

COMPARATIVE GENDER ANALYSIS OF THE ASSOCIATION BETWEEN URINARY INCONTINENCE AND HEALTH-RELATED QUALITY OF LIFE

Hypothesis / aims of study

Urinary incontinence (UI) is not a life-threatening disease, but it can significantly affect quality of life (QoL). UI is the same symptom in men and women but it is not associated with the same diseases, so we can suppose that it affects QoL differently in both genders.

Our objective was to analyze the associations between UI and QoL related to health among men and women over 50 years, and to compare these associations between genders.

Study design, materials and methods

Cross-sectional study within the framework of the GAZEL cohort (www.gazel.inserm.fr), set up in 1989 by the INSERM (the French National Institute of Health and Medical Research) in cooperation with several departments of the French national power company Electricité de France-Gaz de France (EDF-GDF).

In 2006, 14,500 participants, including 10,723 men (57-67 years) and 3777 women (52-67 years) answered to the annual questionnaire of the GAZEL cohort, which included this year a health-related QoL questionnaire, the Nottingham Health Profile, composed of six dimensions: "tonus/energy", "pain", "emotional reactions", "social isolation", "physical mobility" and "sleep". For each dimension scores were transformed into binary variables: good QoL and altered QoL. The definition of UI was based on the question about health problems in the past 12 months, with a list of possible 66 health problems, divided by headings. In the heading "Urinary and genital problems" we used the item "involuntary loss of urine" (yes or no). Other reported chronic diseases were also taken into account in final analysis. The logistic regression models estimating the association between altered QoL and self-reported UI were carried out by controlling for age and socio-demographic and professional characteristics and other self-reported chronic diseases. To compare associations between genders tests of interaction were performed with likelihood ratio tests.

Results

Among all 14500 respondents, 817 reported an "involuntary loss of urine" in the past 12 months with 292 (2.72%) men and 525 (3.60%) women, respectively: women were more likely than men to report UI (OR: 6.82; 95%CI: 5.79 to 8.03). Concerning other chronic conditions women were more likely than men to report a higher number of diseases, but a higher proportion of chronic conditions in women was reported for chronic disorder of intestinal transit, depression and stress, while in men reporting chronic diseases, angina, stroke and diabetes were those more often cited.

Women were more likely than men to report altered QoL in the whole sample and in separate analyses of continent and incontinent participants.

UI was associated with altered quality of life mainly in the dimensions of "tonus/energy", "social isolation", and "physical mobility" (Table).

These associations remained statistically significant after taking into account characteristics of the participants associated with QoL (alcohol and tobacco consumption, Body Mass Index, occupation, retirement, diploma, major life events, number of children, income and marital status) and chronic conditions. The strength of these associations varied by dimension, with higher ORs between QoL and IU in "tonus/energy", "social isolation" and "physical mobility", in both genders. We observed higher ORs for the associations between altered QoL and UI in men than in women, except for the dimension "physical mobility", but the only significant difference in ORs between genders was found for the dimension "tonus/energy". The association between IU and altered QoL was significantly stronger in men (OR=3.17; 95%CI 2.49-4.04) than in women (2.11; 1.75-2.54) (test of interaction, $p = 0.005$). Trends for significant interactions were observed in the dimensions "emotional reactions" ($p = 0.19$) and "social isolation" ($p = 0.097$).

Interpretation of results

Women were more likely than men to report UI, a result relevant with other studies. Concerning other chronic conditions men were more likely than women to report more severe diseases.

Furthermore all women, those continent and those incontinent, compared with men, continent and incontinent, were more likely than men to declare altered QoL, a result also reported in other studies on quality of life (1).

UI remained associated with an altered QoL, in both genders, even after taking into account many characteristics, including chronic diseases, which could also alter QoL.

One of our main results is that the association between QoL and UI was stronger in men than in women in some dimensions, statistically significant in the dimension "tonus/energy" and with trends for significance in the dimensions "emotional reactions" and "social isolation". One way to interpret this result is as follows: one might think that UI in women is often linked in her mind to pregnancy, and therefore it would be, even if that incontinence causes discomfort, such a sign of "positive" femininity (2). Conversely, IU for men attacks their manhood or the image they have about (3). There is a place for qualitative studies among men and women to explore their representations of UI and confirm this hypothesis.

Our work was based on a cross-sectional study, so causality between UI and QoL impairment cannot be stated, but many other authors found that UI had a negative impact on QoL. Healthy worker effect and auto-declaration bias should also be taken into account while discussing our results.

Concluding message

UI is negatively associated with QoL of men and women over 50 years.

Incontinent women are more likely than incontinent men to report altered QoL, but in some dimensions of QoL, men seem more affected than women by UI. This paradoxical result needs further studies to understand.

Table: Altered quality of life (NHP) and IU for men and women

| NHP dimensions | MEN | | | | | | WOMEN | | | | | |
|---------------------|--------------------------------|---------|--|---------|-------------------------------------|---------|--------------------------------|---------|--|---------|-------------------------------------|---------|
| | Model 1: adjusted on age | | Model 2: 1 + socio- demographic variables | | Model 3: 2 + chronic diseases | | Model 1: adjusted on age | | Model 2: 1 + socio- demographic variables | | Model 3: 2 + chronic diseases | |
| | O | IC 95% | O | IC 95% | O | IC 95% | O | IC95% | O | IC95% | OR | IC95% |
| Tonus: UI no | 1 | | 1 | | 1 | | 1 | | 1 | | | |
| UI yes | 3 | 2.5-4.0 | 3 | 2.4-4.0 | 2 | 1.5-2.7 | 2 | 1.7-2.5 | 1.9 | 1.5-2. | 1.3 | 1.1-1.7 |
| | . | | . | | . | | . | | . | | | |
| Pain: UI no | 2 | | 1 | | 0 | | 1 | | 1 | | | |
| UI yes | 1 | 1.5-2.4 | 1 | 1.4-2.3 | 1 | 1.0-1.7 | 1 | 1.5-2.1 | 1.6 | 1.3-1.9 | 1.2 | 1.-1.5 |
| | . | | . | | . | | . | | . | | | |
| Emotional reactions | 9 | | 8 | | 3 | | 8 | | | | | |
| UI no | 1 | | 1 | | 1 | | 1 | | 1 | | | |
| UI yes | 1 | 1.5-2.4 | 1 | 1.4-2.4 | 1 | 1.0-1.7 | 1 | 1.3-2.0 | 1.6 | 1.3-2.0 | 1.2 | 0.9-1.5 |
| | . | | . | | . | | . | | . | | | |
| Social isolation | 9 | | 8 | | 3 | | 6 | | | | | |
| UI no | 1 | | 1 | | 1 | | 1 | | 1 | | | |
| UI yes | 2 | 1.7-3.0 | 2 | 1.5-2.8 | 1 | 1.1-2.2 | 1 | 1.4-2.1 | 1.8 | 1.4-2.2 | 1.3 | 1.1-1.7 |
| | . | | . | | . | | . | | . | | | |
| Physical mobility | 3 | | 1 | | 5 | | 7 | | | | | |
| UI no | 1 | | 1 | | 1 | | 1 | | 1 | | | |
| UI yes | 2 | 1.6-2.6 | 2 | 1.5-2.5 | 1 | 1.1-1.8 | 2 | 1.9-2.7 | 2.0 | 1.6-2.4 | 1.5 | 1.2-1.9 |
| | . | | . | | . | | . | | . | | | |
| Sleep: UI no | 0 | | 0 | | 4 | | 3 | | | | | |
| UI yes | 1 | 1.1-1.8 | 1 | 1.1-1.7 | 1 | 0.8-1.3 | 1 | 1.2-1.7 | 1.4 | 1.2-1.7 | 1.1 | 0.9-1.4 |
| | . | | . | | . | | . | | . | | | |
| | 4 | | 3 | | | | 4 | | | | | |
| | N missing = 172 | | | | | | N missing = 36 | | | | | |

Socio-demographic variables: alcohol consumption and smoking, BMI (in classes), occupation, retirement, educational level, major life events, the number of children, income, marital status

References

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3. O'Shaughnessy, P. and T.A. Laws, Australian men's long term experiences following prostatectomy: a qualitative descriptive study. *Contemp Nurse*, 2009. 34(1): p. 98-109

Disclosures

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