



Incidence and epidemiology of urinary incontinence in women

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OBJECTIVE(S) : To study the incidence and epidemiological factors of urinary incontinence among the patients attending the gynecological outpatient department.

METHOD(S) : A prospective study of 800 women attending the out patient department from March 2003 to December 2005 was done. Out of these, 272 had different types of incontinence and were studied for various factors like age, parity, mode of delivery, menopausal status, and prolapse of genital organs. Relevant clinical examination was carried out.

RESULTS : Stress incontinence was the commonest type of incontinence. Increasing age, menopause, increasing parity, and complicated vaginal deliveries were common amongst the women having incontinence.

CONCLUSION(S) : Urinary incontinence is a chronic, bothersome, and growing problem in women. Since they may not come with the problem of incontinence leading questions regarding incontinence should be a routine part of history taking in gynecology.

Key words : urinary incontinence, menopause, prolapsed uterus, vaginal delivery

Introduction

The prevalence of incontinence may be significantly underestimated since physicians rarely ask patients about the problem and the patients seldom initiate discussion about incontinence with the physician. Older patients may assume that urinary incontinence is a normal consequence of aging. The prevalence of urinary incontinence in a community is as high as 30%¹. Some patients do not disclose the incontinence because of fear of invasive testing. Incontinence may be genuine stress incontinence, detrusor instability or mixed incontinence. DIAPPERS - (Delirium, Infection, Atrophic urethritis / vaginitis, Restricted mobility and Stool impaction) summarizes the functional causes². The inability to control the urine is most unpleasant and distressing problem. Incontinence does not lead to death but it causes substantial debility,

social seclusion, psychological stress, and economical burden.

Although involuntary loss of urine is not a normal part of ageing, it often becomes a clinical problem for the ageing women due to trauma of child birth, development of acute and chronic illnesses, loss of estrogenic stimulation at menopause, weaker pelvic support, and diminished amount of normal homeostatic reserve available to cope with stresses placed on the bladder.

This study was carried out to determine the incidence and epidemiological factors of urinary incontinence amongst women coming to gynecological outpatient department without the complaint of incontinence. All women were evaluated for urinary incontinence based on a questionnaire.

Method

The present study was conducted from March 2003 to December 2005 and included 800 women. All the married women above the age of 20 years who did not come for the urinary complaints and who were not pregnant were

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included in the study. They were subjected to a questionnaire of 30 questions related to urinary incontinence. Our questionnaire was based on SEAPI STAGING SYSTEM given by Dupont et al ². All the participants completed the questionnaire on age, education, menopausal status, parity, number of home deliveries, obstetric events like prolonged second stage of labor, forceps and ventouse application, baby's birth weight, chronic illnesses (diabetes mellitus, hypertension), neurological disorders, urinary frequency, diurnal as well as nocturnal voids, associated symptoms like burning micturition, previous surgeries like hysterectomy, cesarean deliveries, incontinence surgery, and restriction of daily activities.

Thorough clinical examination of the patients was done, specially to note pathology like uterine prolapse, enterocele, rectocele, bulbocavernosus reflex, anal sphincter tone and vaginal atrophy. In all the women with incontinence cough stress test, Q tip test, pad test, urine analysis, and ultrasonography to note postresidual volume were done.

Results

On the basis of the questionnaire 528 of the 800 women (66%) were found continent and 272 (34%) incontinent. After examination and investigation of the 272 incontinent women, highest percentage were found to have stress incontinence (72.1% 196/272). 19.1% (52/272) had urge incontinence of 8.8% (24/272) had mixed incontinence. The mean age of the incontinent women was 41.54 years and mean parity 3.42 (Table 1). 70.95% (193/272) of incontinent women belonged to labor class, 26.47% (72/272) were postmenopausal, and 43.01 (117/272) had a parity of 4 and above. Only 5.88 (16/272) had cesarean delivery, 11.39% (31/272) had abnormal vaginal delivery and 82.72% had normal vaginal delivery (Table 2).

Table 3 gives the symptoms of these patients. 33.45% (91/272) had complaints of less than 6 months duration and 8.8% (24/272) had complaints of more than 36 months duration. 27.2% (47/272) of women suffered limitations in performing daily activities. One hundred and ninety six (72.1%) had stress incontinence with urinary leakage on coughing and sneezing, but 154 of them had only occasional leakage of urine (score 1) (Table 4). Out of 272 women, 10 (3.6%) had undergone abdominal hysterectomy, 10 (3.6%) vaginal hysterectomy 10 (3.6%) anterior colporrhaphy and 10 (3.6%) posterior colpoperineorrhaphy. 55.14% (150/272) had 65.6° average deviation of Q-tip angle with valsalva maneuver.

We measured postvoid residual urine by ultrasonography

and found that 165 had an insignificant residual urine of < 50 mL while 107 had > 50 mL residual urine.

Table 1. Baseline characteristics (n=272).

Baseline characteristics	Range	Mean
Age (years)	19-75	41.54
Parity	1-12	3.42
Weight (kg)	36-80	49.34
Height (cm)	130-172	156
Body mass index	15-30	20.19
Pad weight gain (g)	1-35	3.5
Postvoid residue (mL)	5-110	29.15

Table 2. Mode of delivery (n=272).

Mode of delivery	Number	%
Normal vaginal deliveries		
0	3	1.10
1	9	3.30
2	42	15.44
3	54	19.85
≥ 4	117	43.01
Total	225	82.72
Cesarean section		
1	5	2.2
2	8	2.94
3	3	1.10
Total	16	5.88
Abnormal vaginal delivery		
Prolonged first stage	18	6.6
Prolonged second stage	6	2.2
Instrumental delivery	3	1.10
Birth weight > 4 kg	4	1.47
Total	31	11.39

Table 3. Symptoms (n=272).

Symptoms	Number	%
Leakage of urine with cough and sneeze	196	72.06
leakage of urine with urgency	52	19.7
Leakage of urine with cough and sneeze and with urgency	24	8.8
Urgency alone	42	15
Urgency with frequency	34	12
Burning micturition	36	13.2
Nocturnal frequency	16	5.9

Table 4. Frequency of incontinence.

Type	Rarely Score 1	Once in a while Score 2	Often Score 3	Most of the time Score 4	All the time Score 5
Stress incontinence (196)	154 (56.61%)	32 (11.76)	8 (2.94%)	2 (0.73%)	0 (0%)
Urge incontinence (52)	2 (3.85%)	6 (11.55%)	15 (28.85%)	28 (53.85%)	1 (1.93%)

Discussion

Incidence of incontinence in our study was 34% which is similar to the 30% incidence found by Herzog et al¹. Brown et al³ found a much higher incidence (55%) and Black et al⁴ a one higher still (62%).

In our study stress incontinence was the commonest type of incontinence viz. 24.5% (196/800) compared to 13% reported by Brown et al³. Our incidence of urge incontinence was 6.5% (52/800) and mixed incontinence 3% (24/800) compared to 14% and 28% respectively reported by Brown et al³.

In our study incontinence was common amongst menopausal women viz, 20.74% (74/272) whereas Fultz et al⁵ report a 30-40% incidence.

In our study mean age was 41.54 years and mean parity 3.42 whereas in a study conducted by Swift and Ostergard⁶, mean age and mean parity were 59.8 and 2.3 respectively.

We found that out of 196 women with stress incontinence 154 (56.61%) had only occasional leakage of urine. i.e., Score 1 (Table 4) while Teleman et al⁷ reported that only 20% had occasional episodes of incontinence and 80% were incontinent all the time. Limitation of daily activities in 27.2% women was much lower than that in 72% reported by Black et al⁴. Proximal urethral rotation (Q-tip test) was found to be between 60-90° with an average of 65.6° in 55.14% (150/272) women whereas Dietz et al⁸ reported Q tip deviation average as 34°. Greater than 30° indicates significant deviation. In our study out of 272 cases 176 (67.4%) were positive for pad test compared to 80% reported by Frazer et al⁸. The cough stress test was positive in 77.2% (210/272) women in our study as compared to 59% in Swift et al's⁶ study. In our series of 272 incontinent women 3.6% each had undergone abdominal hysterectomy, vaginal hysterectomy and anterior colporrhaphy, compared to 25.4%, 9.6% and 6% respectively quoted by Bidmead et al¹⁰. We found diurnal frequency in 34 (12.5%) and nocturnal frequency in 16 (5.8%) women whereas Wymen et al¹¹ found diurnal frequency in 61% and nocturnal frequency in 8.1%.

Conclusion

Urinary incontinence amongst women is an undiagnosed problem leading to significant suffering. Simple questionnaire can help to detect this problem of incontinence subjectively. Routine speculum examination and simple tests like Q-tip test, pad test and ultrasonography emphasizing on post-residual volume can help to know the type of incontinence and factors leading to incontinence.

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