

PREVALENCE OF URINARY INCONTINENCE AND ITS IMPACT ON GENERIC QUALITY OF LIFE IN JAPANESE WORKING WOMEN: ASSESSMENT BY THE ICI QUESTIONNAIRE AND THE SF-36 HEALTH SURVEY.

Hypothesis / aims of study

The reported prevalence of UI in women varies from 8.5 % to 55 %. This high variability may be attributed mainly to the differences in the definition used and the population studied. The second International Consultation on Incontinence (ICI) developed and recommended the ICI Questionnaire (ICIQ) as a brief and simple measurement to evaluate the symptom severity (frequency and quantity) and impact on daily life of UI.

UI affects a wide aspect of daily life of women. Therefore, to determine the need for health and medical care, the patient-assessed quality of life (QoL) measures are essential, in addition to clinical parameters, such as symptoms and objective findings. Questionnaires for generic QoL are designed to measure functioning and well-being in a broad range of populations. Thus, the evaluation of generic QoL is essential for making a comparison between different clinical conditions, while disease-specific QoL measures offer greater sensitivity for the evaluation of specific conditions. The SF-36 Health Survey (SF-36) is a widely used health-related questionnaire for generic QoL.

Using ICIQ and SF-36, we examined the prevalence of UI and the relationship between UI and generic QoL in healthy women working as hospital nurse in Japan.

Study design, materials and methods

The nursing departments of 52 university or large-scale general hospitals in every part of Japan agreed with our proposal to cooperate in an investigation on UI and QoL. A mail survey with self-administrated questionnaire was performed for 7,229 female nurses working in the hospitals, ranging from 20 to 64 years in age. Among them, 3,734 nurses responded to the survey including ICIQ and SF-36 (response rate: 51.7 %). In 3,522 of 3,614 nurses who had completed ICIQ, the responses to SF-36 were considered to be eligible for statistical analysis.

Two-tailed *t* tests and linear regression relations were used to analyze the QoL impact of UI. For one-way analysis of variance, the nurses sampled for this study were classified into the age groups every five years old from 20 to 64. A level of $p < 0.01$ was considered to be statistically significant.

Results

The Japanese hospital nurses sampled ranged from 20 to 64 years in age (mean \pm SD, 35.2 ± 10.8). As shown in figure, most of them (75 %) were younger than 45 years old and modal peaks were of 20-24 and 25-29.

The overall prevalence of urinary incontinence in working women aged 20 to 64 years (mean, 35.2) was found to be 16.7 %. The main type of incontinence was stress incontinence (73 %). Its prevalence increased with age and reached a plateau at the age group of 45-49 (34.7 %). The ICIQ score was also significantly correlated with age ($p < 0.0001$). In comparison between subjects with and without incontinence, physical functioning ($p < 0.0001$), role-physical ($p < 0.0001$), bodily pain ($p = 0.001$), general health ($p = 0.003$), social functioning ($p = 0.0003$) and role-emotional ($p = 0.0006$) were significantly lower for UI group, but vitality ($p = 0.29$) and mental health ($p = 0.11$) were not. Clinically significant difference (i.e., > 5 points) in mean score was observed in role-physical and role-emotional. Physical component summary score (PCS; $p < 0.0001$) but not mental component one (MCS; $p = 0.10$) of SF-36 was significantly lower for UI group. However, when examined within each age group, the significant differences in PCS and MCS were largest in age groups of 25-29 ($p = 0.0003$) and of 55-59 ($p = 0.0009$), respectively. The correlations of ICIQ score with PCS and MCS were most significant in age groups of 25-29 and 45-49, respectively. The impact of mixed incontinence on QoL showed a higher tendency than that of stress or urge

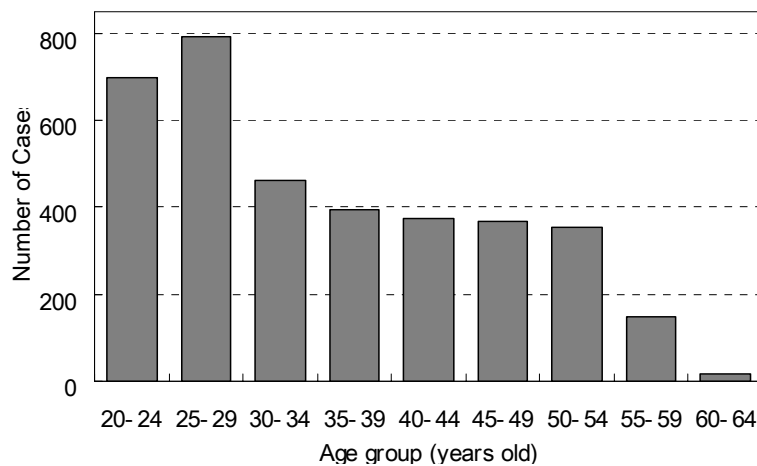
incontinence (vs. stress UI; $p = 0.011$, vs. urge UI; $p = 0.03$), when estimated by the ICIQ item to evaluate the QoL impact. Also, the ICIQ summed score was significantly higher in mixed UI than in stress ($p = 0.0007$) or urge ($p = 0.003$) UI.

Interpretation of results

The statistical results in the total samples indicated that the UI impact was greater on the physical health rather than the mental health. When examined within each age group, however, we found MCS in older age group was significantly lower for UI group. ICIQ summed score was also significantly correlated with MCS in age group of 45-49. Therefore, the adverse effect on mental health increased in older age groups, whereas the impact on physical health was high at 20s.

Concluding message

The prevalence of UI showed an age-related increase with a peak at 45-49 years old. The impact of UI on physical health was high in individuals aged 20s, whereas its impact on mental health increased in older age groups.



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