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PREVALENCE OF UI IN THE NORWEGIAN EPINCONT POPULATION 10 YEARS AFTER

Hypothesis / aim of study

The Norwegian EPINCONT study (Epidemiology of Incontinence in the County of Nord -Trøndelag) was a large prevalence study of UI. Data were collected during the years 1995-97, as part of an extensive health survey, HUNT 2, and provided UI data on 27 936 women aged 20 and older [1]. Ten years later (2006-08) a follow up, HUNT 3, was conducted in the same county. HUNT 3 contained the same UI questions, providing follow up data on many of the EPINCONT women, as well as UI data on new women who participated for the first time in HUNT 3. The women who answered questions about UI in the HUNT 3 study constitute the EPINCONT 2 population. The EPINCONT studies are therefore suitable for detecting changes in UI prevalence in the same population, and also investigating risk factors like BMI and diabetes, type distribution and severity of UI in a prospective design.

Study design, materials and methods

21 796 of the women who attended the HUNT 3 study answered the UI questions, which provides a response rate of 78.5 % in the EPINCONT 2 study. Follow up data are available on 10 465 women who answered the EPINCONT questions in both HUNT studies.

Definitions of UI in the EPINCONT questionnaires are in accordance with the standards of International Continence Society[2]. The UI questions provide data to determine type, severity and duration of UI, and were identical in both studies. In addition to the EPINCONT questions the HUNT study includes extensive information about the health status and habits like exercise, alcohol use, smoking, occupational status, childbearing and many medical issues are available for all the women. Blood samples were taken from the participants in addition to measurements of blood pressure, weight, height, waist and hip circumference.

Results

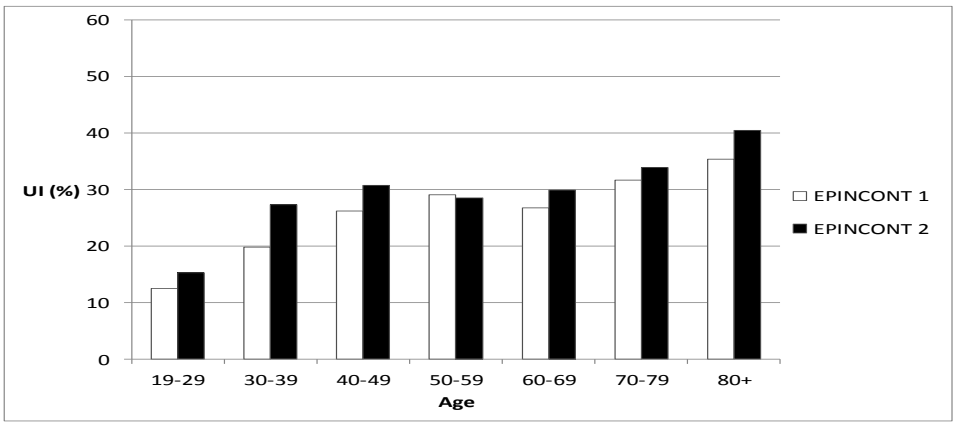
Table 1 compares UI prevalence, type distribution and severity of UI as well as some known risk factors for UI in the two EPINCONT studies.

Table 1: Changes in prevalence, type distribution and severity of UI and its risk factors over 10 years

	EPINCONT 1 (n = 27 936)	**EPINCONT 2 (n = 21 796)**
Mean age (years)	49.1	53.0
Mean BMI	26.2	27.0
Diabetes (%)	3.3	3.7
Parity (%)		
0	14.2	2.1
1	11.6	10.7
2	32.3	39.0
3+	41.8	48.2
Any urinary incontinence (%)	24.6	29.0
Type of urinary incontinence (distribution, %)		
Stress	50.3	42.9
Urgency	11.1	13.9
Mixed	35.6	39.3
Other	3.0	4.0
Severity of urinary incontinence (distribution, %)		
Mild	41.8	42.1
Moderate	43.6	45.5
Severe	12.1	10.5
Very severe	2.5	1.9

The women answering the UI questions were on average 4 years older in EPINCONT 2, had a slightly higher Body Mass Index (BMI), higher prevalence of diabetes and fewer of the women were nulliparous. The prevalence of UI was 4 % higher in the EPINCONT 2 study. The type distribution had changed somewhat with an increase in urgency and mixed UI. Almost no change in UI severity was found. Figure 1 shows the prevalence of any UI by 10 year age-groups in the EPINCONT populations. Except for the age group 50-59 years, the prevalence of UI has increased in every age group in EPINCONT 2.

Figure 1 Prevalence of any UI by 10 year age-groups in the EPINCONT population



Interpretation of results

During the 10 years since EPINCONT 1 was conducted the prevalence of UI has increased by 4 %, a relative increase of 18%. The age stratified results shown in figure 1 indicate that the relative increase in prevalence was largest in the age groups below 50 years of age with a mean relative increase of 25.8 %, the corresponding increase in the women older than 50 was 11 %. In the age group 50-59 years a relative decrease occurred (-2.1 %). Changes in well known risk factors for UI such as increasing age, BMI, parity, smoking and diabetes may possibly explain some of this increase.

With an increase in age and other risk factors one might expect a higher prevalence, increased severity and change in type distribution of UI. There is a clear tendency of such changes but they are not very pronounced.

Concluding message

Two identical waves of the EPINCONT study 10 years apart shows an increase in UI prevalence from 24.6 % to 29.0 %. This change may partly be explained by an increase in mean age of the respondents, but also by shift in several risk factors.

References

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Specify source of funding or grant	**University of Bergen, Norway.**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**The National Committee for Medical and Health Research Ethics, region west,Faculty of Medicine,University of Bergen**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**