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PREVALENCE OF URINARY INCONTINENCE DURING 10 YEARS IN A PROSPECTIVE COHORT OF MIDDLE AGED WOMEN

Hypothesis / aims of study

Prospective studies of urinary incontinence (UI) are scarce, and prevalence development by age is still mainly analysed by cross sectional studies with different women in each age strata [1]. There is still a lack of sound explanations for the apparent decrease in prevalence of UI among postmenopausal women found in several studies [2]. The aim of the present study was to assess the development of prevalence of UI, including patterns of type and severity, in a prospective cohort study of middle-aged women in Norway.

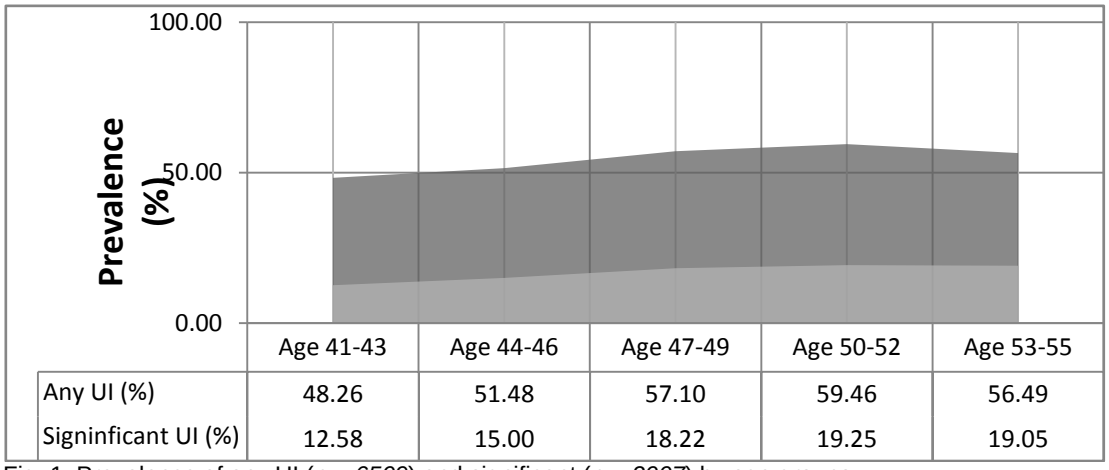
Study design, materials and methods

The data were collected from a cohort study established in 1997 as a local sub-study of a regional collection of health data (HUSK) in the county of Hordaland, Norway (The Hordaland Women's Cohort Study, N= 2229). The Cohort was planned for 15 years (1997-2012) to analyze incidence, remission and patterns of changes in severity and type of UI. After power calculation for the sample, one-fifth of HUSK female population aged 40-44, was randomly selected for the Cohort. By 2007, during 10 years, six postal questionnaires have been sent to the Cohort members.

To assess the development of prevalence of UI, data from a total of 11860 questionnaires during the 10 years are used. Five age groups are defined, thus each woman could contribute to the data set more than once, but only once in each age group. UI was defined as any leakage, and confirmed by answering positive to at least one of the questions about the type of UI. A severity index developed by Sandvik et al. was used to characterize the severity of incontinence (slight, moderate, severe, very severe). In the analyses, a dichotomization into any (all) and significant UI (moderate, severe and very severe leakage) was used.

Results

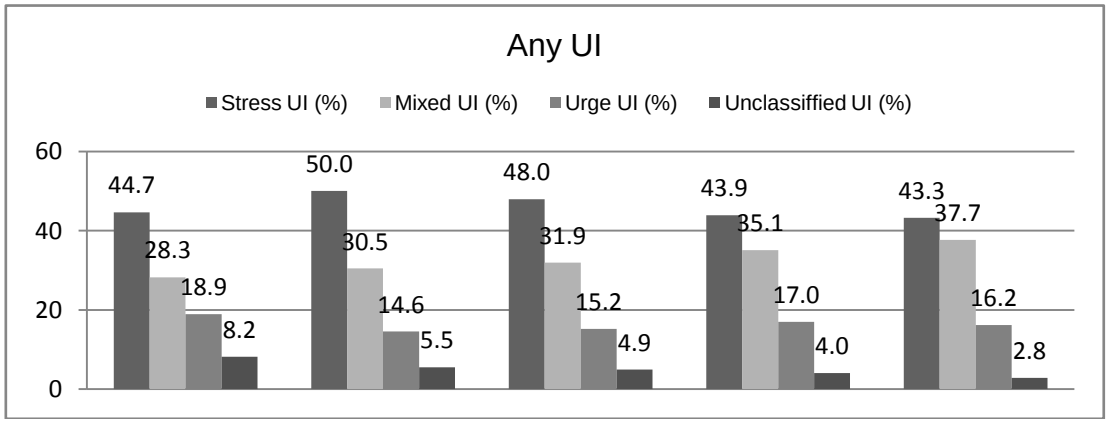
In the age range of 41-55, almost 55% of women reported involuntary loss of urine (any UI). The mean age of all women was 47.7; the mean age of incontinent women was 48.0 versus 47.5 year for continent women. Figure 1 shows the prevalence of any UI in the five different age groups. For both any UI and significant UI, the prevalences increased by age up to the fourth age group (50-52 year) and then decreased in the last age group (53-55 year).



	Age 41-43	Age 44-46	Age 47-49	Age 50-52	Age 53-55
Any UI (%)	48.26	51.48	57.10	59.46	56.49
Signinficant UI (%)	12.58	15.00	18.22	19.25	19.05

Fig. 1: Prevalence of any UI (*n = 6509*) and significant (*n = 2007*) by age groups

Figure 2 shows the type distribution of UI in different age groups. Type distributions of any UI for all ages (41-55) were 46.7% (n = 3036), 32.4% (n= 2107),16.2% (n= 1053) and 4.8% (n= 313)for stress, mixed and urge smptoms, respectively; while type distributions of significant UI for all ages were 33.6% (n = 676), 54.0% (n= 1084),10.6% (n= 213) and 1.9% (n= 34), respectively.



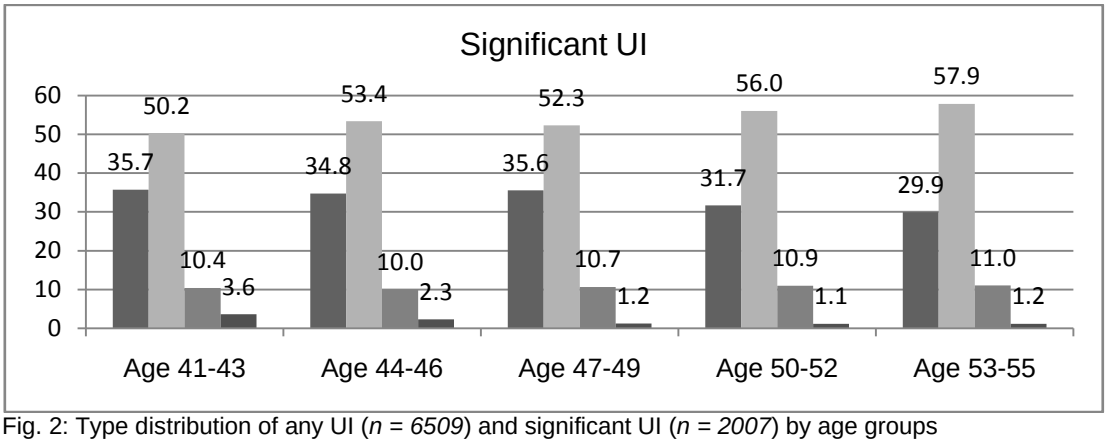


Fig. 2: Type distribution of any UI (*n = 6509*) and significant UI (*n = 2007*) by age groups

Interpretation of results

This research confirms that involuntary loss of urine is highly prevalent among middle-aged women. The prevalence of any UI or significant UI is increasing by age up to about age 50 and then decrease slightly. This reduction in the prevalence is relatively larger for any UI compared with significant UI. Decreasing prevalence of UI around the age 50 has been reported previously in the Norwegian EPINCONT study in year 2000 [3]. The majority of women with any UI reported stress type of UI in all age groups, but the majority of women with significant UI reported a mixed type of UI. For any UI the stress type has a maximum peak in the age of 44-46 and then decreases slightly. The mixed type of UI is increasing by age for both any and significant UI.

Concluding message

The typical pattern of increasing prevalence of UI, then a plateau around menopause and then even a slight decrease, is confirmed in this prospective cohort, indicating that the effect is due to individual changes. The cohort design can be used to investigate the mechanisms of development pattern in types and severity of UI.

References

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What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Regional Ethical Committee, Bergen**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**