Treatment of urinary incontinence in women in general practice: observational study

Arnfinn Seim, Bjørg Sivertsen, Bjarne C Eriksen, Steinar Hunskaar

Abstract

***Objective*—To examine what is attainable when treating urinary incontinence in women in general practice.**

***Design*—Observational study with 12 months' follow up. Interview and clinical examination before, during, and after treatment of women seeking help for urinary incontinence in general practice.**

***Setting*—General practice in the rural district of Rissa, Norway.**

***Subjects*—105 women aged 20 or more with urinary incontinence.**

***Interventions*—Treatment with pelvic floor exercises, electrostimulation, oestrogen, anticholinergic drugs, bladder training, and protective pads.**

***Main outcome measures*—Subjective and objective measures of urinary incontinence; number of patients referred to a specialist.**

***Results*—After 12 months' follow up 70% (69/99) of the women were cured or much better; the mean score on a 100 mm visual analogue scale decreased from 37 to 20 mm; and the proportion of women who were greatly bothered by their incontinence decreased by 62%. 20% (20/98) of women became continent, and the percentage of women with severe incontinence decreased from 64% (63/99) to 28% (27/98). Mean leakage per 24 hours measured by a pad test decreased from 28 g at the start of treatment to 13 g after 12 months. The number of light weight pads or sanitary towels decreased from 1.6 to 0.6 a day. In all, 17/105 (16%) patients were referred to a specialist.**

***Conclusions*—Urinary incontinence in women can be effectively managed in general practice with fairly simple treatment. Most women will be satisfied with the results.**

Medical Office of Health, Rissa, Norway
Arnfinn Seim, *general practitioner*
Bjørg Sivertsen, *general practitioner*

Department of Gynaecology and Obstetrics, Trondheim University Hospital, Trondheim, Norway
Bjarne C Eriksen, *consultant*

Division for General Practice, Department of Public Health and Primary Health Care, University of Bergen, Bergen, Norway
Steinar Hunskaar, *professor*

Correspondence to:
Professor S Hunskaar, Division for General Practice, Ulriksdal 8c, N-5009 Bergen, Norway.
steinar.hunskar@isf.uib.no

BMJ 1996;312:1459–62

Introduction

Urinary incontinence in women is a common, distressing, and costly health problem. Studies have shown that only about a quarter of affected women consult a doctor for their symptoms,[1-3] and the treatment that they are offered is probably not optimal.[4] The condition is thus a challenge for general practitioners, who often will be the first professionals to diagnose and treat it.

Several treatment options are effective in the treatment of urinary incontinence in women,[5] and most of these treatments are suitable in general practice, although currently not in widespread use.[4,6] Only a few reports are available on interventions by general practitioners and other primary care staff. In two controlled trials from general practice most of the women had improved or were cured after management[7,8]; similar results were found in a study in which treatments were administered by nurses.[9] Such studies, however, are often performed by one dedicated doctor or specially trained staff, so the results may not reflect what is attainable in ordinary practices.

We conducted an observational study of treatment of urinary incontinence in women in general practice in a community where a group of general practitioners serves the total population. The study was designed not to test the efficacy of one technique or specific treatment under ideal conditions but as a comprehensively documented, although uncontrolled, effectiveness study with 12 months' follow up of general practitioners' total interventions and treatment options. We used both subjective and objective outcome measures.

Subjects and methods

We conducted the study during 1990-4 in the rural community of Rissa, Norway, which at the time had about 6400 inhabitants, of whom 2366 were women aged 20 years or more. We included consecutively during 36 months (1990-2) all women aged 20 or more who consulted their general practitioner for urinary incontinence (including those in whom the condition had been previously diagnosed). All five general practitioners in Rissa participated in the study. Because of geographical conditions few patients from Rissa seek doctors outside the municipality, and referral to specialists or outpatient clinics is possible only through a general practitioner. We worked out a standardised guideline for history taking, clinical examination, tests, and treatment options by doing a thorough literature study and holding discussions with specialists.

The women were informed about the study, and a medical history and clinical examination were undertaken once written consent to participate was received. We collected the data during two consultations before offering any treatment. After an interview, clinical examination, and appropriate tests, we classified the patients according to the International Continence Society's definitions as having stress, urge, or mixed incontinence[10] and whether they were premenopausal or postmenopausal.

The study was approved by the regional ethics committee and the Norwegian data inspectorate.

INTERVENTIONS

We offered treatment to all patients (box). Oestrogen (oestriol) was given to all postmenopausal women, who could choose whether they wanted oral or vaginal administration. The standard dose was either 3 mg oestriol orally daily for two to three weeks and later 1-2 mg daily or 0.5 mg vaginally each day for two to three weeks and later two to three times weekly.

Electrostimulation was offered to women with urge or mixed incontinence and applied by nurses at the general practice surgery. Two stimulators were used for vaginal and anal stimulation simultaneously (50 Hz, current intensity just below the patient's individual pain threshold or a maximum of 100 mA). Stimulation was given for 20 minutes once or twice weekly, with 10-12 sessions

Treatment offered by the general practitioners for urinary incontinence

Stress
Pelvic floor exercises
Oestriol if woman is postmenopausal
Protective pads

Urge
Electrostimulation
Oestriol if woman is postmenopausal
Anticholinergic drugs
Bladder training
Protective pads

Mixed
Pelvic floor exercises
Electrostimulation
Oestriol if woman is postmenopausal
Anticholinergic drugs
Bladder training
Protective pads

altogether.[11] Anticholinergic drugs were prescribed only if the electrostimulation had no or insufficient effect after two to three months. The type of anticholinergic drug—terodiline, emepronium bromide, or imipramine—was chosen individually.[12] Patients who underwent bladder training received oral and written instructions from their general practitioner.[13] Instructions for pelvic floor exercises were given by a primary care physiotherapist contracted to the municipality. Instructions included information about the function of the pelvic floor muscles and how to exercise.[14] Active contraction was confirmed clinically or by vaginal examination when appropriate. After one or two individual consultations, instructions and training were followed up with group sessions one hour a week for three months. Each group had a maximum of eight patients. In addition to the weekly groups the patients were encouraged to do exercises at home: three daily sessions of at least eight contractions of six to eight seconds throughout the follow up period.

FOLLOW UP AND OUTCOME MEASURES

We evaluated the results of the management programme in consultations after three, six, and 12 months. We used both subjective and objective outcome measures—including a severity index,[15] use of protective pads, data on 48 hour frequency and volume of urine, and a 48 hour pad test(box)—and the patients' subjective assessment of the treatment. At each consultation the patients compared their incontinence with what it was like before treatment on a five item scale—cured (1), much better (2), a little better (3), unchanged (4), or worse (5). During analyses this scale was dichotomised into "good result" (1 or 2) and "poor result" (3, 4, or 5). For the patients' assessment of impact of their incontinence we used a five item scale and a 100 mm visual analogue scale with end points "not bothered by it at all" (lowest value) and "cannot imagine anything worse" (highest value). The severity index (with categories slight, moderate, and severe) was calculated only before treatment and after 12 months.

Outcome measures used in study

48 Hour pad test (to determine leakage of urine)
48 Hour frequency/volume chart:
- Voidings per day
- Voidings per night
- Volume of voidings

Number of protective pads used
Frequency and amount of leakage
Severity index (frequency × amount)
Treatment results by five point scale
Impact of incontinence by visual analogue scale
Impact of incontinence by five point scale

EXCLUSION CRITERIA AND REFERRALS

The study protocol had no specific exclusion criteria. Referral to a specialist was considered at each consultation. Patients were offered referral when response to treatment was disappointing, if the doctor suspected the incontinence to be secondary to a disease needing assessment by a specialist, or if the incontinence could not be satisfactorily classified. Even after referral the patients were seen by the general practitioners, and data were registered during the 12 months' follow up. Referred patients were still included after referral, but when outcome measures were analysed the value at the point of referral was assigned for the rest of the study.

STATISTICAL ANALYSES

Descriptive analyses were used for the main results. The χ^2 test, Wilcoxon's matched pairs signed rank sum test, and the McNemar test were used to analyse the outcome measures. Results are given as means with 95% confidence intervals, and significance was accepted at the 5% level.

Table 1—*Patients' assessment of treatment results and impact of urinary incontinence on visual analogue scale and five point scale before treatment and after three, six, and 12 months' follow up. Patients referred to specialist care are are included, with result that they had at time of referral. Values are numbers (percentages) unless stated otherwise*

	Before treatment (n = 102)	Follow up		
		3 Months (n = 98)	6 Months (n = 97)	12 Months (n = 99)
Treatment results:				
Cured	NA	29 (30)	47 (48)	40 (40)
Much better	NA	38 (39)	32 (33)	29 (29)
Impact of incontinence:				
Five point scale*:				
A great deal or moderate	43 (42)	11 (11)	9 (9)	16 (16)
Minimal, little, or none (patient cured)	59 (58)	87 (89)	88 (91)	83 (84)
Mean (95% confidence interval) score on visual analogue scale (mm)†	37 (33 to 42)	18 (15 to 22)*	16 (12 to 20)*	20 (16 to 25)*

NA = not applicable.
*P<0.001 at 3, 6, and 12 months compared with before treatment (Wilcoxon's matched paired test and McNemar's test).
†The lower the score, the less impact the incontinence had on the patient.

Results

In all, 105 women were included in the study. The mean age was 57 (median 55, range 20-87) years; 37 women were premenopausal, and 29 were over 70 years old. Fifty two patients had stress incontinence, 10 had urge incontinence, 42 had mixed incontinence, and one had unclassified incontinence. Altogether, 17 patients were referred to a specialist. Two patients were referred at the time of inclusion owing to medical reasons other than incontinence; they were excluded from the analyses as they were not given any treatment by the general practitioner. Five patients were referred after three months, two after six months, and eight after 12 months. Five patients had incomplete datasets as they failed to attend one or more consultations.

The women's assessment of their treatment showed that taking part in the management programme was associated with a high rate of cure and improvement, and reduced impact of the incontinence (table 1). In all, 70% (69/99) of the women were cured or much better, the mean score on the visual analogue scale almost halved, and the proportion of women who were greatly bothered by incontinence was reduced by 62%. Changes in frequency, amount of leakage, and the

Table 2—*Frequency, amount of leakage, and severity index before treatment and after 12 months. Values are numbers (percentages) of patients*

	Before treatment (n = 102*)	At 12 months (n = 99†)
Frequency of leakage		
Day:		
Continent or less than once a month	7 (7)	28 (28)
A few times a month	19 (19)	33 (33)
A few times a week	32 (31)	23 (23)
One to two times a day	32 (31)	13 (13)
More than twice a day	12 (12)	2 (2)
Significance		P<0.001‡
Night:		
Continent or less than once a month	75 (74)	86 (87)
A few times a month	11 (11)	5 (5)
A few times a week	8 (8)	5 (5)
One to two times a night	7 (7)	2 (2)
More than twice a night	1 (1)	1 (1)
Significance		P<0.001‡
Amount of leakage		
Continent	0	20 (20)
Drops	23 (23)	38 (39)
A little	62 (63)	34 (35)
More than this	14 (14)	6 (6)
Significance		P<0.001‡
Severity index		
Continent	0	20 (20)
Slight	8 (8)	26 (27)
Moderate	28 (28)	25 (26)
Severe	63 (64)	27 (28)
Significance		P<0.001‡

*n = 99 for amount of leakage and severity index.
†n = 98 for amount of leakage and severity index.
‡Compared with before treatment (Wilcoxon's matched pairs signed rank sum test).

severity index confirmed the women's subjective assessments (table 2). There was a major shift towards less severity as 20 women became continent, and the number of women with severe incontinence decreased from 63 to 27. Calculation of severity index (with the categories, continent, slight, moderate, and severe incontinence) showed that 62 women had improved (37 had improved by one category, 14 by two categories, and 11 by three categories), whereas 33 women either remained the same or deteriorated (27 remained the same, 5 deteriorated by one category, and 1 by two categories).

Table 3 shows the results from 48 hour frequency and volume charts and 48 hour pad tests. In most measures highly significant changes occurred after 12 months' follow up compared with the start point.

The results of treatment varied depending on the type of incontinence, as measured by the change in the severity index. Only 29% (two out of the seven) of patients with urge incontinence for whom data were complete improved, while 73% (36/49) of patients with stress incontinence and 77% (30/39) of patients with mixed incontinence improved ($P<0.05$, χ^2 test). Using patients' subjective assessments on the five item scale, we found that more women with incontinence of less than five years' duration reported "good" treatment results (score of 1 or 2) than did those with more than five years' duration (85% (41/48) *v* 56% (28/50); $P<0.01$, χ^2 test). More women with a score <50 on the visual analogue scale before treatment reported good results than did those with a score ≥50 (78% (54/69) *v* 52% (15/29); $P<0.01$, χ^2 test). No significant correlation was found between treatment results and menopausal status, age, and parity.

Discussion

This study confirms that urinary incontinence in women can be effectively managed in general practice.[7,8] After 12 months almost 70% of the women stated that they were cured or much better. This result was confirmed by several measures, both subjective and objective, and most of the measures followed the same course during the 12 months. We believe that our trial reflects what is attainable in general practice if the doctors are interested in continence care, gain competence in a few fairly simple treatment options, and preferably work in a team, including a nurse or physiotherapist.

Only 17 of our 105 patients were referred to a specialist. This low referral rate could be due to good treatment results, low degree of severity, or fear of surgery.[16] The calculated severity index shows, however, that incontinence in our patients was more severe than in women in the general population[15] and almost as severe as in patients attending the outpatient clinic at the county hospital.[17] Our experience was that most patients were cured or satisfied to such an extent that they did not want to be referred, even if objective measures did not show fully successful treatment. Jolleys reported that seven out of 65 patients receiving treatment in her trial were offered referral to a consultant, but none accepted.[8] The low referral rate may also be considered to be an outcome measure and thus confirms that most incontinent women can be diagnosed and treated with success in general practice. Even if the improvement seems to be greatest during the first three months, our experiences show that most

Table 3—*Results from 48 hour pad test, 48 hour frequency/volume chart, and patients' information about use of pads in women with urinary incontinence before treatment and after three, six, and 12 months' follow up. Patients referred to specialists are included, with result they had at time of referral*

		Follow up		
Outcome measure	**Before treatment**	**3 Months**	**6 Months**	**12 Months**
48 Hour pad test	**n = 93**	**n = 73**		**n = 66**
Leakage (95% confidence interval) per 24 hours (g)	28 (20 to 37)	10 (6 to 14)***	NI	13 (6 to 19)***
48 Hour frequency/volume chart	**n = 94**	**n = 82**		**n = 75**
Voidings per day	6.1	5.3***	NI	5.6***
Voidings per night	0.56	0.30***	NI	0.38
Mean voided volume (ml)	214	244***	NI	246***
Largest single volume (ml)	429	439	NI	437
Protection	**n = 101**	**n = 98**	**n = 97**	**n= 98**
No (%) of women using protection:	66 (65)	49 (50)*	37 (38)***	40 (41)***
Light weight pads	17 (17)	35 (36)***	20 (21)	25 (26)
Sanitary towels	50 (50)	17 (17)***	19 (20)***	16 (16)***
No of pads or sanitary towels used a day	1.6	0.5***	0.4***	0.6***

NI = not investigated at this follow up.
*P<0.05, ***P<0.001, compared with before treatment (Wilcoxon's matched paired test and McNemar's test).

Key messages

- Urinary incontinence in women is a common, distressing, and costly health problem
- General practitioners can treat urinary incontinence fairly simply
- Treatment options in this study were pelvic floor exercises, electrostimulation, oestrogen, anticholinergic drugs, bladder training, and protective pads
- After 12 months' follow up most of the women were cured or much better

women should be given six to 12 months' treatment in general practice before referral.

The use of light weight pads or of sanitary towels significantly decreased after treatment, but there seems to be a shift from use of sanitary towels to light weight pads during the first three months, as the number of pad users increased in this period. This supports previous findings that many women with persisting incontinence do not use optimal aids for protection[3 18 19] and that doctors prescribe pads at the first consultation.[4]

Women with urge incontinence did not seem to benefit from treatment to the same degree as others. This group was not given instructions for pelvic floor exercises. But pelvic floor exercises have been shown to be effective also in urge incontinence.[20] As patients with urge incontinence are in the minority (10% in our study), perhaps instructions for pelvic floor exercises should be given to all incontinent women treated in general practice.

Women with urinary incontinence still represent a great challenge to general practitioners, and general practitioners should play an active part in treatment. Simple treatment works, and most women will be satisfied.

Funding: Unconditional grants were given by the Norwegian Medical Association's Fund for Quality Improvement in Primary Health Care (AS), Saba Mølnlycke (for the pad test kits), and Organon (SH).

Conflict of interest: None.

1 Burgio KL, Matthews KA, Engel BT. Prevalence, incidence and correlates of urinary incontinence in healthy, middle-aged women. *J Urol* 1991;**146**:1255-9.
2 Rekers H, Drogendijk AC, Valkenburg H, Riphagen F. Urinary incontinence in women from 35 to 79 years of age: prevalence and consequences. *Eur J Obstet Gynecol Reprod Biol* 1992;**43**:229-34.
3 Seim A, Sandvik H, Hermstad R, Hunskaar S. Female urinary incontinence—consultation behaviour and patient experiences: an epidemiological survey in a Norwegian community. *Fam Pract* 1995;**12**:18-21.
4 Sandvik H, Hunskaar S, Eriksen BC. Management of urinary incontinence in women in general practice: actions taken at the first consultation. *Scand J Prim Health Care* 1990;**8**:3-8.
5 Urinary Incontinence Guideline Panel. *Urinary incontinence in adults: clinical practice guideline*. Rockville, MD: Agency for Health Care Policy and Research, Public Health Service, US Department of Health and Human Services, 1992. (AHCPR Publication No 92-0038.)
6 Brocklehurst JC. Urinary incontinence in the community—analysis of a MORI poll. *BMJ* 1993;**306**:832-4.
7 Lagro-Janssen ALM, Debruyne FMJ, Smits AJA, van Weel C. The effects of treatment of urinary incontinence in general practice. *Fam Pract* 1992;**9**:284-9.
8 Jolleys JV. Diagnosis and management of female urinary incontinence in general practice. *J R Coll Gen Pract* 1989;**39**:277-9.
9 O'Brien J, Austin M, Sethi P, O'Boyle P. Urinary incontinence: prevalence, need for treatment, and effectiveness of intervention by nurse. *BMJ* 1991;**303**:1308-12.
10 Abrams P, Blaivas JG, Stanton SL, Andersen JT, on behalf of the International Continence Society Committee on Standardisation of Terminology. The standardisation of terminology of lower urinary tract function. *Scand J Urol Nephrol* 1988;**114**(suppl):5-19.
11 Eriksen BC. Maximal electrostimulation of the pelvic floor in female idiopathic detrusor instability and urge incontinence. *Neurourol Urodyn* 1989;**8**:219-30.
12 Lose G. Medical treatment of female urge incontinence. *Ann Med* 1990;**22**:449-54.
13 Fantl JA, Wyman JF, McClish DK, Harkins SW, Elswick RK, Taylor JR, *et al*. Efficacy of bladder training in older women with urinary incontinence. *JAMA* 1991;**265**:609-13.
14 Bø K, Hagen RH, Kvarstein B, Jørgensen J, Larsen S. Pelvic floor muscle exercise for the treatment of female stress urinary incontinence. III. Effect of two different degrees of pelvic floor muscle exercises. *Neurourol Urodyn* 1990;**9**:489-502.
15 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 Community Health* 1993;**47**:497-9.
16 Norton PA, MacDonald LD, Sedgwick PM, Stanton SL. Distress and delay associated with urinary incontinence, frequency, and urgency in women. *BMJ* 1988;**297**:1187-9.
17 Klovning A, Hunskår S, Eriksen BC, Vanvik A. A special clinic for investigation of urinary incontinence in women [in Norwegian]. *Tidsskr Nor Laegeforen* 1994;**114**:3068-70.
18 Sandvik H, Kveine E, Hunskaar S. Female urinary incontinence—psychosocial impact, self care, and consultations. *Scandinavian Journal of Caring Sciences* 1993;**7**:53-6.
19 Sandvik H, Hunskaar S. The epidemiology of pad consumption among community-dwelling incontinent women. *Journal of Aging and Health* 1995;**7**:417-26.
20 Flynn L, Cell P, Luisi E. Effectiveness of pelvic muscle exercises in reducing urge incontinence among community residing elders. *Journal of Gerontological Nursing* 1994;**20**:23-7.

(Accepted 25 April 1996)

Knowledge of emergency compulsory detention procedures among general practitioners in Edinburgh: sample survey

Martin Humphreys, Ann Ryman

Department of Psychiatry, University of Edinburgh, Royal Edinburgh Hospital, Edinburgh EH10 5HF
Martin Humphreys, *lecturer in forensic psychiatry*

Royal Edinburgh Hospital Morningside Park Edinburgh
Ann Ryman, *registrar*

Correspondence to:
Dr Humphreys

BMJ 1996;312:1462–3

There is increasing concern about doctors' knowledge of statutory provision for care of the mentally disordered, particularly in relation to compulsory measures.[1] In Scotland any fully registered medical practitioner may detain a patient in hospital for 72 hours given certain specific urgent circumstances, and with consent only where practicable. More than 3000 such admissions are recorded annually, not uncommonly initiated by a family doctor. We interviewed a sample of general practitioners working in Edinburgh to determine their understanding of this provision.

Subjects, methods, and results

A 1 in 4 random sample of Edinburgh general practitioners (n = 70) was selected. Eight declined to take part and we could not contact 12 others. The 50 who were interviewed represented a wide range of age and seniority. Nineteen had had some experience in psychiatry. Questions were asked only about matters considered essential to lawful emergency detention.

Table 1 gives the results. Forty two believed that the emergency order was intended to be the mainstay of compulsory care. Although most were aware that standard documentation was not necessary, none was able to describe all the statutory requirements for emergency detention. Asked if any conditions were specifically precluded from being sole grounds for detention 10 said intellectual impairment, eight psychopathic or antisocial personality, and 13 intoxication with drugs or alcohol.

Comment

We interviewed 18.3% of general practitioners in the area, from practices responsible for more than 300 000 patients. Those with a particular interest in mental illness were equally likely to have been included in the sample, and it is unlikely that the non-participants represented a group with particular knowledge of the law; indeed our initial approach may have discouraged those with more limited understanding from taking part. Of concern is the possibility that others might have been sufficiently indifferent to decline interview.[2]