

DOES DIABETES INCREASE THE PREVALENCE OF URINARY INCONTINENCE IN WOMEN?

Hypothesis / aims of study

Diabetes and urinary incontinence are common health care problems. Diabetes is estimated to affect over 10% of adults over age 40 and the prevalence increases with advancing age. The prevalence of diabetes also appears to be increasing in recent years. Type 2 diabetes accounts for approximately 90-95% of cases and causes the majority of diabetic complications (including retinopathy, nephropathy, and neuropathy). Urinary incontinence has been estimated to affect >25% of adult women. Although it has been suggested that urinary incontinence is more common in women with diabetes there has been limited research on prevalence, incidence, and risk factors for incontinence in women with diabetes.

In large observational studies, diabetes has been reported to be associated with a 30-70% increased risk of incontinence in women. There has been limited research on the type of incontinence associated with diabetes, but one recent study suggests that risk for urge incontinence was increased about 50% among diabetics, while there was no increased risk for stress incontinence.

Mechanisms by which diabetes might promote incontinence are not clear. Hyperglycemia in diabetics may cause an increased volume of urine, polyuria, or detrusor instability. Diabetics may be more susceptible to chronic urinary tract infections, which can stimulate detrusor contractions, leading to incontinence. Microvascular complications associated with diabetes might damage the innervation of the bladder or alter detrusor muscle function. A few small studies suggest that duration, severity, treatment, glycemic control, and peripheral neuropathy are associated with an increase risk of incontinence among diabetic adults.

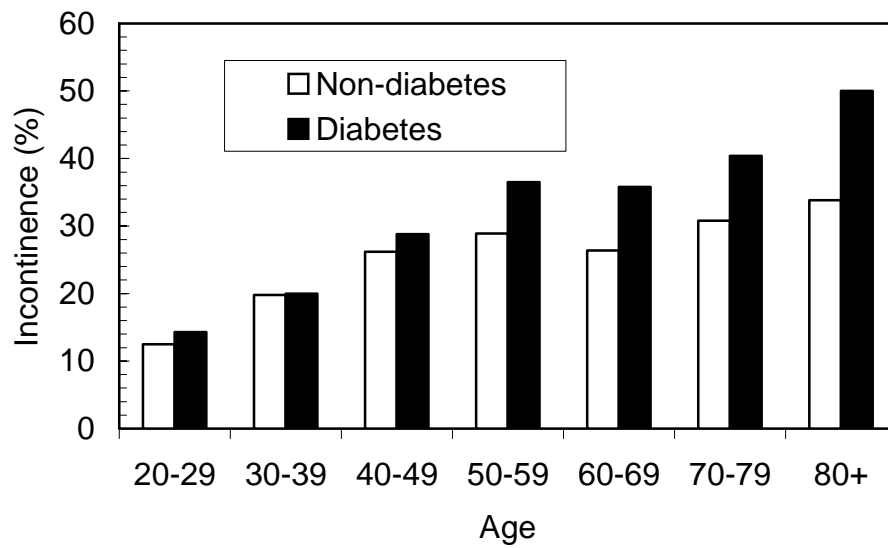
A large community-based survey was during the years 1995-97. The complete survey covered many topics, for example mental health, cardiovascular diseases, asthma, diabetes, and urinary incontinence. The present substudy aims at investigating the prevalence, associated factors, and possible risk-factors for urinary incontinence in the diabetic subpopulation.

Study design, materials and methods

47313 women (age 20+) were invited to the original study, 34755 met at the screening station, and these are defined as the source population of the study. 27936 women (the study population) answered the questions about urinary incontinence, giving an overall response rate of 80%. The women were asked about any involuntary loss of urine. If the answer was positive further questions were posed to reveal the frequency and severity of urine loss, type of incontinence, the duration of the condition etc. About 75% of patients with diabetes in the original study underwent special investigations, including laboratory analyses. The dataset includes Type 1/type 2 based on C-peptid, anti-GAD, blood sugar and insulin treatment, duration of insulin treatment, HbA1c, blood sugar (non-fasting), total-cholesterol, HDL, TG, S-creatinin, and microalbuminuria. Clinical complications were not extensively covered.

Results

The survey has data on 731 women with diabetes (2.6 %). Mean age of the diabetic women are 66 (SD 14) years as compared to 49 (SD 17) in the total population. Crude prevalence of urinary incontinence was 38 % and 24 % in the diabetic group and non-diabetic group, respectively. Prevalence of incontinence in the age-groups 20-49, 50-69 and 70+ was 24%, 36% and 43%, respectively, for the women with diabetes. Corresponding figures for non-diabetic women were 20%, 28% and 32%. The figure shows the increasing difference between the diabetes and non-diabetes group by increasing age.



Interpretation of results

Before multivariable analyses and adjustment for confounders, there is a clear tendency of increasing prevalence in the diabetic subgroup. We do not know yet if this is a real effect of the diabetes or an effect of risk factors with higher frequency among the women with diabetes.

Concluding message

There is a higher crude prevalence of urinary incontinence among diabetic women.