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## Five-year incidence and remission rates of female urinary incontinence in a Swedish population less than 65 years old

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### Abstract

**Objective:** We sought to determine the incidence and remission rates of urinary incontinence in a population-based sample of women. **Study Design:** A total of 382 (87.6%) of 436 eligible women aged 20 to 59 years answered a questionnaire and underwent a gynecologic examination at baseline and were followed up approximately 5 years later. **Results:** Urinary incontinence was present in 23.6% of women at baseline and in 27.5% at follow-up. The mean annual incidence rate of incontinence was 2.9%, and the mean annual incidence rate of incontinence weekly or more often was 0.5%. Women that were receiving estrogen at baseline were more likely than other women to have incontinence during follow-up. The mean annual remission rate among the 90 women who were incontinent at baseline was 5.9%. The annual net increase of incontinence in the study population was 0.82%. **Conclusion:** Female urinary incontinence seems to be a dynamic condition with a relatively high rate of spontaneous remission, a fact of which physicians should be aware when assessing and planning prevention and treatment strategies. (Am J Obstet Gynecol 83:568-74.)



# Keywords

[Female urinary incontinence](#) • [population study](#) • [prevalence](#) • [incidence](#) • [remission](#) • [estrogen](#)



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# References

1. Thomas TM • Plymat KR • Blannin J • Meade TW.  
**Prevalence of urinary incontinence.**  
*BMJ.* 1980; **281**: 1243-1245

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[Scopus \(783\)](#) • [PubMed](#) • [Crossref](#) • [Google Scholar](#)



2. Rekers H • Drogendijk AC • Valkenburg H • Riphagen F.  
**Urinary incontinence in women from 35 to 79 years of age: prevalence and consequences.**



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[Scopus \(128\)](#) • [PubMed](#) • [Abstract](#) • [Full Text PDF](#) • [Google Scholar](#)

3. Holst K • Wilson PD.  
**The prevalence of female urinary incontinence and reasons for not seeking treatment.**  
*N Z Med J.* 1988; **101**: 756-758

[View in Article](#) ^

[PubMed](#) • [Google Scholar](#)

4. Sandvik H • Hunskaar S • Seim A • Hermstad R • Vanvik A • Bratt H.  
**Validation of a severity index in female urinary incontinence and its implementation in an epidemiological survey.**  
*J Epidemiol Commun Health.* 1993; **47**: 497-499

[View in Article](#) ^

[Scopus \(401\)](#) • [PubMed](#) • [Crossref](#) • [Google Scholar](#)

5. Samuelsson E • Victor A • Tibblin G.  
**A population study of urinary incontinence and nocturia among women aged 20-59 years. Prevalence, well-being and wish for treatment.**  
*Acta Obstet Gynecol Scand.* 1997; **76**: 74-80

[View in Article](#) ^

[Scopus \(186\)](#) • [PubMed](#) • [Crossref](#) • [Google Scholar](#)

6. O'Brien J • Long H.  
**Urinary incontinence: long term effectiveness of nursing intervention in primary care.**  
*BMJ.* 1995; **311**: 1208

[View in Article](#) ^



[Scopus \(29\)](#) • [PubMed](#) • [Crossref](#) • [Google Scholar](#)

7. Seim A • Hermstad R • Huuskaas S



*Br J Gen Pract.* 1998; **48**: 1731-1734

[View in Article](#) ^

[PubMed](#) • [Google Scholar](#)

8. Lagro-Janssen T • van Weel C.

**Long term effect of treatment of female incontinence in general practice.**

*Br J Gen Pract.* 1998; **48**: 1735-1738

[View in Article](#) ^

[PubMed](#) • [Google Scholar](#)

9. Elving L • Foldspang A • Lam G • Mommsen S.

**Descriptive epidemiology of urinary incontinence in 3100 women age 30-59.**

*Scand J Urol Nephrol Suppl.* 1989; **125**: 37-43

[View in Article](#) ^

[PubMed](#) • [Google Scholar](#)

10. Burgio K • Matthews K • Engel B.

**Prevalence, incidence and correlates of urinary incontinence in healthy, middle-aged women.**

*J Urol.* 1991; **146**: 1255-1259

[View in Article](#) ^

[Scopus \(410\)](#) • [PubMed](#) • [Abstract](#) • [Full Text PDF](#) • [Google Scholar](#)

11. Herzog AR • Diokno AC • Brown MB • Normolle DP • Brock BM.

**Two year incidence, remission, and change patterns of urinary incontinence in noninstitutionalized older adults.**

*J Gerontol.* 1990; **45**: 67-74



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---

**Urinary incontinence in rural older women: prevalence, incidence and remission.**

*J Am Geriatr Soc.* 1996; **44**: 1049-1054

[View in Article](#) 

[Scopus \(146\)](#) • [PubMed](#) • [Crossref](#) • [Google Scholar](#)

13. Koyano W • Shibata H • Haga H • Suyama Y.

**Prevalence and outcome of low ADL and incontinence among the elderly: five years follow-up in a Japanese urban community.**

*Arch Gerontol Geriatr.* 1986; **5**: 197-206

[View in Article](#) 

[Scopus \(42\)](#) • [PubMed](#) • [Abstract](#) • [Full Text PDF](#) • [Google Scholar](#)

14. Campbell AJ • Reinken J • McCosh L.

**Incontinence in the elderly: prevalence and prognosis.**

*Age Ageing.* 1985; **14**: 65-70

[View in Article](#) 

[Scopus \(185\)](#) • [PubMed](#) • [Crossref](#) • [Google Scholar](#)

15. Molander U • Milsom I • Ekelund P • Mellström D.

**An epidemiological study of urinary incontinence and related urogenital symptoms in elderly women.**

*Maturitas.* 1990; **12**: 51-60

[View in Article](#) 

[Scopus \(138\)](#) • [PubMed](#) • [Abstract](#) • [Full Text PDF](#) • [Google Scholar](#)

16. Tibblin G • Tibblin B • Peciva S • Kullman S • Svärdsudd K.



“The Göteborg quality of life instrument”—an assessment of well-being and symptoms among men born 1913 and 1923, methods and validity.

*Scand J Prim Health Care Suppl.* 1990; **1**: 33-38



---

[PubMed](#) • [Google Scholar](#)

17. Samuelsson E • Victor A • Tibblin G • Svärdsudd K.  
**Signs of genital prolapse in a Swedish population of women 20 to 59 years of age and possible related factors.**

*Am J Obstet Gynecol.* 1999; **180**: 299-305

[View in Article](#) ^

[Scopus \(523\)](#) • [PubMed](#) • [Abstract](#) • [Full Text](#) • [Full Text PDF](#) • [Google Scholar](#)

18. Samuelsson E • Victor A • Svärdsudd K.  
**Determinants of urinary incontinence in a population of young and middle-aged women.**

*Acta Obstet Gynecol Scand.* 2000; **79**: 208-215

[View in Article](#) ^

[PubMed](#) • [Crossref](#) • [Google Scholar](#)

19. Lagro-Janssen ALM • Debruyne FM • van Weel C.  
**Value of the patient’s case history in diagnosing urinary incontinence in general practice.**

*Br J Urol.* 1990; **67**: 569-572

[View in Article](#) ^

[Scopus \(89\)](#) • [Crossref](#) • [Google Scholar](#)

20. Jensen JK • Nielsen FJ • Ostergard DR.  
**The role of patient history in the diagnosis of urinary incontinence.**

*Obstet Gynecol.* 1994; **83**: 904-910

[View in Article](#) ^

[PubMed](#) • [Google Scholar](#)



21. Sand PK • Hill RC • Ostergard DR.  
**Incontinence history as a predictor of detrusor instability.**

*Obstet Gynecol.* 1988; **71**: 257-260



---

[PubMed](#) • [Google Scholar](#)

22. Høltedahl K • Hunskaar S.  
**Prevalence, 1-year incidence and factors associated with urinary incontinence: a population based study of women 50-74 years of age in primary care.**

*Maturitas.* 1998; **28**: 205-211

[View in Article](#) ^

[Scopus \(56\)](#) • [PubMed](#) • [Abstract](#) • [Full Text](#) • [Full Text PDF](#) • [Google Scholar](#)

23. Hørding U • Pedersen KH • Sidenius K • Hedegaard L.  
**Urinary incontinence in 45-year-old women: an epidemiological survey.**

*Scand J Urol Nephrol.* 1995; **20**: 183-186

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[Scopus \(91\)](#) • [Crossref](#) • [Google Scholar](#)

24. Berghmans LC • Hendriks HJ • Bo K • Hay-Smith EJ • de Bie RA • van Waalwijk van Doorn ES.  
**Conservative treatment of stress urinary incontinence in women: a systematic review of randomized clinical trials.**

*Br J Urol.* 1998; **82**: 181-191

[View in Article](#) ^

[Scopus \(239\)](#) • [PubMed](#) • [Crossref](#) • [Google Scholar](#)

25. Thom DH • Brown JS.  
**Reproductive and hormonal risk factors for urinary incontinence in later life: a review of the clinical and epidemiologic literature.**

*J Am Geriatr Soc.* 1998; **46**: 1411-1417



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