

# Dutch translation and validation of the SF-Qualiveen, a urinary-specific quality of life measure, in Multiple Sclerosis and Spinal Cord Injury patients.

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## Introduction

- Optimizing the patients' quality of life is an important goal in the urological management of Multiple Sclerosis (MS) and spinal cord injury (SCI) patients. Therefore, it is essential for healthcare professionals to know a patient's present urinary-specific quality of life.
- The SF-Qualiveen is a short questionnaire that measures the urinary-specific quality of life of patients with urological dysfunction due to neurological disorders. The SF-Qualiveen has not been available in Dutch.

**Aim of the study:** to translate, culturally adapt and validate a Dutch version of the SF-Qualiveen for use in MS and SCI patients in the Netherlands.

## Methods

**Design:** Multicenter prospective study

### Phases of the study:

1. Translation;
2. Test-phase: face-to-face interviews with patients;
3. Validation study:

#### Patient group:

- adult MS and SCI patients with symptomatic urinary disorders
- recruited from the Urology or Rehabilitation outpatient clinic
- completed the SF-Qualiveen + the Urinary Distress Inventory-6 (UDI-6) twice (baseline and 1-2 weeks later)

#### Control group:

- recruited from the Otolaryngology outpatient clinic
- completed the questionnaires once

**Outcome:** validity and reliability of the Dutch SF-Qualiveen.

		MS patients (N = 50)	SCI patients (N = 57)	Controls (N = 50)
Age at examination (years)		50.3 ± 11.7	53.2 ± 14.6	42.3 ± 14.2
Gender	Male	11 (22%)	37 (65%)	26 (52%)
	Female	39 (78%)	20 (35%)	24 (48%)
Duration of MS/SCI (years)		13.3 ± 9.0	13.1 ± 12.8	
MS course	Relapsing-remitting	30 (60%)		
	Primary progressive	5 (10%)		
	Secondary progressive	11 (22%)		
	Missing	4 (8%)		
Level of SCI	Cervical		15 (26%)	
	Thoracic		31 (54%)	
	Lumbar		11 (19%)	
Mobility	Fully ambulatory	16 (32%)	4 (7%)	
	Limited walking	23 (46%)	16 (28%)	
	Wheelchair bound	10 (20%)	35 (61%)	
	Missing	1 (2%)	2 (4%)	
Method of bladder emptying	Normal voiding	36 (72%)	5 (9%)	
	Abdominal pressure	-	1 (2%)	
	Total incontinence	-	1 (2%)	
	Intermittent catheterization	10 (20%)	27 (47%)	
	Indwelling catheter	-	22 (38%)	
	Missing	4 (8%)	1 (2%)	

## Results

**Content validity** (evaluation of the translation by a patient-test-panel):

Patients found the Dutch SF-Qualiveen easy to understand and a good reflection of their bladder problems

**Construct validity** (correlation with gold standard):

We found a statistically significant correlation between the SF-Qualiveen and UDI-6 ( $r = 0.51-0.67$ ,  $P < 0.001$ )

**Criterion validity** (testing of predefined hypotheses):

The following hypotheses were confirmed:  
 1) The SF-Qualiveen scores in the patient group are higher than in the control group (MS 1.73, SCI 1.81, controles 0.34.  $P < 0.001$ );  
 2) Patients with higher SF-Qualiveen scores have higher scores on UDI-6 ( $r = 0.51-0.67$ ,  $P < 0.001$ )

**Internal consistency** (the intercorrelation of the questions of a questionnaire, do the questions measure the same underlying concept?):

→ Cronbach's alpha values between 0.7 and 0.95 are considered good

- Cronbach's alpha in MS patients: 0.84 – 0.85
- Cronbach's alpha in SCI patients: 0.89 – 0.92

**Reproducibility** (the agreement between the first and second measurement):

→ Intraclass correlation coefficients (ICC) > 0.7 are considered good

- ICC in MS patients: 0.90
- ICC in SCI patients: 0.94

## Conclusions

- The Dutch SF-Qualiveen is valid and reliable to measure the urinary-specific quality of life.
- We recommend its use in both MS and SCI patients in the Netherlands.
- Further research is needed to assess its responsiveness.