## **Original Research Article**

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# Etiological correlation of common urinary problems in females in a tertiary care centre in central India

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#### **ABSTRACT**

**Background:** Urinary problems are common in female population of India which adversely affect their quality of life. Urinary problems add to chronic suffering of Indian females. The objective of this study was to find etiological correlation of common urinary problems in Indian females.

**Methods:** This is an epidemiological study which includes all adult female patients coming to surgery and gynecology OPDs of M.Y. Hospital, Indore, Madhya Pradesh, India.

**Results:** 58.4% of patients of middle age (31-55) years. Burning micturition was most common urinary complaint (86.2%) followed by lower abdominal pain (51.6%). About 66.8% of females took months or even years to take first consultation after appearance of their symptoms. 63.2% females were suffering from urinary tract infection which was confirmed by urinary culture reports. E. Coli was the most common organism causing urinary tract infection. UTI was closely correlated with urinary tract calculi & low use of sanitary napkins. Only 14.6% females suffered from urinary incontinence (stress, urge, mixed). Incontinence was closely correlated with multiple deliveries. In our study about 88% of women had education level below fifth standard.

**Conclusions:** Urinary problems are common in women of low socioeconomic society with lower education, poor urogenital hygiene and multiple births especially unassisted vaginal deliveries.

Keywords: Common urinary problems, Infection, UTI

#### **INTRODUCTION**

Urinary problems are common in female population of India which adversely affect their quality of life. Influenced by social stigmata and general apathy towards women health, such patients usually present after chronic suffering and several trials of household and unscientific remedies. Ignorance and illiteracy further adds to the problem.

This study attempts to identify etiological factors responsible for urinary problems in females presenting to a tertiary setup in Central India.

Urethra, being shorter in females than in males, is itself a predisposing factor while wider pelvis in females predisposes to pelvic floor weakness. Hormonal and physiological changes with increasing age predispose to voiding dysfunctions. The prevalence of lower urinary tract symptoms is more in females than in males (3;4). Socioeconomic status and poor urogenital hygiene are also responsible for increased incidence of all urinary problems.

Silent trauma to pelvic floor in the form of multiple vaginal deliveries, like unattended home deliveries and

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various gynaecological and obstetric surgeries compound the urinary problems.<sup>3,4</sup>

To treat the females who experience recurrent urinary problems and who do not get relief by broad spectrum antibiotics (with no anatomical and physical abnormality detected on local radiographic and cystoscopic examination and no evidence of infection) is a challenge for treating physician. The role of surgery is more limited except for those with postoperative voiding problems after new generation Sling procedures.<sup>5</sup>

The objective of this study was to find out etiological factor responsible for urinary problems in Indian females.

#### **METHODS**

This is a prospective study of 500 females aged more than 18 years attending surgery and Gynaecologic OPD of M.Y. Hospital, Indore, Madhya Pradesh, India. The study is based on history and clinical examination of the patients.

#### Inclusion criteria

All female patients above the age of 18 years, with any urinary problems, coming to MY Hospital Indore are included in my study.

#### Exclusion criteria

Any patient with major co-morbidity like malignancies of urogenital tract (cervix, urinary bladder, uterus, vagina, ovary etc.) is excluded.

Clinical history included urinary complaints with duration, parity, mode of delivery, history of chronic disease and previous surgeries. Clinical diagnosis was made. Appropriate investigations were ordered. Patients were counseled regarding their diagnosis and management and motivated to come for regular follow up.

#### **RESULTS**

Patients coming to surgery and gynaecology OPD with urinary complaints were mainly of middle age, 31-55 years (58.4%) (Table 1) followed by young age group of <30 years (34%). Elderly patients (>55 years) were the least (7.6%) possibly because in our patriarchal society women need some male member to accompany her to hospital. Financial constraints also make difficult for them to access the available health care. Among these patients, most common presenting complaint was burning micturition (86.2%) followed by lower abdominal pain (51.6%) (Table 2) and frequency (46.6%). All these complaints were more common in middle age group.

UTI was the most common diagnosis in female patients coming with urinary complaints. 63.2% patients had UTI

(Table 4). Causes of UTI are calculi (16%), PID (6%). UTI is closely correlated with calculi (p value=0.000001). Low use of sanitary napkins during menstruation is associated with higher incidence of UTI (p value=0.0049). there was no association of UTI with hysterectomy. Other cause includes anatomical proximity of female urethra to anus, vagina, poor urogenital hygiene, lack of education and low awareness of seriousness of the problem. Most common causative organism for UTI was *Escherichia coli* (61.3%) followed by *Staphylococc us aureus* (13.2%).

Table 1: Age wise distribution of patients.

A age group	No. of patients (500)	Percentage
18 - 30	170	34
31 - 55	292	58.4
>55	38	7.6

Table 2: Prevalence of different urinary problems.

Symptoms	No. of patients	Percentage
Frequency	233	46.6
Burning micturition	431	86.2
Retention (acute/chronic)	19	3.8
Dysuria	33	6.6
Lower abdominal pain	258	51.6
Haematuria	21	4.2
Urgency	193	38.6
Incomplete voiding	74	14.8
Constipation	38	7.6
Urge incontinence	27	5.4
Stress incontinence	45	9

Incontinence was one of the most frustrating problem which the females faced. 15% of the patients presented with incontinence. Incontinence was common in females with multiple births (p value=0.000173). Pelvic surgeries like hysterectomies were also responsible for incontinence (p value =0.00218). Of the incontinent patients, 60% had stress incontinence followed by urge incontinence (37.3%) and mixed incontinence (2.6%). Stress incontinence was common in middle age and was closely associated with higher parity (3 and >3 deliveries). Urge incontinence was common in patients with history of domestic violence, or psychiatric illness.

Table 3: Duration after which first medical advice was taken.

Duration	Days	Months	Years
No. of patients	166 (33.2%)	208 (41.6%)	126 (25.2%)

Pelvic floor prolapse was associated with parity of 3 or higher. Probable etiology was the weakness of pelvic floor muscles due to multiple births. Maximum patients have vaginal deliveries including unassisted home delivery (459) which caused silent trauma to the pelvis and was responsible for prolapse.

Table 4: Probable diagnosis of patients studied (500).

Probable diagnosis	No. of patients	Percentage
UTI	316	63.2
Incontinence	73	14.6
Pelvic floor prolapse	61	12.2
Undiagnosed	50	10

Root cause of all problems is low level of education. 65% of the females never visited schools. 88% of patients had education level below 5<sup>th</sup> standard. Treatment seeking behaviour of the patients is also responsible for these problems. 66.8% of the patients took months or years after the appearance of first symptom to seek medical help.

#### **DISCUSSION**

This is a prospective study of 500 patients attending surgery and gynaecology department of MY hospital for any urinary complains. Maximum number of patients visiting our hospital are either from low socio-economic group or from rural areas.

According to Table 1, 58% of patients were middle age. Females in the elder age group coming for urinary problems to our institute are far less as most females belong to rural areas and they depend either on their husband or their son to accompany them to the hospital. They even depend on them for financial support

Burning micturition was the most common urinary complain of females (431 patients/86.2%) followed by lower abdominal pain (258 patients/51.6%), increased frequency of micturition (233 patients/46.6%). This data show that most of pts with urinary problem present with complaints of frequency, burning micturition and lower abdominal pain. Constipation was present in about 38 patients (7.6%) in our study. Constipation has been studied in children and post-menopausal women and found to be an important risk factor. 6,7 However, in premenopausal women there is not much published literature on this. Constipation causes urinary dysfunction by anatomic distortion and displacement of the bladder by the rectum and the loaded sigmoid colon. The only prospective study in constipated elderly with concomitant lower urinary tract symptoms demonstrates that the medical relief of constipation also significantly improves lower urinary tract symptoms.8

In our study, 63.2 percent of patients were suffering from urinary tract infection which was confirmed by urine culture reports.

This is because the female urethra is short, located fairly close to the anus and small amounts of faecal flora could

be transferred to the urethra. Low water intake was also responsible for UTI, consistent with other studies. 10,11 Water diuresis serves to flush the urinary tract of infecting organism and frequent voiding reduces bacterial multiplication in the bladder. The presence of abnormal vaginal discharge indicating vaginal infection was associated with UTI. Vaginitis has been reported a risk factor for UTI. The lack of hygiene during menstruation pose a greater risk of both vaginitis and UTI. The use of cloth during menstruation is common in women in low socio-economic strata in developing countries. Women often use cotton cloth (torn piece of old saree/rag), change it infrequently and reuse the cloth after washing. 13

*E.coli* was the most common organism causing urinary tract infection (61.3%) in our study followed by Staphylococcus aureus. The most common organism causing UTI for all gender was *E. coli* and *Klebsiella*. <sup>14</sup>

Only 15% of patients suffered from urinary incontinence (stress, urge and mixed). Of these patients with stress incontinence were maximum (60%) followed by urge incontinence (37.3%) and mixed incontinence (2.6%). According to many studies prevalence of urinary incontinence ranged from 5% to 72% among communitydwelling women. 15-17 According to a study on 3000 subjects in department of obstetrics and gynaecology in CSMU, Lucknow, 21.8% women were incontinent with stress incontinence of 73.8%, mixed incontinence of 16.8% and urge incontinence of 9.5%. 18 Incontinence is more common in middle age group which is strongly in contrast to 52% reported by Nemir and Middleton in young age and 51% reported by Wolin studied among college students.<sup>19,20</sup> A definite trend of increasing prevalence in all types of urinary incontinence with increased parity suggests cumulative effect. Comparable results were obtained by Swash who concluded that injury to the innervation of pelvic floor is worsened by successive deliveries.<sup>21</sup> The most biologically plausible rationale for stress incontinence is surgical trauma caused when uterus and cervix are severed from pelvic floor supportive tissues at the time of hysterectomy. Hysterectomy could interfere with intricate urethral sphincter mechanism by damaging distal branches of pudendal nerves and inferior hypogastric plexus but it might also result in changes in bladder and urethral neck support.

Our results of urinary incontinence lie in the lower end of the range because in India urine leak is considered an age-related problem and consultation is not sought because of embarrassment. They probably believe that nothing much can be done about it because of lack of awareness and low education level. The significantly lower rate of incontinence in Indian women is probably not because of prevalence but because of the treatment seeking behaviour and the society structure in India. The Indian constitution grants women equal rights with men, but strong patriarchal traditions persist, with women's lives shaped by customs that are centuries old. Therefore, an Indian woman very much depends on her husband to seek any help for her medical problem. She tends to live with the problem, suffering every second of life without even saying a word. Stress urinary incontinence was found to be more common in our study as compared to urge incontinence. stress incontinence is more common than urge incontinence according to many studies.<sup>22</sup> It is known that there is a positive association between psychiatric and physical disorders. There are two possible mechanisms to explain this. Psychiatric disorders may present with physical symptoms or physical illness may have psychological consequences. It has been considered that urge incontinence can occur as a result of autonomic arousal associated with anxiety/neuroticism, and most research into psychiatric aspect of incontinence to date has concentrated on this aspect.<sup>23-25</sup>

In our study about 88% of women had education level below fifth standard. Our study shows extremely low level of education as most of our patients belong to the rural area. In India women education never got its due share of attention. Our study included females coming to a government hospital in central India. Majority of the patients are from village or of low socio-economic group. An uneducated person does not know about hygiene this lack of knowledge of hygiene increase the chances of various infections including urinary tract infections.

In our study about 62.4% of females gave birth to 3 or more than 3 issues. About 154 (34%) patients had one or more unassisted delivery at home.

Multiparity is one of the major social issue in India. UTI is common in women with high parity (3 and >3). Most of the women with incontinence had parity of 3 or more. Multiple births were responsible for pelvic floor prolapse.

In our study 67% females took months or even years to take first consultation after appearance of first symptoms. The reason for this delay was shyness, illiteracy, unawareness, lack of motivation low socioeconomic status of the patients and lack of easily accessible medical care. Women get less health care than men. They tend to be less likely to admit that they are sick and they'll wait until their sickness has progressed before they seek help or help is sought for them. In the study that researched women who had incontinence and who delayed seeking help, it was reported that 74% of the women had waited for one year and 46% had waited for three years before seeking help.<sup>26</sup>

In spite of all investigative facilities some patients still remained undiagnosed. In our study 10 percent of such patients remained undiagnosed.

They suffer from urinary symptoms and problems but with no positive findings. 54% of undiagnosed females lie in middle age group. What are the reasons for these undiagnosed patients. Indian scenario differs from the western scenario in many respect therefore the problems

faced also differ. In our study, around 64% of undiagnosed patients took consultation months or years after their symptoms first appeared. In our study, around 68% of undiagnosed patients had history of either mental distress, domestic violence or any neuropsychiatric disease. The most probable diagnosis of these undiagnosed patients can be explained either on the basis of urethral syndrome or painful bladder syndrome.

The urethral syndrome is defined as women who have symptoms identical to symptomatology of lower urinary tract infection but whose objective findings are negative that is, no abnormal midstream urinalysis findings, no positive bacterial culture, and no obvious finding on a pelvic examination.<sup>27,28</sup> The etiology of this urethral syndrome is obscure and has been attributed to an anxiety neurosis Gray and Pingelton, Zufall.<sup>29</sup> In our study, Irritative symptoms burning micturition (94%), urgency (60%), increased frequency of micturition (50%) are the most common presenting complains of these undiagnosed patients followed by pain in abdomen (42%). Urethral syndrome is thought to affect 20-30% of all adult women and it is particularly seen in young women. The exact incidence of urethral syndrome is unknown because of a lack of consensus in diagnosis.30 Risk factors include grand multiparity, delivery without episiotomy and two or more abortions.<sup>28</sup> About 60% of undiagnosed patient had 3 or more than 3 deliveries. Various hypothetical etiologies have been put forward. Currently hypothesized etiologies are hormonal imbalance, inflammation of skene glands and paraurethral glands, reaction to certain food, environmental chemicals (eg. Douches, soaps, baths.<sup>39</sup> Contraceptives gel, condom). hypersensitivity following UTI and traumatic sexual intercourse.

The possible psychogenic cause that has been used as the basis for treatment with anxiolytic drugs for the past 20 years has been supported by various publications studying the response of such patients to personality tests minnesota multiphasic personality inventory, measurements of pelvic floor tension. On external sphincter reactivity. A psychological study suggests that perhaps these were normal women responding to the stress of continuing symptoms and inadequate diagnosis and treatment.

Another syndrome which also cannot be diagnosed easily is painful bladder syndrome. In 2002, the International (ICS) Continence Society published recommendations and proposed that interstitial Cystitis should be renamed painful bladder syndrome (PBS). The diagnosis of PBS is based on suprapubic pain related to bladder filling, day or night time frequency, and the absence of other obvious pathology. The term interstitial cystitis was reserved for those affected by PBS who also have cystoscopic findings. Psychosocial association with painful bladder syndrome is shown by one more study which reported that the syndrome was more common in those who experienced abuse, who are worried about someone close to them and those who were having trouble paying for basics. This suggest patients with painful bladder syndrome may be benefited from multifaceted approach of combining medical, psychological and cognitive treatment.<sup>34</sup>

In India, these problems occupy a major bulk because of the mental distress, domestic violence and anxiety among Indian women. Women in India occupy the inner recesses of the household, isolated from the men of their own families and other outsiders. They feel shy to share their problems especially related to genito urinary tract even with their husbands leave about any other member of their family. The result is compounding and escalation of the problem. Lack of sharing of thoughts starts the vicious cycle of stress which is difficult for her to break because of her present position in the society and her home. Social hierarchy in Indian families would ensure that women's mental health needs are neglected. Urinary problems are common in women of low socioeconomic society with lower education, poor urogenital hygiene and multiple births.

#### **CONCLUSION**

Urinary problems are very frustrating to patients and not relieved easily, lead to either multi practitioner approach by the patients or they consider them to be normal phenomenon with increasing age and did not come for follow up. This bunch of society needs to be properly diagnosed, counselled, motivated and combined effort of uro-gynaecologist, physiotherapist, and psychologist should be provided in such a tertiary medical centre for better treatment of patients, to make them comfortable and improve their quality of life.

Our study revealed that 6 out of 10 women suffer from UTI, mainly in the reproductive/middle age group. Almost 2 out of 10 female patients with urinary problem has the problem of incontinence which makes them socially outcast and compromise quality of life of these women. About 7 out of 10 took first medical advice after months or years of appearance of first symptom. Among these, 9 out of 10 had education level below 5th standard. All these factors combined were responsible for majority of urinary problems in females in central India. Improvement in literacy level and socioeconomic status can lead to improvement in the quality of life of Indian women and bring down the healthcare cost dramatically.

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institutional ethics committee

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