%)**	**13 (37.1%)**	**17 (48.6%)**	**1 (2.9%)**
Male	**2 92.7%)**	**13 (17.3%)**	**28 (37.3%)**	**26 (34.7%)**	**6 (8%)**

Table 2 reflects the estimated prevalence of female patients seen by male doctors was 49.5% and that of females was 51.2%.

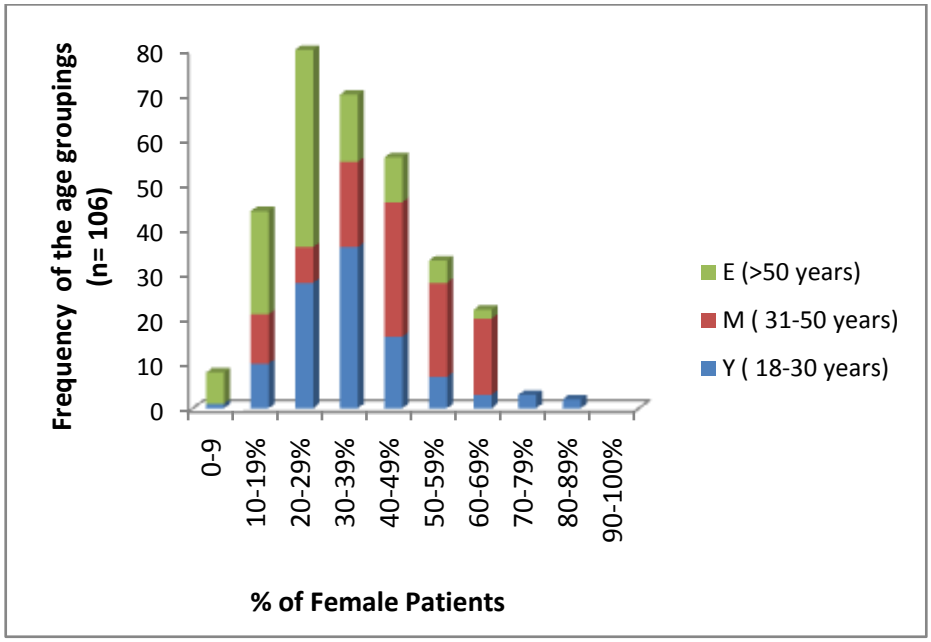


Figure 7: Frequency of estimated female patients categorised by age that were seen by the respondents

Figure 7 demonstrates these three categories grouped by percentages of patients in each group. Twenty three (21.7%) respondents had between 10-19% of elderly patients and 44 (41.5%) respondents had between 20-29% elderly females as a percentage of females in their practice. Nineteen (17.9%) respondents had between 30-39%, 30 (28.3%) respondents had between 40-49% and 21 (19.8%) respondents had between 50-59% of middle aged females as a percentage of all females in their practices.

There was no difference between male and female doctors in terms of the estimated percentage of female patients in their practices.

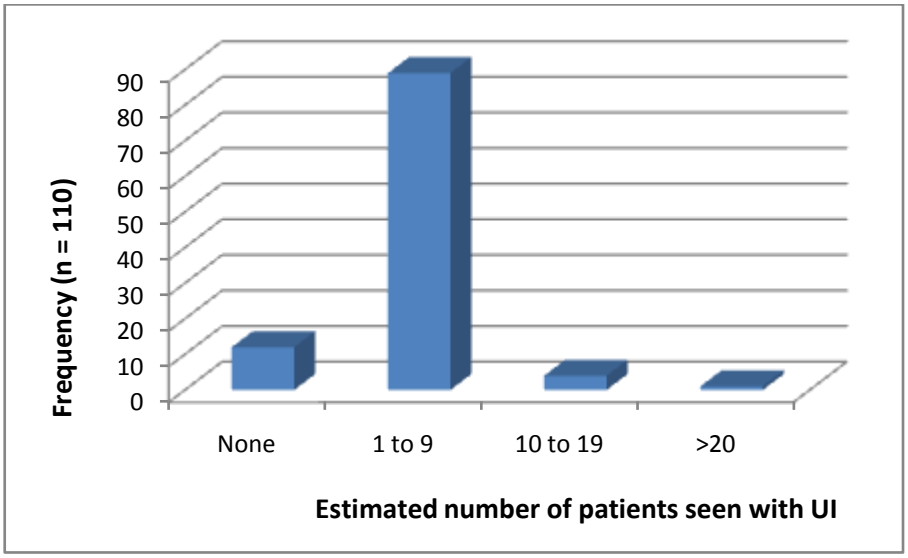


Figure 8: Frequency of the respondents estimated prevalence of urinary incontinence per month

Figure 8 reflects that 12 (11.3%) respondents did not see any patients with UI, 89 (84%) respondents consulted between 1 and 9 patients with UI per month and 4 (3.7%) respondents consulted between 10 and 19 patients per month and only 1 (0.9%) respondent consulted 20 or more patients with UI per month.

It was noted that female respondents 33 (97.1%) consulted with more patients with UI than compared with the male respondents 67 (88.2%)

When respondents were asked if they saw patients with UI or not in their practices 10 (9.1%) stated that they did not see patients with UI and 100 (90.9%) stated that they did see patients with UI.

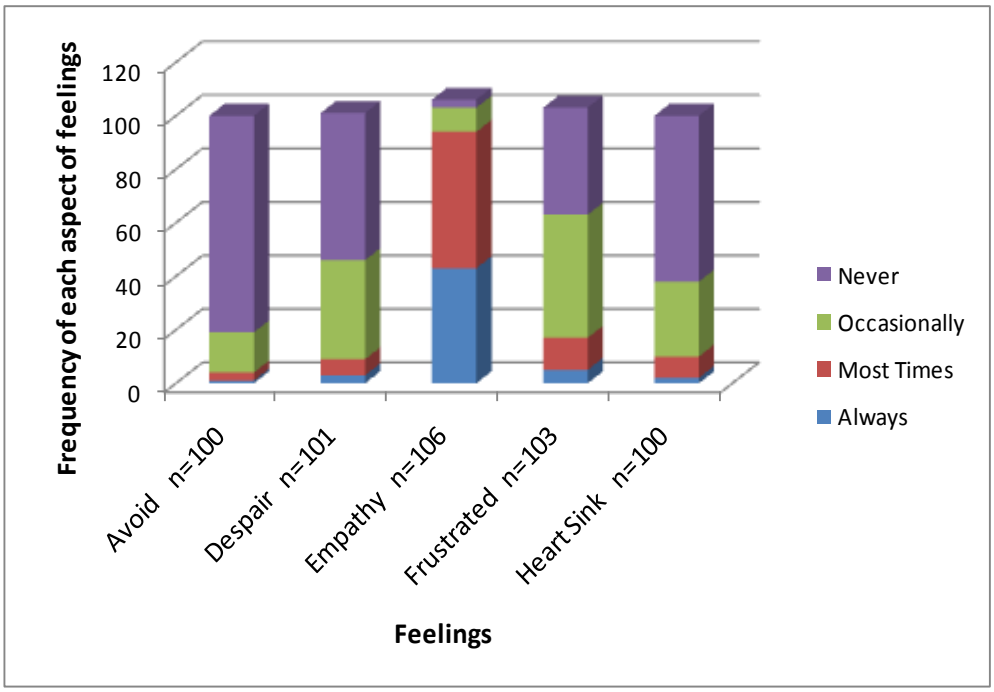


Figure 9: Respondents feelings when consulting with patients with UI

Figure 9 reflects that 81 (81%) respondents almost or most times never avoided the discussion about UI, 4 (4%) always or at most times avoided the discussion. Respondents were unlikely to experience feelings of despair 55 (54.5%), while 37 (36.6%) respondents occasionally experienced feelings of despair and 9 (8.9%) respondents experienced feelings of despair most times or always. Feelings of empathy were experienced by 94 (88.7%) respondents always or at most times. Feelings of frustration 86 (83.4%) were not experienced always or most times, while 17 (16.6%) respondents felt frustrated always or most times. Feelings of heart sink were not experienced always or most times by 62 (62%) respondents.

It was noted that 81 (83.51%) respondents would not always or most times avoid discussing issues about UI with their elderly female patients, as compared to young and middle-aged female patients in the practice.

Figure 10 reflects that at least 82 (78.1%) respondents rated their aetiology knowledge as good and very good, while 79 (73.8%) respondents rated their diagnosis knowledge as good and very good. Forty nine (45.8%) respondents rated their investigation knowledge as good and very good and 48 (45.3%) rated their management knowledge as good and very good. More respondents rated their aetiology and diagnosis knowledge as good as compared to their investigation and management knowledge.

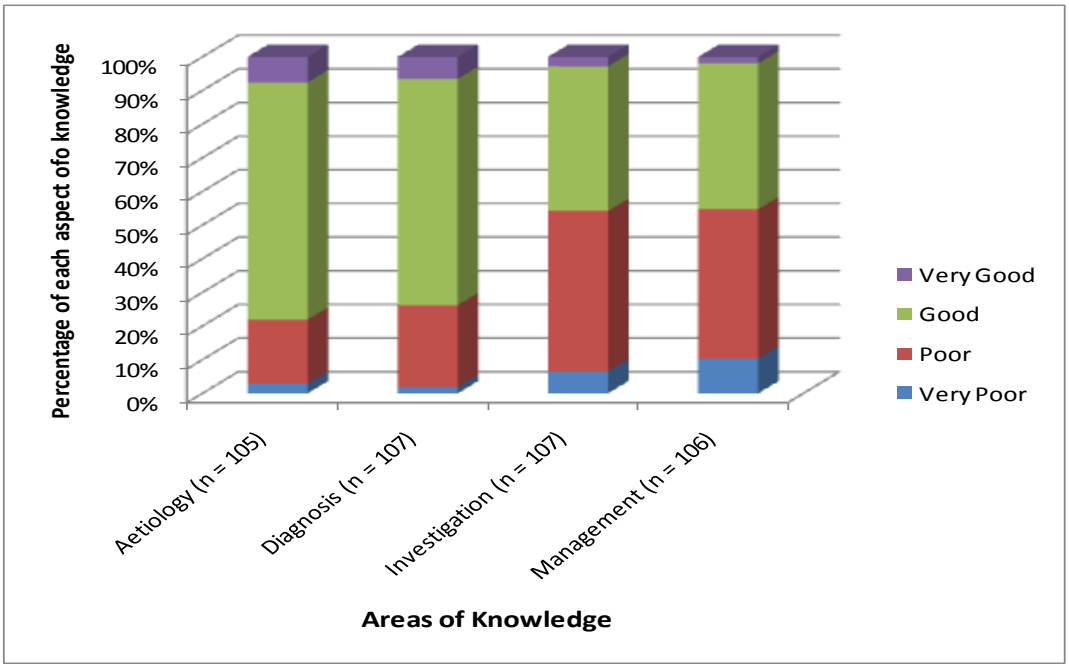


Figure 10: Respondents rated knowledge

There was no difference when comparing the number of years that the respondents were in clinical practice with how they rated their knowledge with regards to the aetiology, diagnosis, investigation and management of patients with UI

Table 3 reflects that respondents who had between 40 – 79% of female patients in their practice rated that they had a better knowledge of the aetiology and diagnosis as compared to the respondents knowledge on investigations and management.

Table 3: Respondents' rated knowledge in relation to the percentage of female patients in practice

	Rate of knowledge	<20 %	20-39 %	40-59 %	60-79 %	80-100 %	p
Aetiology (n= 104)	**Good**	3 (3.7%)	14 (17.3%)	26 (32.1%)	35 (43.2%)	3 (3.7%)	**0.99**
	Poor	0 (0.00%)	2 (8.7%)	12 (52.2%)	6 (26.1%)	3 (13.0%)	
Diagnosis (n= 106)	**Good**	3 (3.9%)	13 (16.7%)	26 (33.3%)	32 (41.0%)	4 (5.1%)	**0.1**
	Poor	0 (0.00%)	3 (10.7%)	13 (46.4%)	10 (35.7%)	2 (7.1%)	
Investigation (n = 106)	**Good**	1 (2.0%)	9 (18.4%)	20 (40.8%)	16 (32.65%)	3 (6.1%)	**0.06**
	Poor	2 (3.5%)	7 (12.3%)	19 (33.3%)	26 (45.6%)	3 (5.3%)	
Management (n = 105)	**Good**	2 (4.3%)	9 (19.2%)	18 (38.3%)	16 (34.04%)	2 (4.3%)	**0.01**
	Poor	1 (1.7%)	7 (12.1%)	21 (36.2%)	25 (43.1%)	4 (6.9%)	

Having exposed the respondents to the large scope of issues related to UI in prior questions they were then asked to indicate whether they had a good working knowledge of UI. Sixty four (73.6%) respondents did not think that they had a good working knowledge of UI and the remaining 23 (26.4%) thought that they had a good working knowledge of UI (n=87).

This was lower than the initial ratings on aetiology, diagnosis, investigations and management. The groups of good knowledge and very good knowledge were combined and recorded as good knowledge. The groups of poor knowledge and very poor knowledge were also combined and recorded as poor knowledge.

Table 4: Respondents rated knowledge domain in relation to their working knowledge of UI

	Knowledge domain			
"Do you have a good working knowledge of UI?"	**Aetiology (n=83)**	**Diagnosis (n=85)**	**Investigations (n=85)**	**Management (n=84)**
Yes	63 (75.9%)	61 (71.8%)	37 (43.5%)	38 (45.2%)
No	20 (24.1%)	24 (28.2%)	48 (56.5%)	46 (54.8%)

Table 4 reflects that the respondents' had a better working knowledge with regards to aetiology 63 (75.9%) and diagnosis 61 (71.8%) and not investigations 37 (43.5%) and management 38 (45.2%).

Table 5 reflects that 19 (82.6%) respondents were most likely to manage patients with UI and had a good UI knowledge while 29 (34.9%) respondents who also had a good knowledge stated that they were unlikely to manage patients

Table 5: Rated knowledge of management in relation to whether the respondents would manage patients with UI

	Management of patients	
Rated knowledge of management	**Always or most times (n = 106)**	**Occasionally or never (n = 106)**
Good and very good knowledge	**19 (82.6%)**	**29 (34.9%)**
Poor and very poor knowledge	**4 (17.4%)**	**54 (65.1%)**

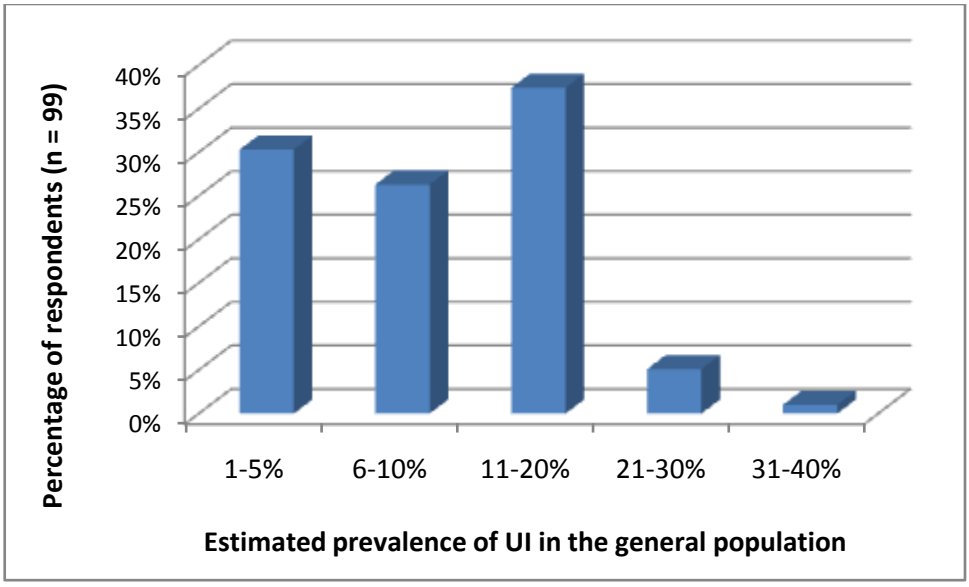


Figure 11: Percentage of respondents estimated prevalence of UI in the general population

Figure 11 reflects that 37 (37.7%) respondents correctly estimated (when compared to the recommended guidelines[11]) the general prevalence of UI was between 11 – 20% while 56 (56.6%) incorrectly stated that the general prevalence was between 1 and 10 %.

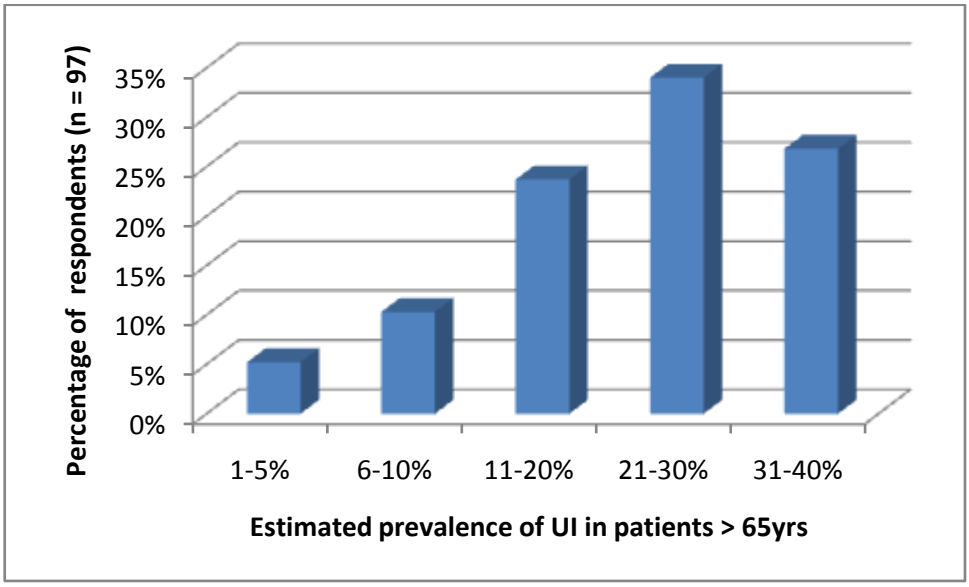


Figure 12: Percentage of respondents estimated prevalence of urinary incontinence in patients over 65 years

Figure 12 reflects that 71 (73.2%) respondents correctly stated (when compared to the recommended guidelines[11]) that the prevalence of UI amongst adult female patients over the age of 65 years was between 31 – 40%.

Table 6: Respondents estimated knowledge of prevalence in patients over 65 years as compared to percentage elderly female patients in practice

	Estimation of the percentage of elderly female patients				
Prevalence >65 years (n = 93)	**<20 %**	**20-39 %**	**40-59 %**	**60-79 %**	**80-100 %**
1-5%	**0 (0.00%)**	**2 (3.77%)**	**2 (14.29%)**	**0 (0.00%)**	**0 (0.00%)**
6-10%	**3 (12.50%)**	**2 (3.77%)**	**2 (14.29%)**	**0 (0.00%)**	**0 (0.00%)**
11-20%	**4 (16.67%)**	**16 (30.19%)**	**1 (7.14%)**	**2 (100.00%)**	**0 (0.00%)**
21-30%	**9 (37.50%)**	**23 (43.40%)**	**1 (7.14%)**	**0 (0.00%)**	**0 (0.00%)**
31-40%	**8 (33.33%)**	**10 (18.87%)**	**8 (57.14%)**	**0 (0.00%)**	**0 (0.00%)**

Table 6 demonstrates that only 8 (33.3%) respondents who had < 20% of elderly female patients correctly (when compared to the recommended guidelines[11]) estimated the prevalence of UI was amongst the patients over the age of 65 years as compared to 10 (18.9%) respondents who had a prevalence of 20 - 39% of elderly and 8 (57.1%) respondents who had a prevalence of 40 -59% of elderly female patients.

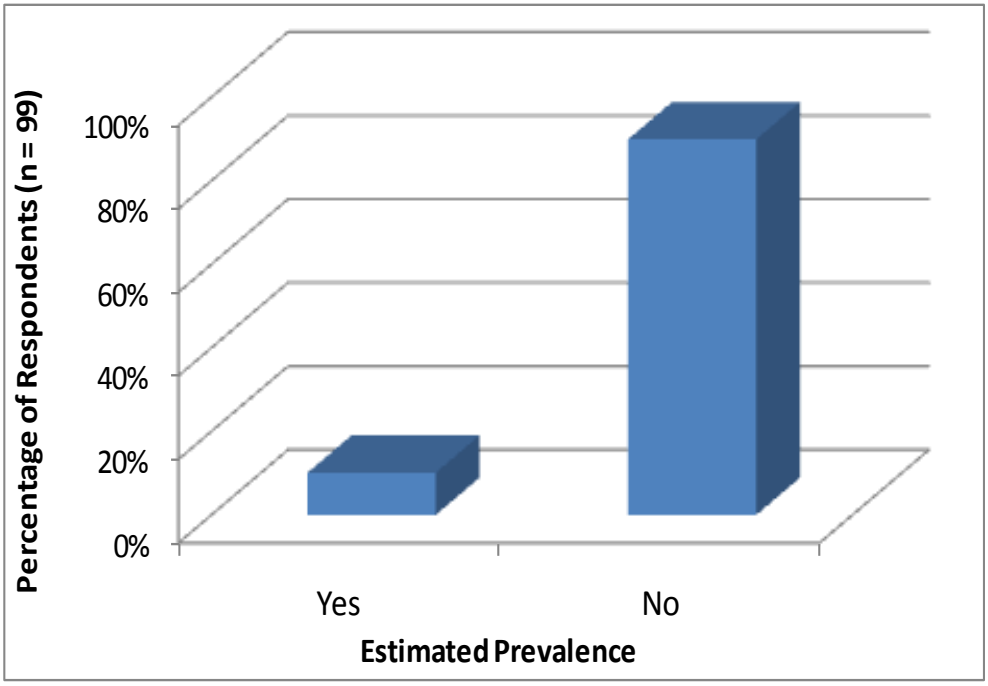


Figure 13: Prevalence difference between the general population and the respondents practice

Figure 13 indicates that 89 (89.9%) respondents felt that their practice prevalence was in line with the general population while 10 (10.1%) of respondents felt that their practice prevalence was different.

Respondents were asked to state whether aetiological factors listed in the table were commonly associated, occasionally associated, not associated or whether they did not know if they were associated to UI. The correct answers are indicated with an asterisk.

Table 7: Frequency of respondents assessed knowledge on aetiology of UI

	Frequency of the respondents knowledge		
Aetiology	**Associated**	**Not associated**	**Don't know**
Age (n=106)	**95 (99.1%)***	0 (0%)	1 (0.9%)
UTI (n=107)	**102 (95.3 %)***	3 (2.8%)	2 (1.9%)
Pregnancy and childbirth (n=109)	**106 (97.3%)***	2 (1.8%)	1 (0.9%)
Pelvic surgery (n=109)	**107 (98.2%)***	1 (0.9%)	1 (0.9%)
Rheumatoid arthritis (n=102)	**36 (35.6%)***	37 (36.6%)	28 (27.8%)
Smoking (n=102)	**47 (46.1%)***	36 (35.3%)	19 (18.6%)
Obesity (n=108)	**93 (89.1%)***	6 (5.6%)	9 (8.3%)
Diuretics (n=107)	**87 (81.3%)***	9 (8.4%)	11 (10.3%)
NSAID (n=102)	21 (20.4%)	**47 (45.6%)***	35 (34%)
High impact exercise (n=103)	**54 (55.1%)***	30 (30.6%)	14 (14.3%)
Multiple sclerosis (n=104)	**72 (69.2%)***	8 (7.7%)	24 (23.1%)
Migraine (n=101)	13 (12.9%)	**59 (58.4%)***	29 (28.7%)
Diabetes (n=109)	**93 (85.4%)***	7 (6.4%)	9 (8.3%)
Uncontrolled hypertension (n=105)	30 (28.6%)	**37 (35.2%)***	38 (36.2%)

Table 7 reflects that more than 80% of respondents had correctly stated the association of aetiological factors of age, UTI, pregnancy and childbirth, pelvic surgery, obesity, diuretics and diabetes with UI. Fewer respondents had stated that rheumatoid arthritis, smoking and high impact physical exercise were associated with UI. Less than 60% of respondents were knowledgeable that NSAID, migraine and uncontrolled hypertension were not associated with UI.

Male and female respondents both had a good aetiological knowledge of UI.

There was no difference in the number of years that the respondents were in clinical practice when compared to their actual knowledge on the aetiology of UI nor was there a difference in the referral patterns to the various clinical disciplines.

Only 31 (29.8%) respondents were aware of the guidelines.

Of the group of respondents that were aware of the guidelines only 18 (58.1%) made reference to the guidelines.

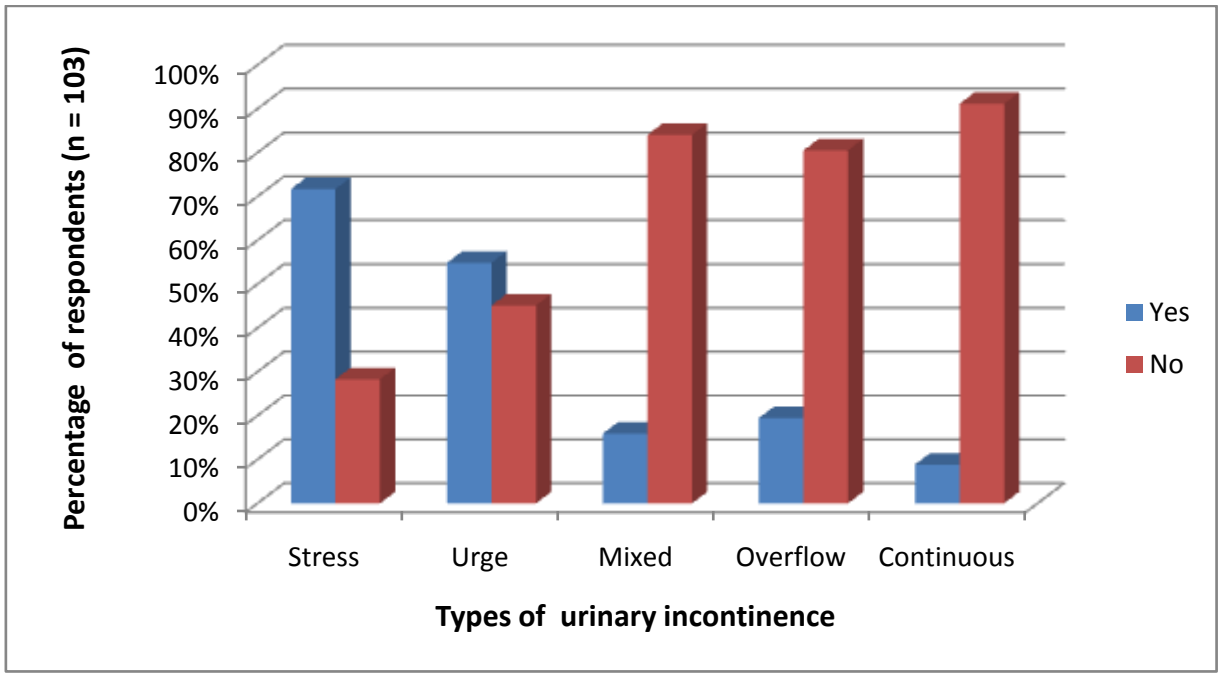


Figure 14: Respondents' assessed knowledge of the classification of UI

Figure 14 reflects that respondents in general felt more knowledgeable on stress incontinence 81 (71.7%) and urge incontinence 62 (54.9%) but had a poor knowledge on mixed incontinence 18 (15.9%), overflow incontinence 22 (19.5%) and continuous “true” incontinence 10 (8.5%).

When asked what was the most appropriate conservative management of UI in a 42 year old P3G3 with stress incontinence, most respondents 97 (85.8%) would correctly refer this patient for pelvic floor muscle rehabilitation and lifestyle modification 58 (51.3%). However, 39 (34.5%) respondents would have incorrectly initiated a bladder diary and 46 (40.7%) would have incorrectly initiated bladder training and urge strategy.

When asked what the most appropriate conservative management of UI in a 25 year old female patient with urge incontinence, an average of 62 (54.9%) respondents would correctly refer this patient for lifestyle modification, dietary counselling 31 (27.4%), bladder diary 60 (53.1%), bladder training and urge strategy 78 (69%) and treat with detrusol 30 (26.6%) and ditropan 28 (24.8%). Although the management may appear to be reasonably good, 44 (38.9%) respondents had incorrectly stated that pelvic floor rehabilitation was the appropriate management for this patient.

When asked what the most appropriate conservative management of UI in a 75 year old with UI in whom all forms of conservative treatment has been unsuccessful, lifestyle modification was correctly initiated by 22 (19.5%) respondents, pads by 58 (51.3%) respondents and pelvic floor rehabilitation by 25 (22.1%). However 39 (34.5%) respondents would inappropriately refer patients for surgery.

Most respondents, 97.2% (104) requested further information.

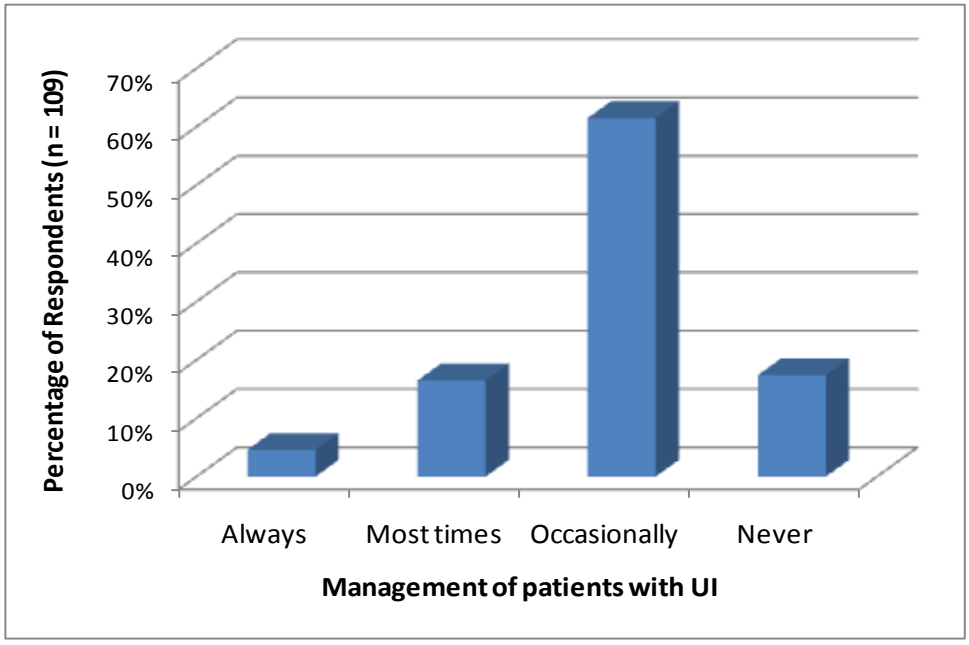


Figure 15: Frequency of respondents that manage patients with UI

Figure 15 reflects that 5 (4.6%) respondents will always manage patients; 18 (16.5%) respondents will manage patients most times; 67 (61.5%) will occasionally manage patients and 19 (17.4%) respondents will never manage patients with UI.

Respondents who always and mostly managed patients with UI had a better knowledge about the prevelance of UI in patients older than 65 years of age.

Table 8: Respondents who felt that the problem was beyond their scope of practice and their management practices

	Management of patients	
' I feel the problem is beyond my scope of expertise and refer' (n=107)	Always or most times	Occasionally or never
Always or most times	3 (13.64%)	62 (72.94%)
Occasionally or never	19 (86.36%)	23 (27.06%)

Table 8 indicates that 62 (72.9%) respondents were unlikely to manage patients with UI as they felt that it was most likely to be beyond there scope of practice and 23 (27.1%) respondents were unlikely to manage patients although it was unlikely to be beyond their scope of practice.

Table 9: Respondents who felt competent and managed the patient and their management practices

	Management of patients	
'I feel competent and manage the patient' (n=98)	Always or most times	Occasionally or never
Always or most times	15 (75.0%)	8 (10.3%)
Occasionally or never	5 (25.0%)	70 (89.7%)

Table 9 indicates that 15 (75%) respondents were most likely to feel competent and likely to manage patients with UI and 5 (25%) were unlikely to feel competent and were also unlikely to manage patients.

Table 10: Management of patients by respondents who felt competent, but lack the time and therefore refer

	Management of patients	
'I feel competent but lack the time to manage the patient, and therefore refer' (n=101)	Always or most times	Occasionally or never
Always or most times	7 (30.4%)	19 (24.4%)
Occasionally or never	16 (69.6%)	59 (75.6%)

Table 10 indicates that 7 (30.4%) respondents were most likely to feel competent but lacked the time and were likely (always and most times) to manage patients with UI while 16 (69.6%) who were likely to feel competent but lacked the time to manage patients and were unlikely (occassionally and never) to manage patients.

Table 11 reflected that 19 (82.6%) respondents who rated that they had a good knowledge of the investigations of UI were most likely to manage patients, while 4 (17.4%) respondents who rated their knowledge as good were unlikely to manage patients. Once again this could be due to time factors. A small group, 6.9% of respondents who rated their knowledge of the investigations as poor were likely to manage patients with UI.

Table 11: Rated knowledge of investigations as compared to the management of patients with UI

	Management of patients	
Do you think you have a good working knowledge of UI' (n=107)	**Always or most times**	**Occasionally or never**
Good / Very Good Knowledge	**19 (82.6%)**	**30 (35.7%)**
Poor / Very Poor Knowledge	**4 (17.4%)**	**54 (64.3%)**

Table 12 reflects that 14 (38.9%) respondents who associated age with UI were most likely to management patients and 22 (61.1%) were unlikely to manage patients.

Table 12: Age and management of UI

	Management of patients	
Knowledge of age as an aetiological factor (n= 101)	**Always or most times**	**Occasionally or never**
Associated	**14 (38.9%)**	**22 (61.1%)**
Not Associated	**5 (13.5%)**	**32 (86.5%)**
Don't Know	**3 (10.7%)**	**25 (89.3%)**

Table 13 reflects that 21 (20.2%) respondents who had associated rheumatoid arthritis with UI were likely to manage these patients and 83 (79.8%) were unlikely to manage patients.

Table 13: Rheumatoid Arthritis and Management

	Management of patients	
Knowledge of rheumatoid arthritis as an aetiological factor (n= 101)	**Always or most times**	**Occasionally or never**
Associated	**21 (20.2%)**	**83 (79.8%)**
Not Associated	**0 (0.0%)**	**0 (0.0%)**
Don't Know	**1 (100%)**	**0 (0.0%)**

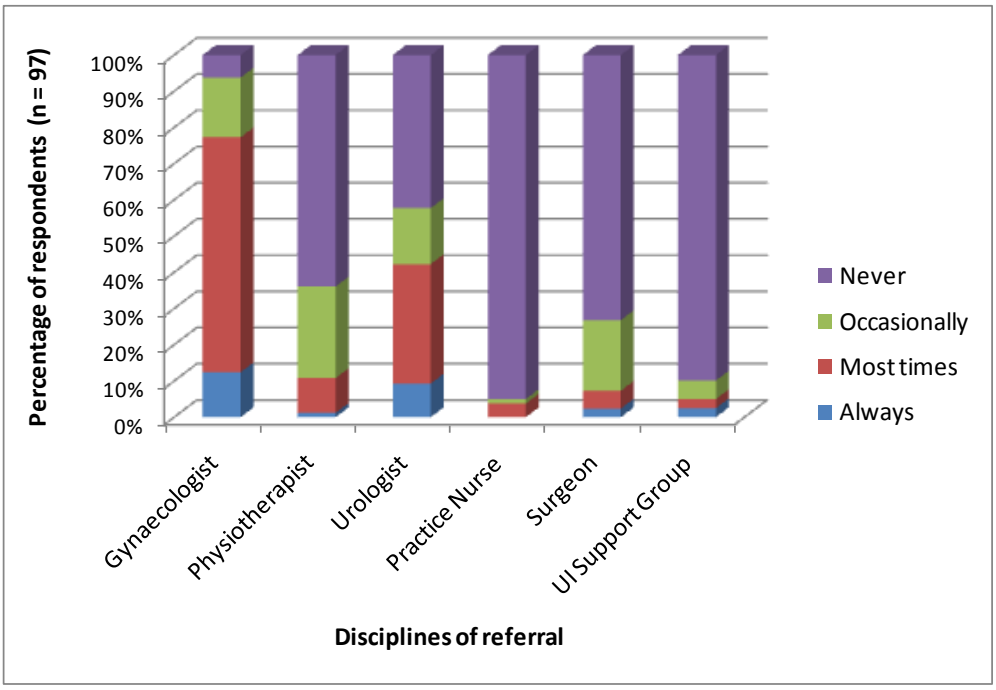


Figure 16: Referral Preferences of the Respondents

Figure 16 reflects that respondents referred most commonly to the gynaecologist 75 (77.3%) and urologist 39 (42.3%). Respondents were unlikely to refer patients to a physiotherapist 74 (89.2%), practice nurse 77 (96.3%), surgeon 76 (92.7%) or UI support group 75 (95%).

The number of years in clinical practice did not correlate with whether the respondents managed or referred patients with UI.

Table 14: Frequency of respondents and reasons for management or referral

Frequency of how often the respondents stated that this applied to them	I feel the problem is beyond my scope of expertise and refer'(n = 108)	I feel competent but lack time the patient and therefore refer'(n = 102)	I feel competent and manage the patient'(n = 99)
Always	14 (13.0%)	5 (4%)	4 (4.9%)
Most times	51 (47.2%)	21 (20.2%)	20 (20.6%)
Occasionally	33 (30.6%)	40 (36.4%)	36 (39.2%)
Never	10 (9.3%)	36 (39.4%)	39 (35.3%)

Table 14 reflects that 65 (60.2%) respondents felt that it was beyond their scope of expertise to manage patient with UI always and most times, while only 24 (24.2%) respondents felt competent but lacked the time and a further 25 (25.5%) actually felt competent and would manage patients with UI themselves and not refer.

Respondents who had one post graduate qualification felt that they were competent but lacked the time to manage patients with UI when compared to the rest of respondents.

The respondents who were in practice for longer were less likely to feel competent to manage the patients with UI and felt that the problem was beyond their scope of expertise and would refer. The respondents who were in practice for longer were also more likely to feel competent but lacked the time to manage the patients and therefore referred patients.

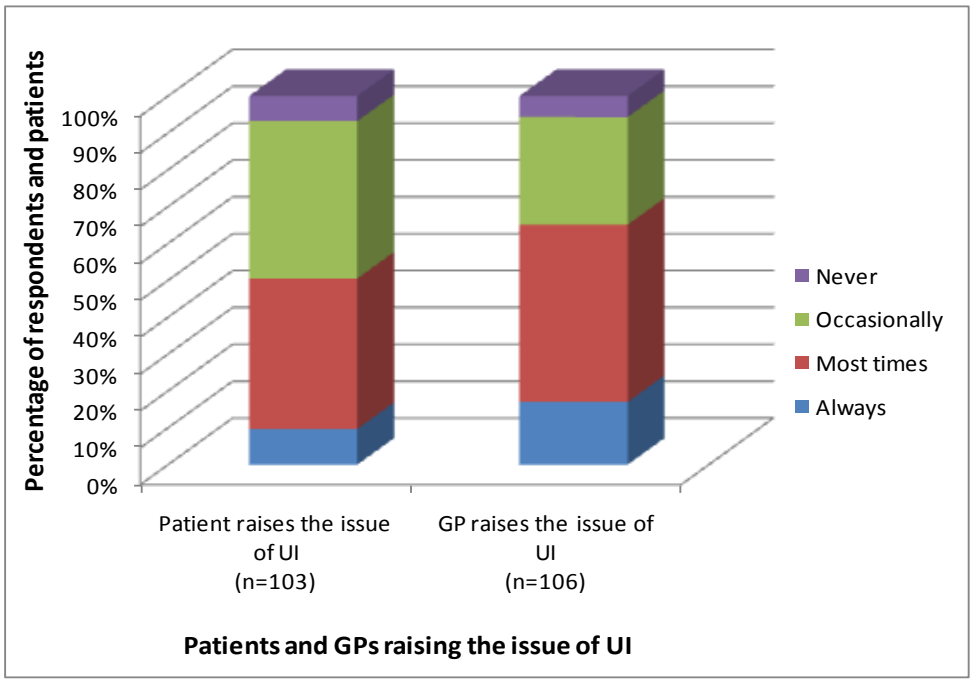


Figure 17: Frequency of how often the respondent or patient raised the issue of UI

Figure 17 shows that 52 (50.5%) respondents stated that their patients raised the issue of UI most times or always, while 69 (75.1%) respondents were likely to raise the issue of UI most times and always in the consultation.

Table 15: Who raises the issue of UI in elderly patients?

	Person raising the issue of UI	
How often raised?	**Patient (n=100)**	**GP (n=102)**
Always/ most times	**51 (51.0%)**	**67 (65.7%)**
Never/ occasionally	**49 (49.0%)**	**35 (34.3%)**

Table 15 demonstrates that 67 (65.7%) respondents who were seeing elderly patients were most likely to raise the question of UI and 51 (51.0%) stated that patients were most likely to raise the question of UI.

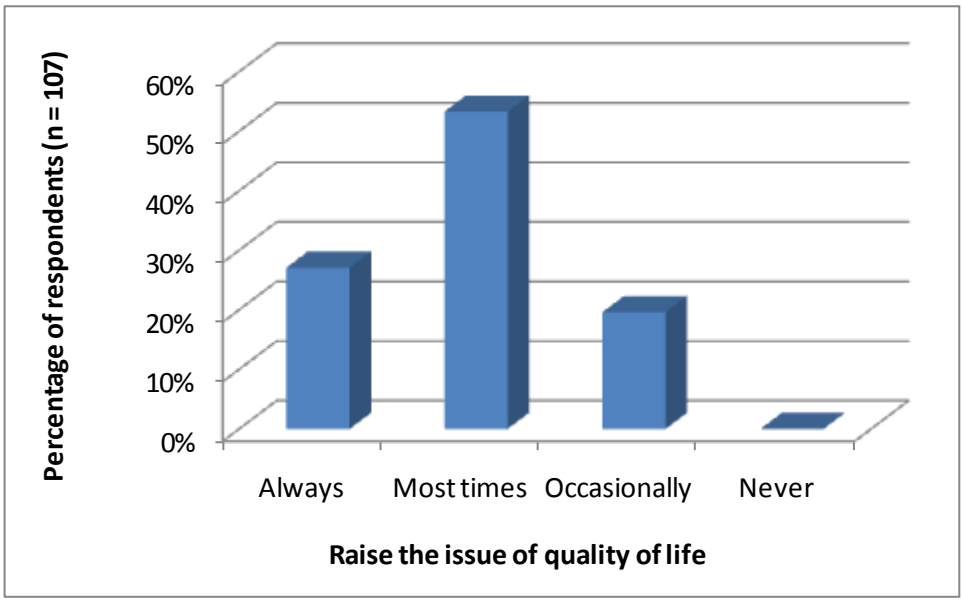


Figure 18: Likelihood of respondents raising the issue of quality of life

Figure 18 reflects that most 86 (80.4%) respondents were likely to enquire always or most times, regarding the effect of UI on their patients' quality of life, while the remainder would occasionally do so. No respondents answered "never".

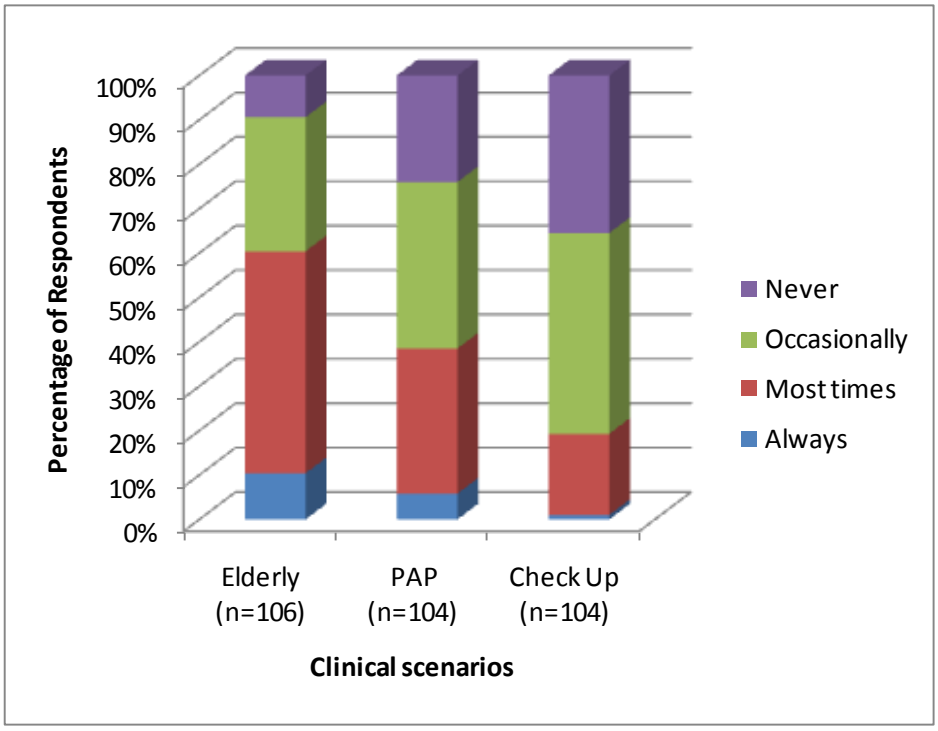


Figure 19: Percentage of respondents that enquired about UI

Figure 19 reflects that 64 (60.4%) respondents were likely to enquire about UI in elderly patients most times or always, while fewer 32 (30.2%) enquired about it during a PAP smear examination and only 10 (9.4%) enquired when doing a general check up.

During a PAP smear examination more male respondents would look for signs of UI 31 (59.6%), a cystocoele 35 (60.3%), a rectocoele 18 (56.3%) and urethrocoele 19 (57.6%) than the female respondents.

Respondents who were in clinical practice for more years were less likely to clinically check for UI 9 (36.6%), a cystocoele 20 (34.4%), a rectocoele 11 (34.4%) and a urethrocoele 11 (33.3%)..

Figure 20 reflects that 58 (56.9%) respondents would look for signs of a cystocoele and 52 (52.5%) would look for UI and 33 (33%) would look for a urethrocoele and 32 (32%) for a rectocoele.

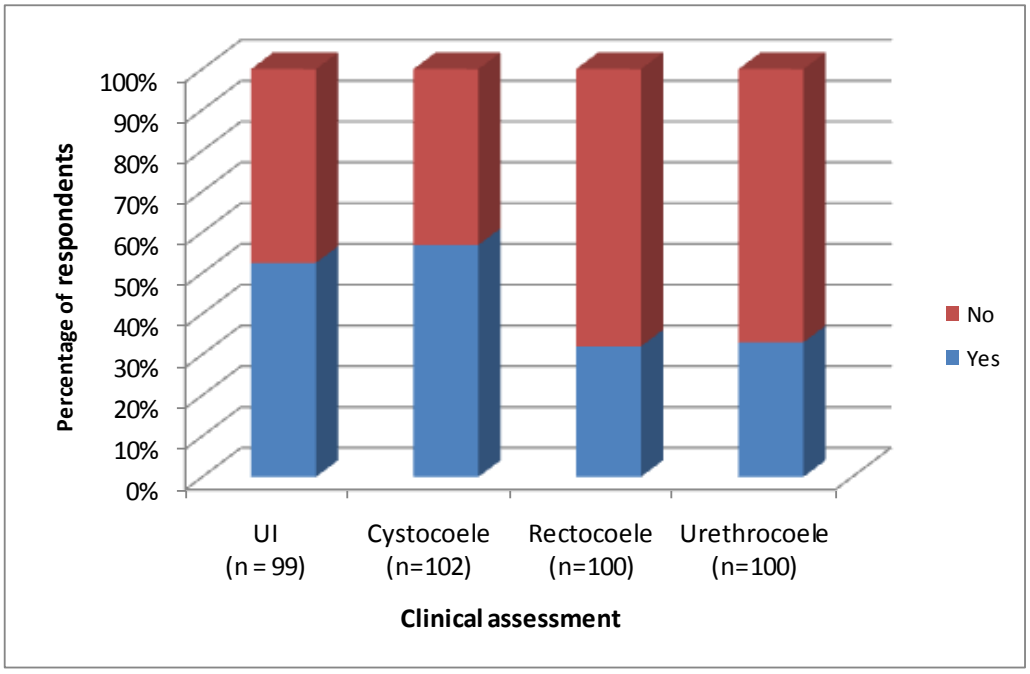


Figure 20: Respondents clinical practice when doing a PAP smear

Table 16 reflects that all respondents demonstrated an extremely poor knowledge on the examination of a patient with UI. In all the clinical aspects that is required for a GP to correctly assess a patient with UI, except for assessing the cough reflex and other signs of pelvic prolapse, less than 5% of respondents answered correctly. Twelve (10.6%) respondents would assess for the cough reflex and 23 (20.35%) respondents would assess for other signs of pelvic prolapse.

Table 16: Examination practices of respondents

Clinical signs / condition	Frequency of examination of clinical signs / condition checked for by respondent
Oes Deficiency	4 (3.54%)
Infection (Fungal)	2 (1.77%)
Skin Irritation	1 (0.88%)
Abd Palpation	4 (3.54%)
Reflexes	3 (2.65%)
Sensation	2 (1.77%)
Strength	3 (2.65%)
Cough Reflex	12 (10.62%)
Pelvic Prolapse	23 (20.35%)

A total of 77 (68.1%) respondents would do a urine dipstix test.

Only 20 (17.7%) GPs stated that urine MC&S investigations should be done.

Further investigations suggested included a cystogram 5 (4.4%); an ultrasound 13 (11.5%), and IVP 5 (4.4%), a cystoscope 1 (0.9%) and a PVR 1 (0.9%).

6 DISCUSSION

The study population consisted of GP's from seven IPA's, however the researcher was only able to secure appointments with five IPA's. The remaining two IPA's were experiencing structural dysfunction and the researcher was therefore unable to secure appointments with them. It is probably unlikely that demographics of the members and their practices, as well as their knowledge, attitude and reported practices would have been different from the sample.

The mean age of respondents was 42 years. The researcher is unable to compare this to other studies done. With 56 (50.1%) respondents qualifying after 1990 and having a mean age of 43 years of age suggests that respondents may have been more mature when they qualified. This may also indicate why, 47 (42.3%) respondents were in practice for only 10-20 years.

There were more males, 76 (68.5%) amongst the respondents. The reasons for this is not evident from this study but may reflect a difficulty amongst women and mothers in attending evening meetings. The sex ratio of the IPA membership is not known.

AWIPA accounted for 6 (5.4%) (31.6% of the IPA membership) respondents and SOIPA accounted for 19 (17.1%) (18.6% of the IPA membership) which was far less than the average attendance of 30-50% at IPA meetings. A most likely reason for the poor attendance was due to the fact that GP practices are extremely busy during winter, when the study was done with these two IPA's.

The relatively high number of postgraduate qualifications 51(45%) amongst the group could reflect that this was a group of GP's who were interested in improving their clinical knowledge in general hence the attendance at the continuing medical education meetings.

None of the studies reviewed by the researcher have made reference to the demographics of the GP's.

The number of patients seen per week depended on the number of hours worked per week by each respondent and whether the practice was busy or not. A large number of respondents, 33 (30.3%), saw between 51 – 100 patients and 39 (35.8%) consulted between 101- 200 patients.

Female patients and particular middle-aged female patients (31-50 years) were more likely to consult with respondents who were in practice between 10-20 years. This could be due to the fact that female patients were more likely to stay with their GP's.

Despite the fact that male respondents consulted with more female patients than female respondents, it was noted that females respondents consulted with more patients with UI. A possible reason was that female patients were more likely to feel more comfortable with a female doctor and more openly discuss personal health issues.

In a small study (21 GP's) done by Grealish[41] it was demonstrated that many GP's avoided dealing with the problem of UI. The researcher has noted that in this study the respondents were not upset by seeing patients with UI. Ninety two (91%) respondents in Grealish's study stated that they were unlikely to feel despair; 81(81%) respondents would 'never avoid ' discussing UI with patients; 86 (83.4%) were unlikely to feel frustration and 90 (90%) were unlikely to experience 'heart sink'. This indicates that the respondents were unlikely to experience any negative feelings in response to patients with UI and 94 (88.7%) stated that they felt extremely empathetic.

This is in contrast to information gathered by Jeter and Wagner[31] who in questioning patients demonstrated that 24.4% of patients who suffered from UI indicated that

doctors and nurses felt embarrassed or unsympathetic when dealing with them. The present study did not determine the patients actual perceptions towards their GP's and this information would have been interesting to compare to published studies in the literature as well as to compare to the feelings that were experienced by the respondents in this study.

Eighty two (78.1%) respondents rated their knowledge on aetiology as good and very good; 79 (73.8%) rated their knowledge on diagnosis as good and very good; 58 (54.2%) rated their knowledge on investigations as good and very good and 58 (54.7%) rated their knowledge their knowledge on management as good and very good. More respondents rated their knowledge on aetiology and diagnosis as better than management and investigations with reference to UI.

It would be expected that respondents with postgraduate qualifications would have a better knowledge in respect of aetiology, diagnosis, investigation and management however this was not demonstrated. This could be due to the fact that the postgraduate qualifications did not adequately cover UI. In a study done by Brokenhurst[36] it was demonstrated that at undergraduate level and during the vocational training for family practice, the topic of UI was rarely touched upon.

In a study done by Dovey, et al[42] fewer than half of the respondents felt confident to diagnose the causes of UI.

One would assume that the respondents who had more clinical experience would have a better knowledge of UI, however, the increased number of years in clinical practice did not demonstrate that the respondents had a better knowledge in respect of aetiology, diagnosis, investigations and management.

When the respondents knowledge was tested the initial ratings of respondents reflected that, 82 (78.1%) stated that they had a good and very good knowledge on aetiology. Seventy nine (73.8%) had a good and very good knowledge on diagnosis;

58 (54.2%) had a good and very good knowledge on investigations and 58 (54.7%) stated that they had a good and very good knowledge on management. The subsequent ratings of respondents knowledge indicated that only 23 (26.4%) indicated that they had a good working knowledge of UI and this is much lower than the respondents initial ratings. This is in line with a study done by Lose, Jacobsen, Maden, Thorsen, Tibaek and Johansen[47] amongst GP's in Denmark, where 24% of the GP's felt that their knowledge was sufficient to manage patients with UI. In another study done by Dovey, et al fewer than half of the respondents felt confident to diagnose the causes of UI.[42]

The above could be due to the fact that the respondents' perceived that they were knowledgeable about UI and after being asked questions on UI they then realised that they actually did not have such a good knowledge as they had initially thought.

It was probably difficult for the respondents to discern between commonly and occasionally associated aetiological factors and the researcher has decided to combine the two categories for the purposes of analysis to read as associated.

Most respondents were knowledgeable about the aetiology of UI. Ninety five (99.1%) respondents associated age with UI, 93 (89.1%) correctly associated obesity with UI, 102 (95.3%) associated a UTI with UI, 107 (98.2%) associated pelvic surgery with UI, and 87 (81.3%) associated diuretics with UI. Rohr et al[15] stated that age and a high body mass index were associated with UI.

Rohr G, et al[15] and Nygaard I, et al[48] demonstrated that increasing age and a high body mass index was associated with UI. This was also supported by a study done by Azuma R, et al[49] in which the prevalence of UI increased with patients' age and body mass index. In another study that was done by among 1961 non-pregnant women it was reported that overweight and obese women were more likely to report at least one pelvic floor disorder which is often associated with UI.

One hundred and six (97.3%) respondents correctly associated pregnancy and childbirth with UI. Jolleys[13] demonstrated that the prevalence (17%) of UI was lower in nulliparous women and much higher in parous (48%) women and premenopausal (47%) women. UI was significantly associated with perineal suturing after childbirth.

Ninety three (85.4%) respondents correctly associated diabetes with UI. This is supported in a study done by Brown JS, et al[50] where it was demonstrated that patients with diabetes also present with UI and physicians should be aware of this and diabetic patients will often present with UI and this will be undiagnosed.

Thirty six (35.6%) respondents had correctly associated rheumatoid arthritis with UI which was lower than the respondent's knowledge on the other aetiological factors. Finkelstein[51] demonstrated that UI was associated with medical conditions and medications. UI was found to be commonly associated with patients with musculoskeletal disorders which interferes with bladder function directly and with rheumatoid arthritis where patients have limited mobility which interferes with the patient's ability to reach the toilet in time. Finkelstein[51] also demonstrated that there was no link between hypertension and UI. Thirty seven (35.2%) respondents correctly stated that hypertension was not associated with UI.

Finkelstein also demonstrated that there was an association between diuretics and incontinence as diuretic medication will increase the urine volume and this will contribute to urgency and frequency.

Guidelines for general practitioners for the treatment of urinary incontinence and overactive bladder[11] were published in 2002, however only 31 (29.8%) respondents were aware of the guidelines. The fact that such a small number of respondents were aware of the guidelines is of concern and would indicate that UI is not managed in line with best practice.

The respondents management of a hypothetical patient with stress incontinence was appropriate as 97 (85.8%) correctly indicated that they would refer these patients for pelvic rehabilitation and 58 (51.3%) would include lifestyle modification as part of the management of these patients. Most respondents knew how to manage patients with stress incontinence and this due to the fact that stress incontinence occurs most commonly in comparison to other forms of UI.

On further assessment of the management of stress incontinence in a hypothetical 75 year old patient, most respondents would not have managed this patient optimally, as only 58 (51.3%) respondents correctly stated that they would manage this patient with incontinence pads. This question did not provide more clinical details as this would have influenced the management of this patient.

The management of a hypothetical 25 year old patient with urge incontinence was not optimal as 30 (26.6%) respondents would have correctly treated patients with detrusol and 28 (24.8%) would have treated with ditropan. However, 78 (69%) of the respondents had correctly stated that they would use bladder training and urge strategy in the management of these patients. This differs from a study done in Norway by Sandvik, et al[52] amongst 191 GP's which demonstrated that only 14% of the GP's stipulated bladder training as part of the management for urge incontinence. The high number of respondents whot had correctly indicated bladder training and urge strategy as part of the management of urge incontinence was most likely due to the design of the questionnaire. Respondents were given different options, which they had to tick. To support the fact that the respondent did not manage the patients with urge incontinence appropriately, 44 (38.9%) respondents incorrectly stated that they refer this patient for pelvic floor rehabilitation.

Eighty six (78.9%) respondents stated that they would always or most times manage patients with UI.

Referral to a specialist was much higher by the respondents in this study when compared to a study done by Lose et al[47], where 50 -60% of GP's were likely refer patients to a specialist for management.

It would be expected that more females respondents would manage patients with UI, however this was not the case.

Most respondents 62 (72.9%) were unlikely to manage patients with UI as they felt that it was beyond their scope of expertise and this is in line with a study done by Lose et al[47] where 76% would not manage patients with UI due to insufficient knowledge.

Most of the respondents did not answer the question however some of the reasons stated was that they lacked time to manage patients with UI and that patients who presented with UI were referred to a specialist for further management.

Respondents who were in clinical practice for fewer years were less likely to feel competent and not manage patients with UI 45 (69%) A clinician's knowledge and management of a clinical disease will improve after studying clinical topics on UI.

Respondents with postgraduate qualifications felt that the management of patients with UI was beyond their scope of expertise 26 (70.3%). However postgraduate qualifications do not only cover clinical topics and if qualification ,was clinical the coursework may not have adequately covered UI as was demonstrated by Brokenhurst[36]

A study done by Szonyi and Millard[45] demonstrated that after GP's received an educational package on UI they demonstrated an improvement in their clinical knowledge that was directly attributable to the GP's reading the package.

The gynaecologists were the most common discipline to which respondents 75 (77.3%) referred patients to. This was much higher than reflected in a study done in Scandinavia by Sandvik et al[52] where only 25% of GP's referred patients to a gynaecologist. This may reflect differences in the clinical practices and referral patterns amongst GP's in Scandinavia.

It is hoped that, since patients may not raise the issue of UI due to the attached stigma, that a competent GP would at least raise the issue. Sixty nine (75.1%) respondents claimed they had raised the question amongst the patients. Fifty two (50.5%) respondents stated that their patients had brought up the issues of UI with them.

Elderly females 67 (65.7%) were less likely to raise the issue of UI as compared to female patients in general, 69 (75.1%). Koch[3] demonstrated that perceptions of women regarding normality of UI, beliefs about the treatment options available for the treatment of UI, age, severity of UI and embarrassment influenced the help seeking behavior of patients.

In a study done by Hsieh et al[6] it was shown that shyness was reported as a main reason for patients not seeking help and only 30.3% of patients in Hsieh's study sought help for their UI. As patients are unlikely to raise the issue of UI it is essential that that the GP raises the issue of UI.

Temml C, et al[53] demonstated that UI has a significant impact on the patient's quality of life and this is directly related to the frequency and degree of incontinence, but age sex and duration of UI did not have an effect on the quality of life. Eighty six, (80.4%) respondents stated that they would enquire always and most times about the patients quality of life.

The actual practices of the respondents were assessed and 64 (60.4%) respondents were likely to enquire about UI in elderly females and 69 (75.1%) respondents would

enquire in female patients in general. It would be expected that more respondents would enquire about UI amongst elderly female patients due to the increased prevalence of UI amongst this group.

Forty (38.5%) of respondents stated that they would enquire about UI when doing a PAP smear and 20 (19.3%) would enquire about UI when doing a general check up. A most likely reason is that the knowledge of the respondents is not adequate and they do not feel competent to manage patients with UI.

When doing a PAP smear 58 (56.9%) of respondents would check for UI and 33 (33%) would check for a cystocoele. Twenty three (20.4%) respondents would assess for pelvic prolapse, 12 (10.6%) would do the cough test, less than 5% of respondents would actually assess the neurological system as well as check for signs of infection and oestrogen deficiency, which shows that the respondents demonstrated extremely poor clinical practices amongst patients with UI.

Urine dipstix was indicated by 77 (68.1%) respondents and is similar to the results demonstrated in a study done by Sandvik and Huskaar [54] where 73% of GP's had done a dipstix and 54% had performed a gynaecological test and only 12% had performed a leakage provocation test. The results for reported practices differ in the literature as reflected in another study done by Gerrits et al[55] where 51% of GP's had performed a gynaecological examination and 40% had performed a urine dipstix examination.

Respondents had rated their knowledge on diagnosis 79 (73.8%) and investigation 58 (54.2%) much higher as compared to their actual practices.

7 CONCLUSIONS

UI is a common yet unrecognized problem in society and the reported practices of the respondents in this study have been demonstrated to be inadequate.

Respondents did not feel upset when dealing with patients with UI and felt extremely empathetic. The rated knowledge and the assessed knowledge on aetiology was equivocal, however the respondents had overrated their knowledge on diagnosis, management and investigation when compared to their assessed knowledge and reported practices. Most respondents were unlikely to manage patients with UI as they felt that it was beyond their scope of expertise.

The respondents stated that they were more likely to raise the issue of quality of life in patients with UI than their patients raising the issue of quality of life during the consultation. The gynaecologists followed by the urologists were the most common disciplines to which respondents referred their patients to for further management.

Respondents with postgraduate qualifications did not demonstrate an overall better knowledge in respect of their assessed knowledge and reported practices. Middle-aged female patients were more likely to consult with respondents who were in practice for a number of years.

This study cannot be generalised to all GP's in SA, it is important that further research needs to be done. The GP is the overall co-ordinator of the patients care and besides managing the patient's medical condition the GP develops a long standing relationship with the patient and is the ideal person to raise the issues of UI. This study clearly demonstrates the inadequate management of patients with UI in general practice.

UI can be effectively managed in general practice provided that doctors are interested in continence care and gain clinical competence in a few simple treatment options and work in a team with nurses and physiotherapists.

8 RECOMMENDATIONS

GP's need to improve their knowledge and practices on UI. This should be done at all levels, from undergraduate to postgraduate (family medicine qualifications) level.

Audits on the management of all patients with UI in both men and women should be encouraged in practice. Continuous medical education programme organizers should be encouraged to include the aspects of UI in their workshops and lectures.

Since there appears to be a major discordance between doctors feelings demonstrated in this study and the feelings of patients regarding the doctors feelings in other studies (Jeter and Wagner[31]), a further study should possibly be done to explore this aspect.

GP's also need to be encouraged to perform regular audits in their practice as they are unlikely to adhere to the guidelines on a regular basis as demonstrated in a study done by Gerrit et al[55] which was done in several Western European countries to evaluate whether GP's were adhering to the NICE Guidelines and it was found that most were not.

Patient education and awareness needs to be further emphasised. If patients are educated about UI and the treatment options that are available to them they will be confident to raise the issue of UI with their GP's.

9. APPENDIX 1

Dear Dr (Chairperson)

I refer to our telephonic discussion with regards to the study that I am conducting. I am a postgraduate student at the Department of Family Medicine at the University of the Witwatersrand, Johannesburg. I am doing my Masters in Family Medicine and as a part requirement for the completion of the degree I need to complete a research report. I am conducting a study to assess the knowledge, attitudes and reported practices of general practitioners related to adult female patients with urinary incontinence in Greater Johannesburg.

I am hoping that you will provide me with an appointment at the next IPA meeting during which I will hand out the questionnaire for completion and these will be collected at the end of the meeting. Kindly note that the questionnaire is anonymous and IPA members are not obliged to complete it. The results of the information will be confidential and the results of the study will be discussed with IPA members after completion of the study.

Kindly advise on a suitable appointment date. I have attached a copy of the questionnaire for your perusal. A copy of the South African Guidelines on the Management of Urinary Incontinence and OAB will be handed out at the end of the meeting.

Thank you for your time and I eagerly await your response.

Dr M (Shama) Padayachey
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083 399 9841
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10. APPENDIX 2

Dear Doctor

I am a post-graduate student at the Department of Family Medicine at the University of the Witwatersrand, Johannesburg. I am doing my Masters in Family Medicine and as a part requirement for the completion of the degree I need to complete a research report.

For my dissertation, I am conducting a study to assess the knowledge, attitudes and reported practices of general practitioners related to adult female patients with urinary incontinence in Greater Johannesburg.

I hope that you can assist in completion of the questionnaire. Kindly note that the questionnaire is anonymous and you are not obliged to complete it. The results of the information is confidential and the results will be published so that doctors can benefit from this study.

If you are willing to complete this questionnaire, please do so now. Unfortunately, the form cannot be taken home and returned later. Kindly hand the completed or blank form back to me. On receipt of the form I will hand you a copy of the South African Guidelines on the Management of Urinary Incontinence.

I would be glad to arrange for a workshop on incontinence if the IPA should request this.

Thank you for your time and assistance

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11. APPENDIX 3

Knowledge, attitudes and reported practices of general practitioners related to adult female patients with urinary incontinence in Greater Johannesburg.

Please tick the appropriate box or fill in the space provided.
For the purpose of the of this study adult females are all females over the age of 18 years.

		For office use only
1.	Age	1
2.	Sex	2
3.	Year Qualified	3
4.	Post Graduate Qualifications	4

Male	Female

Qualification

5. No of years in clinical practice (TICK) — 5

A	B	C	D	E	F
<10	10-20	21-30	31-40	41-50	>50

6. What is the average number of male and female patients seen per week? (TICK) — 6

A	B	C	D	E	F	G
<50	51-100	101-200	201-300	301-400	401-500	>501

7. What is your estimated percentage of adult females patients over the age of eighteen in your practice? — 7

8. What is your estimation of the age distribution of adult females patients in your practice? — 8

Age	%Female	
Young (18 – 30 years)		Y
Middle (31-50 years)		M
Elderly (> 50 years)		E

9. Do you see patients with urinary incontinence in your practice? (TICK) — 9

Yes	No

10. How many female patients do you see with urinary incontinence in a month? 10

11. How often do you manage patients with urinary incontinence yourself?(TICK) 11

A	M	O	N
Always	Most times	Occasionally	Never

12. Indicate how often you refer to EACH of the following disciplines when a a patient presents with urinary incontinence (TICK each one and fill in Other if applicable. 12

	A	M	O	N	
	Always	Most times	Occasionally	Never	
Gynaecologist					G
Physiotherapist					P
Urologist					U
Practice nurse					N
General Surgeon					S
Urinary incontinence support group					US
Other (_____)					O1
Other (_____)					O2

13a. What is your estimation of the prevalence of urinary incontinence in adult females over the age of eighteen? (TICK) 13a

	1	2	3	4	5	
	1-5%	6-10%	11-20%	21-30%	31-40%	
In the general population						GP
In patients > 65 in the general population						SG

13b. Do you think that the prevalence of urinary incontinence amongst your patients is is different from that of the general population? 13b

Yes	No

13c. If Yes.Explain _____ 13c

_____

14. Rate your knowledge on the following . (TICK each one) 14

	VP	P	G	VG	
	Very Poor	Poor	Good	Very Good	
Aetiology					A
Diagnosis					D
Investigation					I
Management					M

15. When a patient complains of urinary incontinence how often do you experience each of the following feelings toward the patient? (TICK each one and fill in other if applicable. 15

	A Always	M Most times	O Occasionally	N Never	
Empathy					E
Frustration					F
Despair					D
Heart sink					H
Ávoid discussion					A
Other(_____)					O1
Other(_____)					O2

16. Indicate how often each of the following is associated with urinary incontinence. (TICK each one) 16

	CA Commonly associated	OA Occasionally associated	NA Not associated	DK Don't know	
Increasing adult age					IA
UTI					UT
Pregnancy and Childbirth					PC
After pelvic surgery					PS
Rheumatoid Athrithis					RA
Smoking					SM
Obesity					OB
Diuretics					DI
NSAID					NS
High impact physical exercise					PE
Multiple Sclerosis					MS
Migraine					MI
Diabetes					DI
Uncontrolled HT					HY

17. Indicate how often each of the following statements will apply to you when a patient presents with urinary incontinence.(TICK) 17

	A Always	M Most times	O Occasionally	N Never	
I feel the problem is beyond my scope of expertise and refer					BR
I feel competent but lack the time to manage the patient and therefore refer					CR
I feel competent and manage the patient					CM

18. In your practice how comfortable do you or your pateint feel to raise the issue of urinary incontinence? 18

	A Always	M Most times	O Occasionally	N Never	
You					Y
Patient					P

19. When patients complain of urinary incontinence how often do you ask if it affects their quality of life. 19

A Always	M Most times	O Occasionally	N Never

20. How often do you enquire about urinary incontinence in your practice, in the following circumstances? (TICK for each) 20

	A Always	M Most times	O Occasionally	N Never	
in elderly female patients					E
when doing a pap smear					P
when doing a general check up					G

21. When doing a pap smear, do you routinely check for? (TICK for each) 21

	Yes	No	
UI			I
Cystocoele			C
Rectocoele			R
Urethrocoele			U

22. Guidelines for the Treatment of Urinary Incontinence and Overactive Bladder are available. 22

22a. Do you know about it? (TICK) 22a

Yes	No

22b. If yes, do you use it? 22b

Yes	No

22c. If NO , why not? 22c

23. Do you think that you have a good working knowledge of Urinary Incontinence ? 23

Yes	No

24. List the different recognised types of urinary incontinence. 24

A	
B	
C	
D	
E	

25. When a patient presents with urinary incontinence : 25

a) What do you look for on examination?(LIST) 25a

_____

_____

b) What side room investigations do you do?(LIST) 25b

_____

_____

c) What further investigations do you do? (LIST) 25c

_____

_____

26. Which of the following conservative methods of treatment would be most appropriate in the following circumstances: 26

a) A 42 year old female P3G3 is diagnosed with stress incontinence. What would be the most appropriate management/s? (TICK more than one if necessary) 26a

Lifestyle modification		L
Dietary counselling		C
Bladder diary		B1
Pelvic floor muscle rehabilitation		M
Bladder training and urge strategy		B2
Tryptanol		T
Detrusol		D1
Ditropan		D2
Pads		P
Surgery		S

b) A 25 year old female is diagnosed with urge incontinence. What would be the most be the most appropriate management/s? (TICK more than one if necessary) 26b

Lifestyle modification		L
Dietary counselling		C
Bladder diary		B1
Pelvic floor muscle rehabilitation		M
Bladder training and urge strategy		B2
Tryptanol		T
Detrusol		D1
Ditropan		D2
Pads		P
Surgery		S

c) A 75 year old female is diagnosed with urinary incontinence. All forms of conservative treatment has not been successful. What would be the most appropriate management/s? (TICK more than one if necessary) 26c

Lifestyle modification		L
Dietary counselling		C
Bladder diary		B1
Pelvic floor muscle rehabilitation		M
Bladder training and urge strategy		B2
Tryptanol		T
Detrusol		D1
Ditropan		D2
Pads		P
Surgery		S

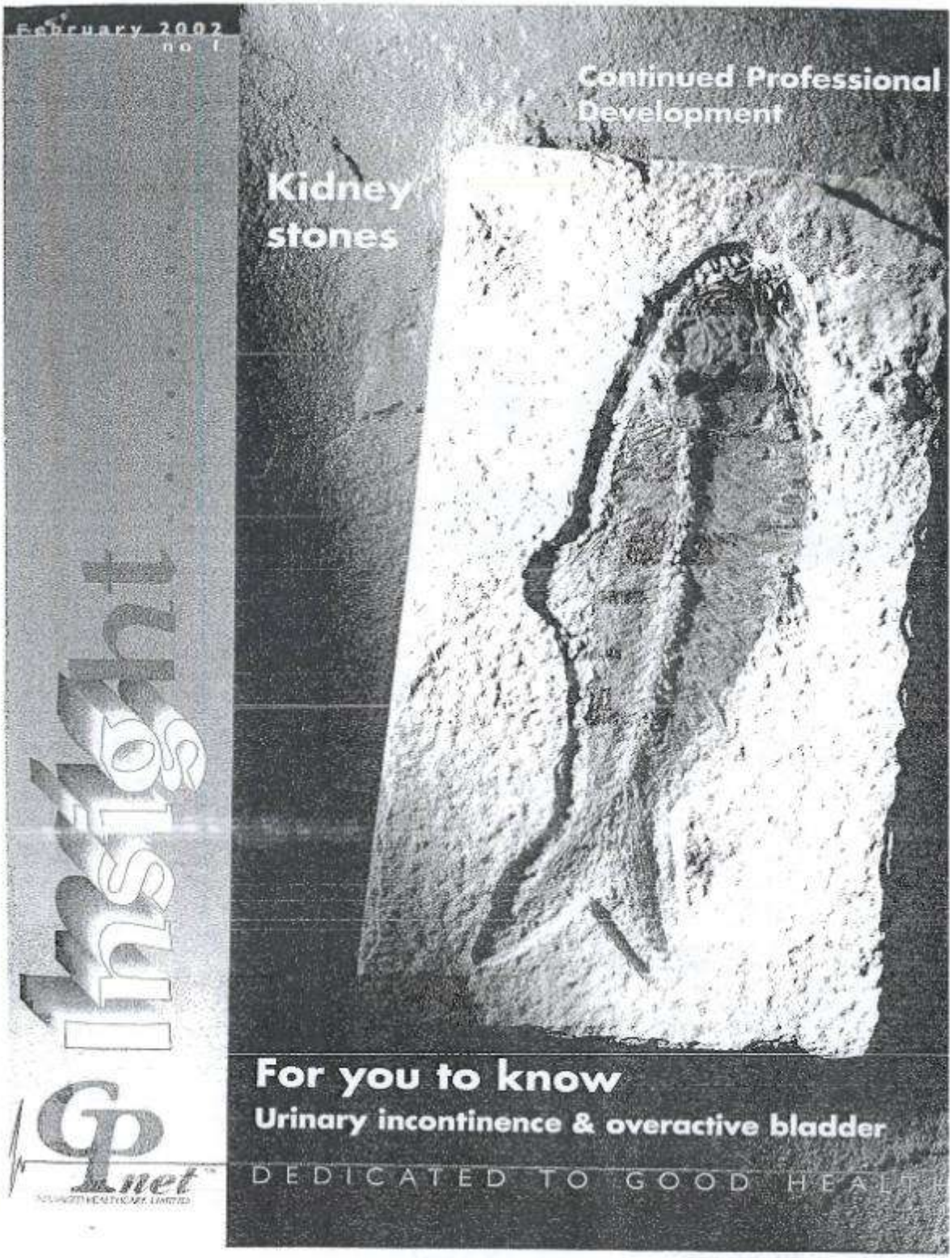
27. Would you like to have more information on Urinary Incontinence? 27

Yes	No

28. Which IPA do you belong to? _____ 28

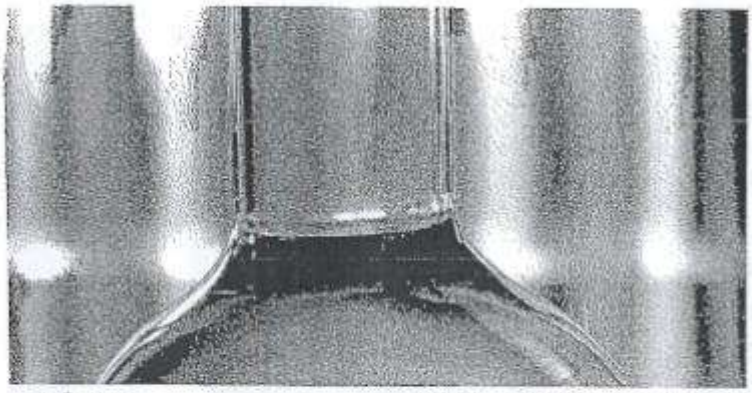
THANK YOU FOR ANSWERING THIS QUESTIONAIRE.

12. APPENDIX 4



Guidelines for General Practitioners for the Treatment of Urinary Incontinence and Overactive Bladder

I Moodley, CF Heyns and the South African Committee for Guidelines on the Treatment of Urinary Incontinence and Overactive Bladder



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Both urinary incontinence (UI) and overactive bladder (OAB) are significant health problems, particularly for elderly women. UI is the unwanted and involuntary leakage of urine, while OAB is associated with urinary frequency, nocturia and urgency, with or without urge incontinence. The symptoms of OAB are summarized in Table 1.

Many patients with UI or OAB avoid seeking care because they are embarrassed by their condition. The General Practitioner can be an invaluable source of support for these patients by asking relevant probing questions. Moreover, successful treatments are available. These include behavioral methods, pharmacological intervention, alternative measures, and surgery.

Table 1:
Symptoms of Overactive Bladder

Includes one or more of:

- Frequency
- Nocturia
- Urgency
- Urge incontinence

As is the case for many other diseases we do not know the exact incidence of UI or OAB in South Africa. However from studies in other countries it is apparent that the magnitude of the problem is great. For example, in the USA the prevalence of UI is about 31% in women between 42 and 50 years old, and 38% in community dwelling women and men who are older than 60.[1] The prevalence of OAB is 30% to 40% in persons over 75 years of age.[2] On a comparative basis with other diseases, it is more common in the elderly than diabetes, and has a similar prevalence to asthma. There is misconception that UI and OAB are the inevitable consequences of aging. This is certainly not so and many cases can be cured or managed using a combination of currently available treatments.[3]

In July 2001 a committee consisting of urologists, gynecologists, primary care physicians, pharmacologists and physicians from managed care organisations convened to recommend guidelines for the treatment of UI and OAB. The committee followed the principles of evidence-based medicine used in the process of making clinical decisions [4]. The strongest weight was given to data from systematic reviews, meta-analyses and published findings of randomized controlled trials. Where such data were not available, the committee followed the approach taken by the Agency for Health Care Policy and Research, which combines a detailed, evidence-based approach with a process that accommodates expert opinion.[4]

These guidelines focus on current treatments for UI and OAB that can be used in general practice. It is important to note that these guidelines are recommendations and that the final decision concerning the therapeutic regimen for an individual patient rests with the treating physician.

THE EFFECT OF INCONTINENCE ON A PATIENT'S QUALITY OF LIFE

Patients often regard conditions affecting the bladder and micturition as "taboo" subjects. Consequently UI and OAB have been under-reported and under-diagnosed. Surveys have shown that more than 60% of persons with UI never mention their problem to a doctor or nurse.[5] UI has both psychological and social impacts on sufferers. Not only can the inability to control the bladder cause wetness, odor, discom-

Guidelines for General Practitioners for the Treatment of Urinary Incontinence and Overactive Bladder

I Moodley, CF Heyns and the South African Committee for Guidelines on the Treatment of Urinary Incontinence and Overactive Bladder

fort, and skin breakdown, but it can also have a damaging effect on self-esteem. Women report that incontinence has affected sexual relationships because of the fear of urine leakage during sexual activity. In effect, a patient's health and quality of life can be severely impaired, and those afflicted may become depressed and isolated. In both men and women OAB negatively impacts on quality of life more severely than diabetes mellitus or rheumatoid arthritis.[7] Additionally, the financial costs to patients not only for treatment but for items such as diapers must impose a burden. While the costs of treating UI in South Africa are not known, in the USA in 1995 the direct cost of caring for incontinent persons over the age of 65 was estimated to be $28 billion annually in the USA, which is greater than the combined Medicare costs for open-heart surgery and end-stage renal disease.[8]

Table 2.
Types of Urinary Incontinence

Type of incontinence	Underlying cause	Associated symptoms
Stress	Sphincter dysfunction due to weakness of the pelvic floor muscles	Urine leakage occurs with increased intra-abdominal pressure (e.g. laughing, walking, sneezing, coughing)
Urge (overactive bladder)	Involuntary and uninhibited detrusor contractions (overactive detrusor, instability)	Sudden, urgent, post-void inability to delay, voiding often associated with frequency and nocturia
Mixed	A combination of bladder and urethral dysfunction causing stress and urge incontinence	Combination of above symptoms
Overflow	An uncontractile detrusor (e.g. diabetic neuropathy) or bladder outflow obstruction (e.g. prostatic enlargement)	Palpable or ultrasonically visible bladder, large post-void residual (PVR)
Continuous (other) incontinence	Vesico-vaginal fistula or sphincter damage (e.g. after prostatectomy)	Constant leakage of urine, no urge to void, bladder never empties

SCREENING PATIENTS AT RISK

Because of closer relationships of patients with their GPs, the primary care setting is ideal for screening, basic evaluation, and initial management of UI and OAB. Before commencement of treatment, it is important to distinguish between the different underlying causes of UI and OAB (**Table 2**).

Risk factors associated with UI and OAB are listed below.

1. **Age.** Pelvic muscle relaxation in women accelerates rapidly after menopause.
2. **Pregnancy and childbirth.** UI is related to risk factors such as forceps delivery, episiotomy, third degree tears and pudendal anesthesia.[9]
3. **Depletion of estrogens.** Oestrogen depletion is associated with diminished urethral mucosal vascularity and thickness, reducing its ability to maintain a tight seal.
4. **Pelvic and prostate surgery.** There is an increased risk of UI after hysterectomy and prostatectomy.[10]
5. **Smoking.** Nicotine may have a contractile effect on the detrusor. Chronic coughing may lead to damage of urethral and vaginal supports.[11]
6. **Obesity.** Weight gain and morbid obesity may increase the susceptibility for UI.[12]
7. **High-impact physical activities.** Approximately one third of women experience urine loss during strenuous physical activity.[13]
8. **Medication.** Diuretics may exacerbate symptoms of OAB; anticholinergics (e.g. antidepressants) may cause urinary retention with overflow UI; sedatives, hypnotics and narcotic analgesics may cause urinary retention, sedation, and delirium, which can all lead to UI episodes.
9. **Chronic diseases.** Multiple sclerosis, spinal cord injury, diabetes mellitus, Parkinson's disease and stroke may cause bladder neuropathy, increasing the risk for UI or OAB.

PATIENT EVALUATION

HISTORY

The evaluation of patients and the management of OAB and UI is shown schematically in **figure 1.**

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I Moodley, CF Heyns and the South African Committee for Guidelines on the Treatment of Urinary Incontinence and Overactive Bladder

Patients can be classified as having:

(1) reversible conditions leading to UI,
(2) complicated or
(3) uncomplicated UI.

(1) Reversible conditions

The mnemonic DIAPPERS is a useful aid in excluding reversible conditions such as **D**elirium, **I**nfection, **A**trophic vaginitis, **P**harmaceuticals, **P**sychological, **E**xcessive fluid, **R**estricted mobility and **S**tool difficulty.[14]

Delirium needs to be treated before a full investigation of UI. **Infection** of the urinary tract should be treated according to urine culture and sensitivity. **Atrophic vaginitis** is not necessarily a cause of incontinence, but may require treatment in its own right. **Pharmaceuticals** such as α-blockers, diuretics, tricyclic antidepressants or anticholinergics influence bladder function. **Psychological** problems such as anxiety may cause symptoms of OAB. **Excessive** fluid or caffeine intake may cause diuresis and contribute to UI. A urinary diary (bladder diary) is very useful to assess fluid intake and urine volume. **Restricted** mobility may lead to incontinence if the patient can not get to the toilet in time. **Stool** difficulty (constipation) may be associated with retention and overflow incontinence.

(2) Complicated incontinence

Recurrent or persistent incontinence after previous treatment, pain associated with incontinence, retention or difficult voiding, macroscopic hematuria, recurrent urinary tract infection (UTI) or previous radical pelvic surgery or radiation are conditions that require referral. In patients with total incontinence after complicated childbirth a fistula should be suspected. The patient with underlying neurological conditions such as Parkinson's disease or multiple sclerosis should also be referred.

(3) Uncomplicated incontinence

The patient with UI alone must be assessed for stress incontinence which usually occurs at the moment of a cough, sneeze or physical activity, and also for urge incontinence, or a combination of the two.

CLINICAL EXAMINATION

It is recommended that a general clinical examination be conducted before focusing on the cause and severity of the incontinence. The patient is best evaluated with a comfortable full bladder. The abdomen is palpated and if the bladder is distended, it must be checked after voiding.

Neurological examination should assess the lower extremities for normal sensation, strength and deep tendon reflexes. Stimulation of the perianal skin (S2-4) normally elicits the anal wink (visible contraction of the anal sphincter).

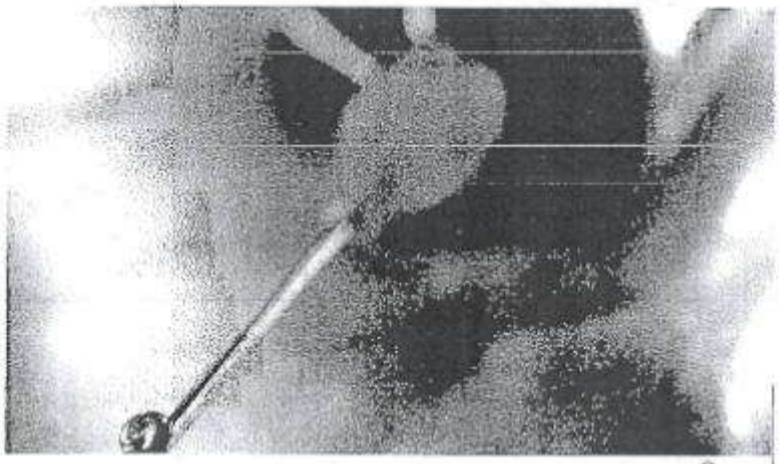
Pelvic examination entails inspection of the vulva and vagina for signs of oestrogen deficiency, skin irritation or infection. Prolapse is best evaluated by vaginal examination using a Simm's speculum. The three compartments are individually assessed, namely anterior (cystocele), vaginal vault or uterus (enterocele, uterovaginal prolapse) and posterior (rectocele). A vesico-vaginal fistula may be diagnosed with a speculum or by bimanual vaginal examination.

The cough test can be done with the patient in the supine position, giving a few vigorous coughs. If it is negative, it should be repeated standing. The main features of the test are shown in Table 3.

Table 3:
Cough Test

Retest standing	
Full bladder	
Vigorous coughing	

In men, a genital examination is performed to detect abnormalities of the foreskin, glans, urethral meatus and perineal skin. In men and women, a digital rectal examination (DRE) is performed to assess for stool impaction, rectal sphincter tone, and sensation. Assessment of the prostate in men is essential.



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Urinalysis and Post-void Residual. The voided urine volume is measured and a dipstix test is done. If it is positive for leucocytes and/or nitrites or blood, urine is sent for MC&S (Table 4). Thereafter, the post-void residual (PVR) is determined (Table 5). Examiners with adequate experience can pass an F18 catheter in men to exclude a urethral stricture. A PVR of 100 mL or less may be considered normal.

Table 4.
Urinalysis

- Fresh, mid-stream
- Dipstick test for:
  - Blood
  - Leucocytes
  - Nitrite
  - Glucose
  - Protein

Table 5.
Post-void Residual Urine (PVR)

- Abdominal palpation (may be inaccurate)
- Accurate measurement by:
  - Ultrasound
  - Catheterization (18 Fr in men)

Bladder Diary

This is a most valuable tool in the management of UI and OAB. The patient is asked to fill in a 3-day bladder diary and return for a consultation for discussion and initiation treatment. The urinary diary is used to assess fluid intake, urine volume, the number and time interval between voids per day, incontinence episodes, number of pads used, and activities associated with incontinence.

MANAGEMENT OF URINARY INCONTINENCE

Lifestyle Modification

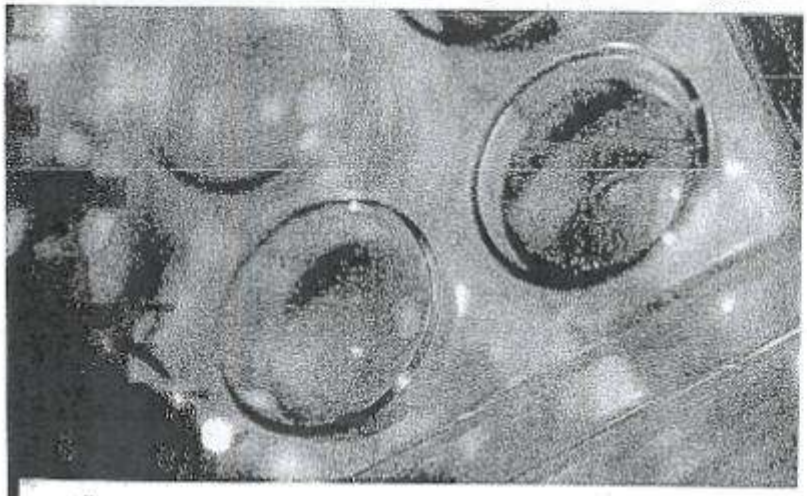
Prior to initiating any drug therapy, the GP can direct the behavioral treatment options specific to the patient's diagnosis of stress, urge, or mixed UI and OAB (Table 6). If properly motivated, most patients respond to behavioral techniques with improvement ranging from complete dryness to decreased incontinence episodes.[14]

Counseling on Fluid Intake

Dehydration can potentiate constipation concentrate the urine, and increase the irritative effects of dietary substances. The recommended daily fluid intake is 1500 ml. Some patients may consume excessive amounts of fluid to prevent acidic urine from causing urinary urgency and frequency, but this may contribute to UI. Some patients only complain of nocturnal enuresis and/or nocturia, without daytime incontinence or frequency. With aging, urine output increases during rest in the supine position. A bladder diary can help determine if the patient is experiencing reverse diuresis.

Pelvic floor muscle rehabilitation

Pelvic muscle exercises (PME) are most effective in stress incontinence. For pelvic floor physiotherapy and bladder retraining the GP should refer patients to a physiotherapist or other health professional with specialist training in these techniques. Pelvic floor muscle rehabilitation involves pelvic muscle exercises (PME), known commonly as "Kegel" exercises.[15]. An average of 76% improvement in UI after 4 to 6 weeks of intensive daily PME has been reported.[16] Weighted vaginal cones provide proprioceptive biofeedback, providing the woman with the sensation to contract her pelvic floor muscles, and can be used alone or in conjunction with PME.[17] Biofeedback therapy assists the patient in identifying the pelvic floor muscles. Electromyogram (EMG) probes (vaginal or rectal) are used to display pelvic floor muscle activity on a patient-viewing monitor. PME with biofeedback therapy have shown improvement in incontinence that ranges from 80% to 85%.[17]



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Bladder retraining and urge strategy

Bladder retraining involves a strictly timed schedule of voluntary voiding "on the clock". These intervals are increased progressively to increase functional bladder capacity. Urge strategy focuses on the cortical ability to delay voiding by using strategies such as concentration on a task, slow deep breathing, or rapid intense pelvic muscle contractions.18

DRUG THERAPY

a) OAB responds to those drugs that reduce bladder contractility. These include:

Anticholinergic agents, e.g. oxybutynin and tolterodine which act at postganglionic parasympathetic cholinergic receptor sites on the detrusor, reducing the strength of contractions.

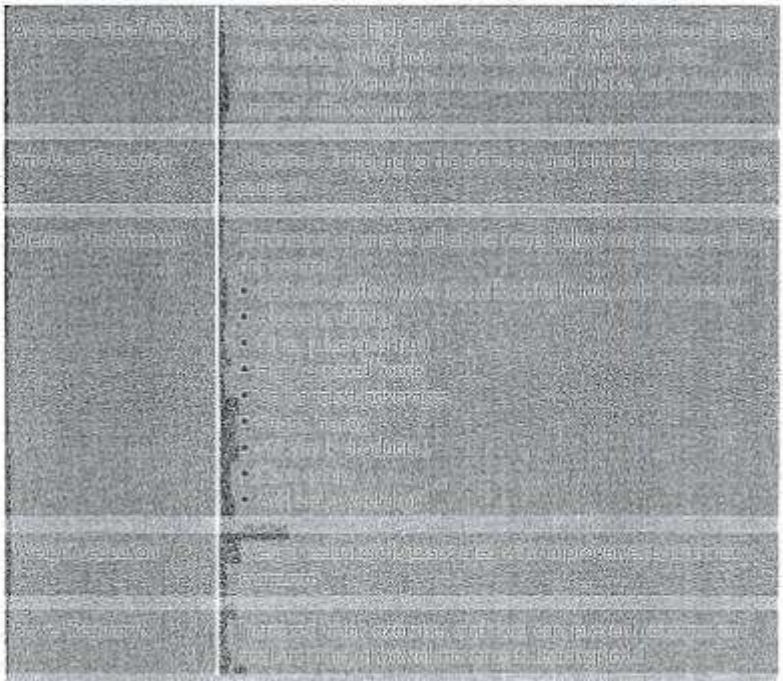
Tricyclic antidepressants, e.g. imipramine, which blocks presynaptic uptake of amine neurotransmitters and also has anticholinergic effects, directly inhibits the detrusor muscle.

b) Genuine stress incontinence (GSI) may be treated using alpha-adrenergic agonists, e.g. phenylpropanolamine, to increase outlet resistance by stimulating smooth muscle of the urethra and bladder neck.

c) Overflow incontinence due to bladder outlet obstruction usually requires surgery or clean intermittent catheterisation (CIC), but may be treated with alpha-adrenergic antagonists, which reduce outlet resistance.

d) In postmenopausal women, systemic oestrogen replacement reduces filling symptoms including urge incontinence. Combination with alpha-agonists may be beneficial in milder GSI.

Table 6.
Lifestyle Modification



Adapted from Newman DK. The Urinary Incontinence Sourcebook, 2nd ed. California: Lowell House, 1999.

The aim of drug therapy in OAB is to decrease detrusor instability and increase functional capacity. A significant body of clinical evidence indicates that muscarinic receptor antagonists are effective in the treatment of OAB. However, treatment-limiting adverse effects such as dry mouth, constipation, and blurred vision have restricted the use of these agents, such as oxybutynin.

Tolterodine and oxybutynin, including the extended release formulations, are therapeutically equivalent at their recommended doses.[19,20,21,22,23] The most common adverse event reported with both drugs is dryness of mouth. Tolterodine, with greater selectivity for the bladder over the parotid, appears to be the better tolerated drug.[24] Table 7 shows the currently available muscarinic agonists which are used as first line treatment for OAB.



Guidelines for General Practitioners for the Treatment of Urinary Incontinence and Overactive Bladder

I Moodley, CF Heyns and the South African Committee for Guidelines on the Treatment of Urinary Incontinence and Overactive Bladder

Table 7.
Muscarinic agonists used as treatment for overactive bladder

Drug	Dose
Tolterodine	1-2 mg twice daily
Oxybutynin	2.5 to 5 mg three to four times daily

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Figure 1

MANAGEMENT OF URINARY INCONTINENCE AND OVERACTIVE BLADDER
UNCOMPLICATED HISTORY
Incontinence on physical activity
Urgency/Frequency +- Incontinence
COMPLICATED HISTORY
GENERAL EXAMINATION
• Exclude reversible conditions (see "DIAPPERS")
• Specific examination: abdominal, pelvic, neurological
• Cough test for stress incontinence
• Urinalysis (urine culture if indicated)
• Assess post-void residual urine (PVR)
• Urinary diary and symptom score
• Assess quality of life and desire for treatment
"DIAPPERS" - REVERSIBLE CONDITIONS
STRESS INCONTINENCE
MIXED INCONTINENCE
OVERACTIVE BLADDER
Lifestyle modification
Pelvic floor physiotherapy
Bladder retraining
Failure
Pharmacotherapy
Failure
SPECIALIST REFERRAL

13. APPENDIX 5

University
of the Witwatersrand,
Johannesburg

Human Research Ethics Committee (Medical)
(formerly Committee for Research on Human Subjects (Medical))

Secretariat: Research Office, Room SH10005, 10th floor, Senate House • Telephone: +27 11 717-1234 • Fax: +27 11 339-5706
Private Bag 3, Wits 2050, South Africa

7 July 2003

Dr M Padayachey
School of Clinical Medicine
Medical School
University

Dear Dr Padayachey

RE: PROTOCOL M020227

This letter serves to confirm that you ethics application titled 'Knowledge, Attitudes and Reported Practices of General Practitioners Related to Adult Female Patients with Urinary Incontinence in Greater Johannesburg' was approved by the Human Research Ethics Committee.

Yours sincerely,

DR M MOKACHANE
DEPUTY CHAIR
HUMAN RESEARCH ETHICS COMMITTEE

14. APPENDIX 6

Faculty of Health Sciences
UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

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DR M PADAYACHEY
P O BOX 45521
MAYFAIR
2108

APPLICATION NUMBER 8203643
STATUS (DEG 27) (MMY00) PZZ

2003-07-15

Dear Dr Padayachey

Approval of protocol entitled Knowledge, attitudes and reported practices of general practitioners related to adult females with urinary incontinence in Greater Johannesburg

I should like to advise you that the protocol and title that you have submitted for the degree of Master Of Family Medicine (Part-Time) (Coursework) have been approved by the Postgraduate Committee at its recent meeting. Please remember that any amendment to this title has to be endorsed by your Head of Department and formally approved by the Postgraduate Committee.

Prof BLW Sparks has/have been appointed as your supervisor/s. Please maintain regular contact with your supervisor who must be kept advised of your progress.

Please note that approval by the Postgraduate Committee is always given subject to permission from the relevant Ethics Committee, and a copy of your clearance certificate should be lodged with the Faculty Office as soon as possible, if this has not already been done.

Yours sincerely

S Benn (Mrs)
Faculty Registrar
Faculty of Health Sciences

Telephone 717-2075/2076

Copies - Head of Department____Supervisor/s

Plan your career and first-year curriculum online - explore our website: www.wits.ac.za/ec2
The University seeks to serve South Africa by furthering access to equal opportunity while striving for excellence in

15. REFERENCES

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