

## PREVALENCE OF URINARY INCONTINENCE AND INCONTINENCE-RELATED QUALITY OF LIFE AMONG KOREAN WOMEN: A POPULATION-BASED STUDY

### Hypothesis / aims of study

Urinary incontinence (UI) is a very common condition. The estimates of the prevalence of UI are very variable according to its definition, its severity and its subject population, with 4.5%-44% in women. Most of the relevant studies have been done in western countries. Epidemiological study in general population of the Asian countries is still lacking. The purpose of this study was to assess the prevalence of UI and incontinence-related quality of life in Korean women.

### Study design, materials and methods

During April 2003 a nationwide telephone survey was performed to assess the prevalence of overall, stress, urge and mixed UI. Frequency of UI symptom and quality of life influenced by UI were also assessed. The telephone interviewers applied the structured questionnaire to the women with ages between 30 and 79. The subjects were selected using the proportionate quota and systemic sampling method. ICS definition of UI was adopted [1].

### Results

Table 1. Prevalence of urinary incontinence in women according to the age groups

| Age (year) | Total (n) | SUI only   | UUI only  | Mixed UI   | UI unclassified | UI total   |
|------------|-----------|------------|-----------|------------|-----------------|------------|
| 30-39      | 431       | 75(17.4%)  | 7(1.6%)   | 37(8.6%)   | 1(0.2%)         | 120(27.8%) |
| 40-49      | 357       | 101(28.3%) | 9(2.5%)   | 46(12.9%)  | 2(0.6%)         | 158(44.3%) |
| 50-59      | 234       | 56(23.9%)  | 6(2.6%)   | 49(20.9%)  | 0(0.0%)         | 111(47.4%) |
| 60-69      | 188       | 50(26.6%)  | 7(3.7%)   | 38(20.2%)  | 0(0.0%)         | 95(50.5%)  |
| 70-79      | 93        | 16(17.2%)  | 11(11.8%) | 24(25.8%)  | 2(2.2%)         | 53(57.0%)  |
| Total      | 1303      | 298(22.9%) | 40(3.1%)  | 194(14.9%) | 5(0.4%)         | 537(41.2%) |

UI, urinary incontinence; SUI, Stress urinary incontinence; UUI, Urge urinary incontinence

Table 2. Frequency of symptom of stress urinary incontinence according to the age groups

| Age (year) | Total (n) | Always   | A few times a day | About once a day | 2-3 times a week | Less than 1 in a week | SUI total   |
|------------|-----------|----------|-------------------|------------------|------------------|-----------------------|-------------|
| 30-39      | 431       | 1(0.9%)  | 1(0.9%)           | 3(2.7%)          | 8(7.1%)          | 99(88.4%)             | 112(100.0%) |
| 40-49      | 357       | 4(2.7%)  | 4(2.7%)           | 5(3.4%)          | 8(5.4%)          | 126(85.7%)            | 147(100.0%) |
| 50-59      | 234       | 5(4.8%)  | 5(4.8%)           | 4(3.8%)          | 7(6.7%)          | 84(80.0%)             | 105(100.0%) |
| 60-69      | 188       | 4(4.5%)  | 4(4.5%)           | 4(4.5%)          | 9(10.2%)         | 67(76.1%)             | 88(100.0%)  |
| 70-79      | 93        | 1(2.5%)  | 4(10.0%)          | 3(7.5%)          | 5(12.5%)         | 27(67.5%)             | 40(100.0%)  |
| Total      | 1303      | 15(3.0%) | 18(3.7%)          | 19(3.9%)         | 37(7.5%)         | 403(81.9%)            | 492(100.0%) |

Table 3. Frequency of symptom of urge urinary incontinence according to the age groups

| Age (year) | Total (n) | Always   | A few times a day | About once a day | 2-3 times a week | Less than 1 in a week | UUI total   |
|------------|-----------|----------|-------------------|------------------|------------------|-----------------------|-------------|
| 30-39      | 431       | 0(0.0%)  | 0(0.0%)           | 1(2.3%)          | 4(9.1%)          | 39(88.6%)             | 44(100.0%)  |
| 40-49      | 357       | 3(5.5%)  | 4(7.3%)           | 4(7.3%)          | 6(10.9%)         | 38(69.1%)             | 55(100.0%)  |
| 50-59      | 234       | 3(5.5%)  | 4(7.3%)           | 5(9.1%)          | 6(10.9%)         | 37(67.3%)             | 55(100.0%)  |
| 60-69      | 188       | 1(2.2%)  | 2(4.4%)           | 7(15.6%)         | 6(13.3%)         | 29(64.4%)             | 45(100.0%)  |
| 70-79      | 93        | 3(8.6%)  | 5(14.3%)          | 1(2.9%)          | 4(11.4%)         | 22(62.9%)             | 35(100.0%)  |
| Total      | 1303      | 10(4.3%) | 15(6.4%)          | 18(7.7%)         | 26(11.1%)        | 165(70.5%)            | 234(100.0%) |

Table 4. Willingness to seek medical consultation among the incontinent women

|           | Yes        | No          | I do not know | Total        |
|-----------|------------|-------------|---------------|--------------|
| Urge UI   | 8 (20.0%)  | 21 (52.5%)  | 11 (27.5%)    | 40 (100.0%)  |
| Stress UI | 57 (19.1%) | 220 (73.8%) | 21 (7.0%)     | 298 (100.0%) |
| Mixed UI  | 50 (25.8%) | 132 (68.0%) | 12 (6.2%)     | 194 (100.0%) |

### Interpretation of results

Of the 1,302 women with a mean age of 48.1(±12.9, S.D.), 537 (41.2%) reported UI, comprising 492 (37.8%) with stress UI, 234 (18.0%) with urge UI, 194 (14.9%) with mixed UI and unclassified 5 (0.4%) (Table 1). The prevalence of UI significantly increased with age ( $p < 0.05$ ). The frequency of stress UI symptom was as follows: always 3.0%, a few times a day 3.7%, about once a day 3.9%, 2-3 times a week 7.5%, less than 1 in a week 81.9% (Table 2). The

frequency of Urgency UI symptom was as follows: always 4.3%, a few times a day 6.4%, about once a day 7.7%, 2-3 times a week 11.1%, less than 1 in a week 70.5% (Table 3). Incontinence-related quality of life was significantly dependent on the type of incontinence: the proportion of women who feel unsatisfactory with their incontinence was significantly higher in urge UI and mixed UI than stress UI ( $p < 0.01$ ). The need for medical consultation for UI was also variable according to the type of incontinence: 20.0% in urge UI, 19.1% with stress U and 25.8% in mixed UI (Table 4). However, the proportion of women who do not willing to consult medical help was significantly higher in stress UI than other types of UI.

#### Concluding message

The present study supports previous studies done in the western world, revealing that there was a high prevalence of UI in women. Also the impact of UI on the quality of life was high. Those without seeking medical consultation should be regarded as potential patients and public health programs should provide information to all women.

#### References

1. Neurourol Urodyn. 2002;21(2):167-78.

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**HUMAN SUBJECTS:** This study did not need ethical approval because approval of the Institutional Review Board was not necessary for this study at that time but followed the Declaration of Helsinki Informed consent was not obtained from the patients.