

Voiding problems

in a Danish population of polio survivors

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Introduction:

During the acute polio attack 20% of polio patients experienced voiding symptoms (1). Theoretically these problems may return with the decline of function experienced by these patients in the long run. Furthermore, other factors such as physical disability to handle toilet visits, and habits brought about by hospital upbringing may also contribute to the problems.

Aim:

The aim of the study was to describe whether polio survivors experience more voiding problems than the general population.

Methods and material:

An age and sex stratified random sample of 453 polio survivors (age 40–89 years) was drawn among members of PTU (Danish Society of Polio and Accident Victims). A questionnaire concerning voiding was mailed to the selected members. Non responders received a reminder after one month. The questionnaire used was the DAN-PSS (2) which is a validated questionnaire concerning the following voiding symptoms: hesitancy, weak stream, incomplete emptying, straining, frequency, nocturia, urgency, urge incontinence, dysuria, dribbling, stress incontinence and other incontinence. Symptom prevalence was compared to results from a similar study carried out in a random sample of the general population in a Danish municipality (3).

Distribution of age and gender among participants n/N

Polio population	Men n/N	Women n/N
Age 40 - 49	9 / 27	6 / 26
Age 50 til 59	35/50	39/50
Age 60 til 69	37/50	39/50
Age 70 til 79	33/50	38/50
Age 80 til 89	29/50	31/50

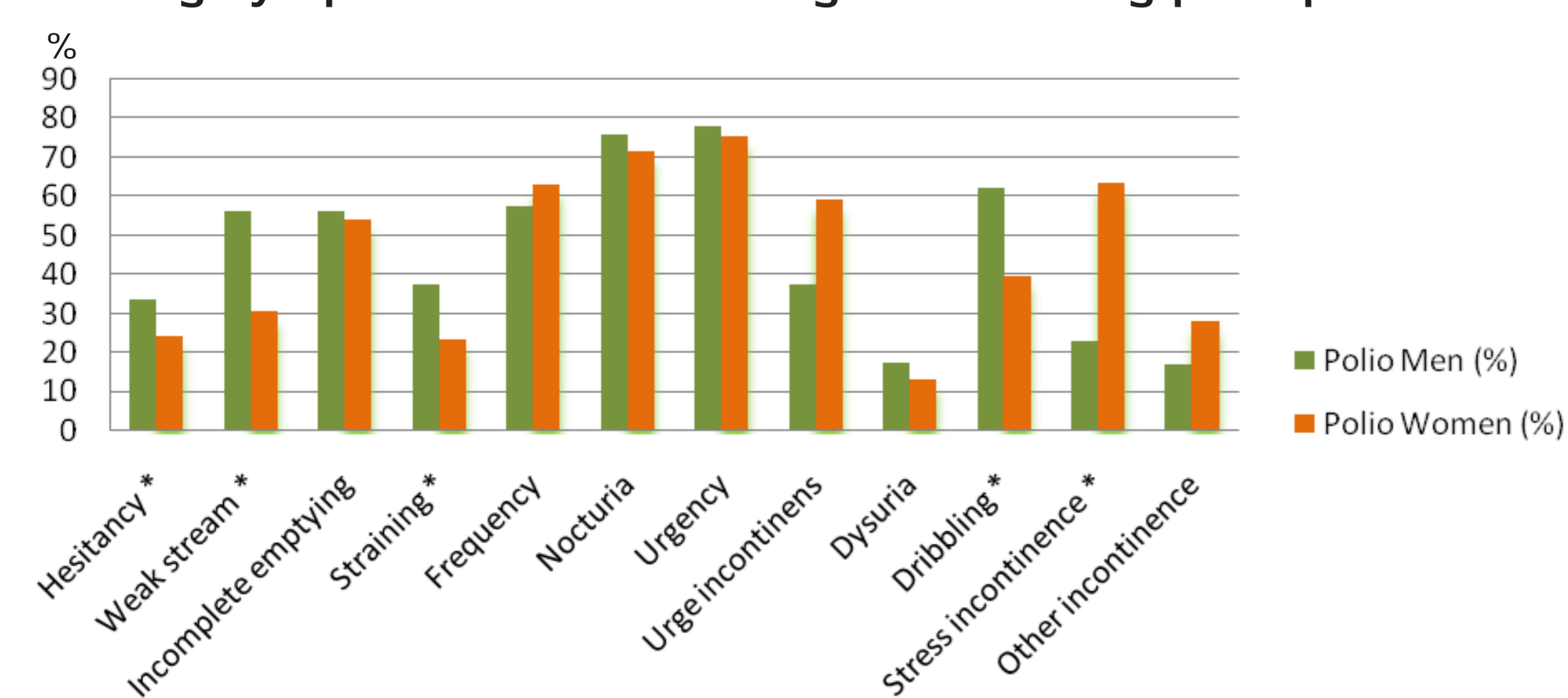
n= Responders N=Sample

Results:

The response rate was 65 %. Symptom prevalence varied from 13%(dysuria) to 78%(urgency). Approximately twice as many polio survivors experienced voiding symptoms comparing to the normal population. Among polio men the difference was significant for all symptoms except for frequency and dysuria. Among polio women the difference was significant for hesitancy, weak stream, incomplete emptying, frequency, nocturia, urge incontinence and other incontinence.

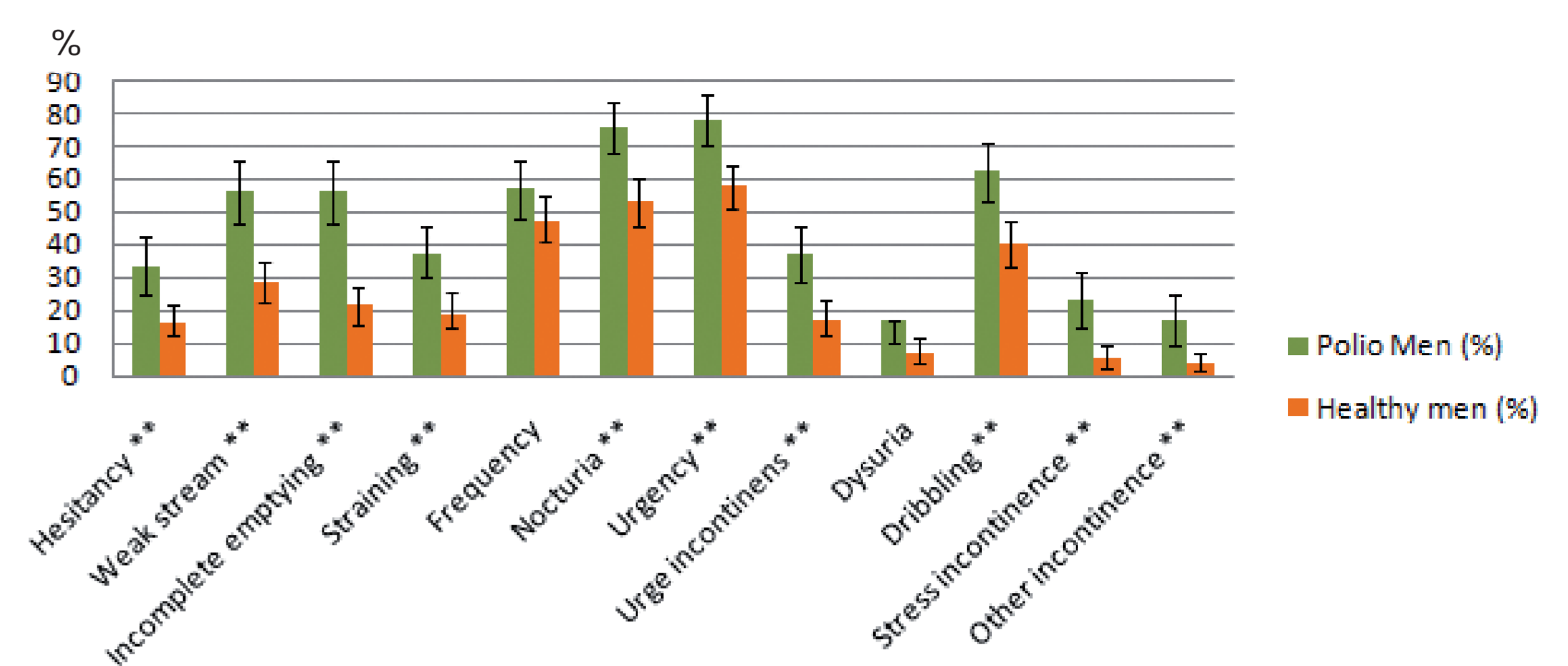
Among the polio survivors, men significantly more often reported hesitancy, weak stream, straining, dribbling than women, and women significantly more often reported stress incontinence than men. Overall this is in line with the findings in the normal population. Depending on the symptom 59–97% of the polio survivors reported to be bothered by their symptom. Most troublesome was incontinence symptoms. Compared to the normal population polio survivors more often reported to be bothered by their symptoms.

Voiding symptoms in relation to gender among polio patients



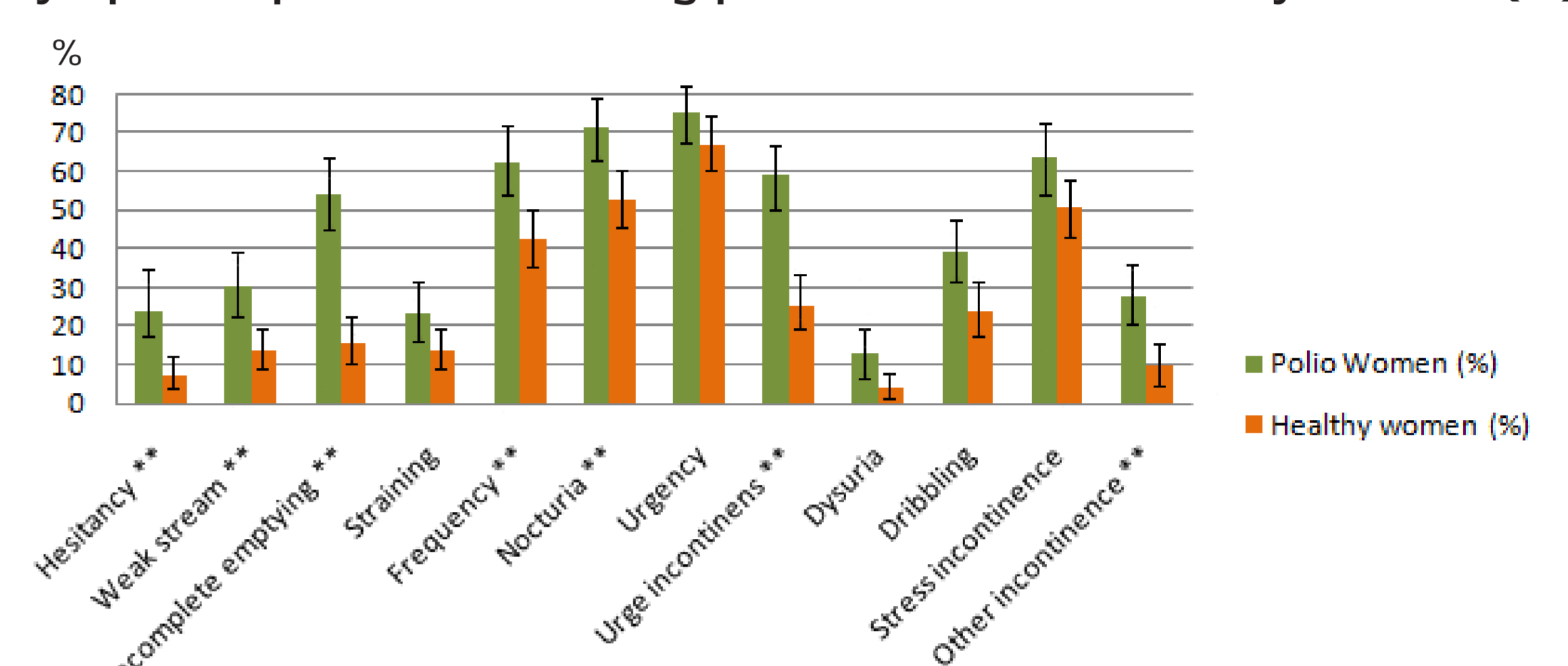
* = Significant difference (p < 0,05, X² test)

Symptoms prevalence among polio men and healthy men (%)



** = significant difference between 95% confidential intervals

Symptoms prevalence among polio women and healthy women (%)



** = significant difference between 95% confidential intervals

Percentage of subjects being bothered among those experiencing the symptom

Symptoms	Polio Men B/S (%)	Polio Women B/S (%)
Hesitancy / CL	67,4 / (51 - 81)	59,4 / (41 - 76)
Weak stream / CL	68,6 / (56 - 79)	53,8 / (39 - 73)
Incomplete emptying / CL	76,8 / (65 - 86)	66,2 / (54 - 77)
Straining / CL	61,7 / (46 - 75)	65,5 / (46 - 82)
Frequency / CL	79,4 / (68 - 88)	72,2 / (61 - 82)
Nocturia / CL	74,0 / (64 - 82)	76,6 / (67 - 85)
Urgency / CL	77,4 / (68 - 85)	82,4 / (73 - 90)
Urge incontinens / CL	97,9 / (89 - 100)	89,9 / (80 - 96)
Dysuria / CL	81,8 / (60 - 95)	88,2 / (64 - 99)
Dribbling / CL	82,9 / (73 - 91)	77,1 / (63 - 88)
Stress incontinence / CL	96,6 / (82 - 100)	87,2 / (78 - 94)
Other incontinence / CL	90,5 / (70 - 99)	91,2 / (76 - 98)

B/S: Percentage of subjects being bothered among those experiencing the symptom

Conclusions:

Results from this study show that polio survivors experience voiding symptoms very frequent and more often than normal population. They are to a large extent bothered by their voiding symptoms, suggesting that focus on alleviating these symptoms can be beneficial for their quality of life. It was not possible to include more than 53 subjects in the age group 40 to 49, and only 15 of them responded. This may bias our results when comparing to the normal population study, which had 76 responders in this age group.

Key points:

- Voiding symptoms occur more often among polio patients.
- Further studies are needed to describe the etiology of the symptoms.
- Voiding symptoms bother polio patients considerably.

References:

1. Skinhøj E.: Acute Anterior Poliomyelitis and its Sequelae. Einar Munksgårds forlag, 1049, Copenhagen
2. Hansen BJ, Flyger H, Brasso K, Schou J, Nordling J, Andersen JT, et al. Validation of the self-administered Danish Prostatic Symptom Score (DAN-PSS-1) System for use in benign prostatic hyperplasia. Br. J Urol 1995; 76; 451 - 458
3. Kay L, Stigsby B, Brasso K, Mortensen S O, Munkgaard S Lower urinary tract symptoms, a population survey using the Danish Prostatic symptom score (DAN-PSS) questionnaire. Scand J Urol Nephrol 33. 1999.