Female urinary incontinence: long-term follow-up after treatment in general practice

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SUMMARY

Background. *Several reports have been published showing that women with urinary incontinence (UI) can be taken care of and treated satisfactorily in general practice.*

Aim. *To find out whether the treatment of women with UI in general practice is effective also in the long term.*

Method. *One hundred and five women with UI who consulted their general practitioner (GP) were examined and treated according to a treatment protocol. Treatment options were pelvic floor exercises, electrical stimulation, oestrogen supplements, bladder training, and protective pads. Three to six years after inclusion, all women received a postal questionnaire to evaluate the long-term effectiveness of treatment. Women who had been referred to a specialist were excluded.*

Results. *Eighty out of 82 eligible patients answered the questionnaire after a mean follow-up period of 56 months. Twenty-seven per cent were continent, 26% much better, 23% a little better, 21% unchanged, and 3% were worse compared with before the treatment. The median score on a 100 mm visual analogue scale was 16 compared with 31 before treatment, and the percentage of women that were 'much' or 'a great deal' bothered by UI was reduced from 35% to 12%. The percentage of women with severe UI was reduced from 59% to 30%, and the number of women using pads was reduced from 62% to 39%.*

Conclusion. *This study confirms that management of female UI in general practice is effective also in the long term.*

Keywords: women's health; urinary incontinence; postal questionnaires; follow up.

Introduction

URINARY incontinence (UI) is a common health problem among women. Prevalence estimates vary from less than 10% among young women to about 40% among perimenopausal women,[1,2] but only about one quarter have consulted a doctor about their symptoms.[3-5]

Many treatment options have been shown to be effective in the treatment of this condition,[6] and several of these treatments are suitable in primary care. During the past years, several reports with results of interventions managed by general practitioners (GPs) and other primary care personnel have been published, indicating that most incontinent women can be taken care of and treated in general practice.[7-9] In a controlled trial of 110 women with UI who were randomly assigned to a treatment or a control group, Lagro-Janssen *et al* found that 74% of the women treated had improved or were completely cured.[7] Jolleys found a similar cure rate in another controlled trial.[8] However, only a few reports have demonstrated the long-term effect of treatment in primary care. In a study with pelvic floor exercises and bladder training, O'Brien *et al* reported that, after four-year follow-up, 69% of women had either maintained their original improvement or cure, or had improved further.[10] In genuine stress incontinence, pelvic floor exercises have been shown to be effective also in long-term follow-up studies.[11,12]

We performed a study focusing on the treatment of female UI in general practice during the years 1990–1992.[13-15] This was an effectiveness study with 12-months follow-up of GPs' total interventions and treatment options under normal conditions. The patients were significantly improved after treatment according to both subjective and objective outcome measures. In order to find out whether the treatment was also effective in the long term, we performed a follow-up study of the patients after three to six years.

Method

The study was conducted in the rural community of Rissa, Norway, with a population of about 6400. During a 36-month period (1990–1992), all 105 women of 20 years of age and over who consulted their GP for UI (also those previously diagnosed) were consecutively included in the prospective study. All five GPs in Rissa participated in the study.

All patients were offered treatment according to a protocol based on three diagnostic groups: stress incontinence, urge incontinence, and mixed incontinence). Treatment options were oestrogen supplements (oestriol); electrical stimulation administered by nurses at the GPs' surgery; anticholinergic drugs (if the effect of electrical stimulation was lacking or not satisfactory after two to three months); bladder training; and pelvic floor exercises given by a physiotherapist individually and in groups. During the first 12 months of follow-up, the results of the management programme were evaluated during consultations at the GPs' surgery. Both subjective and objective outcome measures were used.

In 1995, three to six years after inclusion, all women participating in the study received a postal questionnaire, which included many of the same questions as used in the treatment study.[14] Included were questions about patients' assessment of treatment results (five-item scale), impact (how much the patient was bothered by incontinence) measured on a visual analogue scale and on a five-item scale, frequency and amount of leakage, use of protection (pads or sanitary towels), and what kind of treatment they had received during the previous six months. The severity index was then calculated. This index value is calculated by multiplying the reported frequency (five levels, zero included) by the amount of leakage (three levels, zero included). The resulting index value (0–8) is further categorized into continent (0), slight incontinence (1–2), moderate incontinence (3–4), and severe incontinence (6–8).[2] Patients who had been referred to a specialist or consulted other doctors during the follow-up period were excluded; analyses were done on patients who had been treated in general practice only.

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Summary of treatment results after one year

We have previously published that the patients were significantly improved according to both subjective and objective outcome measures after 12-months' follow-up.[14,15] Sixty-nine per cent of the women were cured or much better, the mean visual analogue scale (VAS) score decreased from 37 mm to 20 mm, and the proportion of women that were bothered 'much' or 'a great deal' by their UI was reduced by 60%. According to the severity index, 20% of the women became continent, and the percentage of women with severe UI was reduced from 64% to 28%. Mean leakage per 24 hours measured by a pad test was reduced from 28 g at start to 13 g after 12 months, and mean number of pads or sanitary towels used was reduced from 1.56 to 0.55 per day.

Statistical Methods

Descriptive analyses were used for the main results. To analyse the outcome measures, the Wilcoxon matched pairs signed rank sum test, Fisher's exact test, Cochran's Q test, and Friedman's rank sum test were used. Results are given as means with 95% confidence intervals, and statistical significance was accepted at the 5% level.

Ethics

The study was approved by the Regional Ethics Committee and The Norwegian Data Inspectorate.

Results

Among the 105 patients originally included in the study, 17 patients were referred to a specialist during the first 12 months; one patient had been referred during the rest of the follow-up period because response to treatment was disappointing. Six patients had died during the period (one of these had been referred). The remaining 82 patients (mean age = 56 years, SD = 15) had a mean follow-up period of 56 months (range = 36–72, median = 56). Eighty (98%) of these patients answered the questionnaire. Fifty-four per cent (44) of cases were classified as stress incontinence, 7% (6) as urge incontinence, and 39% (32) as mixed incontinence.

Patients' assessment of treatment results and impact (how much they were bothered by their incontinence) before treatment, after 12 months, and at follow-up is shown in Table 1. Data on frequency and amount of leakage, the calculated severity index, and patients' use of pads confirm that, at follow-up, the patients were still much better than before undergoing treatment (Table 2; Table 3). There was no significant association between treatment results and the length of the follow-up time.

Sixty-six per cent (51/77) of the patients had had some kind of treatment for UI during the previous six months. Fifty-two per cent had done pelvic floor exercises, either under instruction by a physiotherapist or as self care; 31% had used oestrogen supplements (47% of the oestrogen users were classified as postmenopausal before treatment). No statistically significant association was found between treatment results and whether the patients had treatment or not at the time. However, patients with treatment at follow-up had significantly deteriorated as measured by severity index during the period from 12 months until follow-up (+1.38; 95% CI = 0.51–2.24; $P<0.01$, Wilcoxon matched pairs test). Severity among those without treatment had not changed significantly (-0.09; 95 % CI = -1.15–0.97).

Only 67 patients answered the question about degree of leakage at follow-up compared with the degree of leakage after 12 months. Thirty-two patients (48%) were better, 31 patients (46%) were unchanged, and four patients (6%) were worse. For 72 patients, data were sufficient to calculate change in severity index category (continent, slight, moderate, or severe) in the period from one year until follow-up. Fourteen patients (19%) were better according to category (11 patients one category better, two patients two categories better, and one patient three categories better), 28 patients (39%) were unchanged, and 30 patients (42%) were worse (21 patients one category worse, six patients two categories worse, and three patients three categories worse) ($P<0.05$, Wilcoxon matched pairs test).

Treatment results at follow-up, compared with those at the start, were not significantly associated with type of incontinence. However, analyses of change in severity index for the period from one year until follow-up show that 12 out of 41 patients with stress incontinence were better, two out of three with urge incontinence were better, but only three out of 28 with mixed incontinence were better (mixed incontinence compared with all others: $P<0.05$, Fisher's exact test). Women with a score <50 on the visual analogue scale before treatment reported better long-term treatment results than did those with a score 50 (60% [36/60] good results versus 29% [5/17]; $P<0.05$, Fisher's exact test), and they also reported better results according to change in severity index (65% [37/57] better versus 35% [6/17]; $P<0.05$, Fisher's exact test).

Treatment results at follow-up were not significantly associated with menopausal status, age, parity, or duration of incontinence.

Discussion

When evaluating long-term results after treatment, the study design may profoundly affect the reported outcomes. Questionnaire-based outcome studies like the present study may more accurately reflect patients' satisfaction after treatment than retrospective chart reviews.[16,17] However, the use of postal questionnaires may introduce a possible bias in this study as we undertook interviews at the doctors' surgery during the first 12 months of follow-up. A bias can change the results in both directions, but one would expect that the patient's desire to please the doctor is stronger at the doctor's surgery than when answering a postal questionnaire. If this is true, the difference between 12 months and long-term follow-up might be even smaller than our results show.

The present study gives us more information about the effectiveness of treatment of UI in general practice. So far, a number of studies on treatment of UI in primary care have shown very good treatment results with up to the 12-months' follow-up time.[7-9] Even if some patients had deteriorated at follow-up, this study shows that the promising good results from the first 12 months[14] lasts for years for most of the patients.

The patients' subjective assessments of treatment results are supported by more objective measures, and most of the outcome measures follow the same course. However, there is a discrepancy between patients' subjective assessments of treatment results and more objective measures such as the severity index. An example of this discrepancy is that 14% were continent according to the severity index, but 27% said that they were continent when they gave a subjective assessment of treatment results at follow-up. The same discrepancy was also seen during the first 12-months' follow-up of these patients.[14] An explanation for this could be that women with UI who have episodes with leakage less than once a month consider this as normal and say that they are cured or continent. These women would not be classified as continent by the severity index.

More remarkable is the difference between patients' assessments and the calculated severity index when looking at change

Table 1. Patients' assessment of treatment results and impact (how much they were bothered) on ordinal scale and on visual analogue scale (VAS) before treatment, after one year, and at follow-up in women with urinary incontinence. Values are percentages (numbers of patients). Due to missing data, each category is based upon answers from 74–82 women.

	Start	Twelve months	Follow-up
Treatment results compared to start		n = 79	n = 77
Cured	NA	48 (38)	27 (21)[a]
Much better	NA	34 (27)	26 (20)[a]
Little better	NA	13 (10)	23 (18)[a]
Unchanged	NA	4 (3)	21 (16)[a]
Worse	NA	1 (1)	3 (2)[a]
Impact, ordinal scale	n = 82	n = 79	n = 78
A great deal or much	35	8	12[b]
Minimal, little, or cured	65	92	88
Impact, VAS score (mm)	n = 82	n = 79	n = 74
median	31	9	16[c]
inter-quartile range	[19-48]	[2-23]	[5-27]

[a]P<0.001 compared with 12 months, Wilcoxon matched pairs test; [b]P<0.001, Cochran's Q test; [c]P<0.001, Friedman's rank sum test; Cochran's Q test and Friedman's test: Simultaneous comparison of data from start, 12 months, and follow-up; NA: Not applicable

Table 2. Frequency, amount of leakage, and the calculated severity index before treatment, after one year, and at follow-up. All numbers are percentages. Due to missing data each category is based upon answers from 76–80 women.

	Start		Twelve months		Follow-up	
	day	night	day	night	day	night
Frequency of leakage, day/night						
Continent or less than once a month	6	77	33	92	31[a]	80[a]
A few times per month	20	11	38	3	26	5
A few times per week	30	7	19	5	17	8
1-2 times per day	35	5	10	0	16	4
More often	9	0	0	0	10	3
Amount of leakage						
Continent	0		23		14[a]	
Drops	25		44		44	
Little	66		28		38	
More	9		5		4	
Severity index						
Continent	0		23		14[a]	
Slight	8		33		33	
Moderate	33		24		22	
Severe	59		19		30	

[a]P<0.001, Friedman's rank sum test (simultaneous comparison of data from start, 12 months, and follow-up).

Table 3. Use of pads in women with urinary incontinence before treatment, after one year, and at follow-up. All numbers in per cent. (*n* = 79–80).

	Start	12 months	Follow-up
Using pads or sanitary towels	62	33	39[a]
Pads	14	19	20[b]
Sanitary towels	49	15	22[a]

[a]P<0.001. [b]Not significant. Cochran's Q test (simultaneous comparison of data from start, 12 months, and follow-up).

during the period from one year until follow-up. Only 6% said that their condition had deteriorated, but, according to the severity index, 42% had become worse during this period. This large difference may be explained by several factors. One factor may be that the severity index is more sensitive to small changes than the patients' subjective judgements. Most changes in the severity index were by one class. One should also bear in mind that the severity index is a constructed tool that measures severity as an objective measure. The different severity index categories do not necessarily reflect the patients' experiences of levels of severity. A shift from severity index class 'slight' to 'moderate' might, for example, not be detected by the patient as getting worse. Another important factor is that patients' assessments of changes during the period depend on memory, while changes in severity index are based on comparison of data collected at the relevant point in time. Nevertheless, at follow-up most patients were still much better than before treatment.

In the period from one year until follow-up, patients with mixed incontinence showed a more negative tendency as measured by severity index compared with patients with stress and urge incontinence. However, as type of incontinence did not influence the treatment results at follow-up compared with before treatment, our conclusion still is that stress, urge, and mixed incontinence are suitable for management in general practice.

Only about half of the women were doing pelvic floor exercises and less than half of postmenopausal women were using oestrogen supplements. A low compliance could be due to the good treatment results. The motivation for continuing pelvic floor exercises or taking oestrogen supplements is obviously much less if the patient is cured or less bothered with incontinence. This is supported by the observation that the UI in women with treatment at follow-up had deteriorated in the period from 12 months until follow-up, while those without treatment at follow-up had maintained their benefit in the same period.

Our findings correlate well with the few other reports that have been published about the long-term effect of treatment of UI in primary care. O'Brien reported that 69% had either maintained improvement or had further improved at follow-up.[10] Follow-up studies of women with genuine stress incontinence treated with pelvic floor exercises have showed that this therapy is effective in the long term.[11, 12]

Electrical stimulation of the pelvic floor have shown to be effective therapy both for stress incontinence and urge incontinence, and has been used for some years in the hands of specialists,[18,19] but no long-term follow-up studies have been published. Follow-up studies after surgical treatment for UI have been performed.[20-22] Even if the long-term results after surgery are good, there is always a risk of complications. Irritative bladder symptoms such as urgency, frequency, stranguri, and nocturi represent a long-term problem after colposuspension.[20,21]

In conclusion, this study confirms that female UI can be effectively managed in general practice with simple techniques. If conservative treatment in primary care can give long-term results as good as were experienced in our study, patients with UI should always be taken care of in primary care in the first instance. Simple treatment options can be managed by GPs. Should the treatment not be successful within six to 12 months, the patients should be referred to a specialist for further investigation and treatment.

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