

Well-being in Persons at Risk of Diabetic Foot Ulcers

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BACKGROUND

Maintaining well-being in individuals at risk for diabetic foot ulcers is a recognized yet neglected challenge. Three specific instruments are recommended as patient-reported outcome measures (PROMs). By utilizing tools like the WHO-5 Well-Being Index, clinicians can report directly on patient behavior annually in a structured manner¹.

AIM

This study aimed to assess the psychological well-being in a cohort of persons at risk of developing diabetic foot ulcers.

METHOD

A randomized controlled trial was conducted at our center’s foot clinic from May 2024 to September 2025. The study included persons at moderate-to-high risk of foot ulceration and compared standard care vs. intervention using Novel® peak plantar measurement system. All persons were asked to reply to the WHO-5 Well-Being Index questionnaire at the time of inclusion, figure 1.

	All of the time	Most of the time	More than half of the time	Less than half of the time	Some of the time	At no time
1. I have felt cheerful and in good spirit	5	4	3	2	1	0
2. I have felt calm and relaxed	5	4	3	2	1	0
3. I have felt active and vigorous	5	4	3	2	1	0
4. I woke up feeling fresh and rested	5	4	3	2	1	0
5. My daily life has been filled with things that interest me	5	4	3	2	1	0

Figure 1: Questionnaire from WHO-5 Well-Being Index

RESULTS

A total of 325 (100%) persons replied to the WHO-5 questionnaire, 42 (13%) persons with a percentage score under the 50-points well-being threshold². Baseline characteristics, table 1. Results from WHO-5, figure 2.

Characteristics	Intervention (n=163)	Standard care (n=162)
Sex, male, n (%)	127 (78%)	129 (79%)
Age, years	65.8 ± 10.6	66.9 ± 9.7
Type 1 diabetes, n (%)	65 (40%)	64 (39%)
Diabetes duration, years	23.6 ± 15.7	24.3 ± 14.6
BMI, kg/m²	29.2 ± 6.5	28.2 ± 5.2
Employed, n (%)	71 (44%)	62 (38%)
HbA1c, mmol/mol	58.4 ± 12	57.9 ± 13.2
Chronic kidney disease*, n (%)	42 (26%)	38 (23%)
Macular edema, n (%)	39 (24%)	41 (25%)
Retinopathy, n (%)	83 (51%)	92 (57%)
Stroke, n (%)	17 (10%)	14 (9%)

Table 1: Demographic and baseline clinical characteristics, Mean (SD) or n(%)
*eGFR<60ml/min/173m² and/or UACR>/=30mg/g for the past 3 month

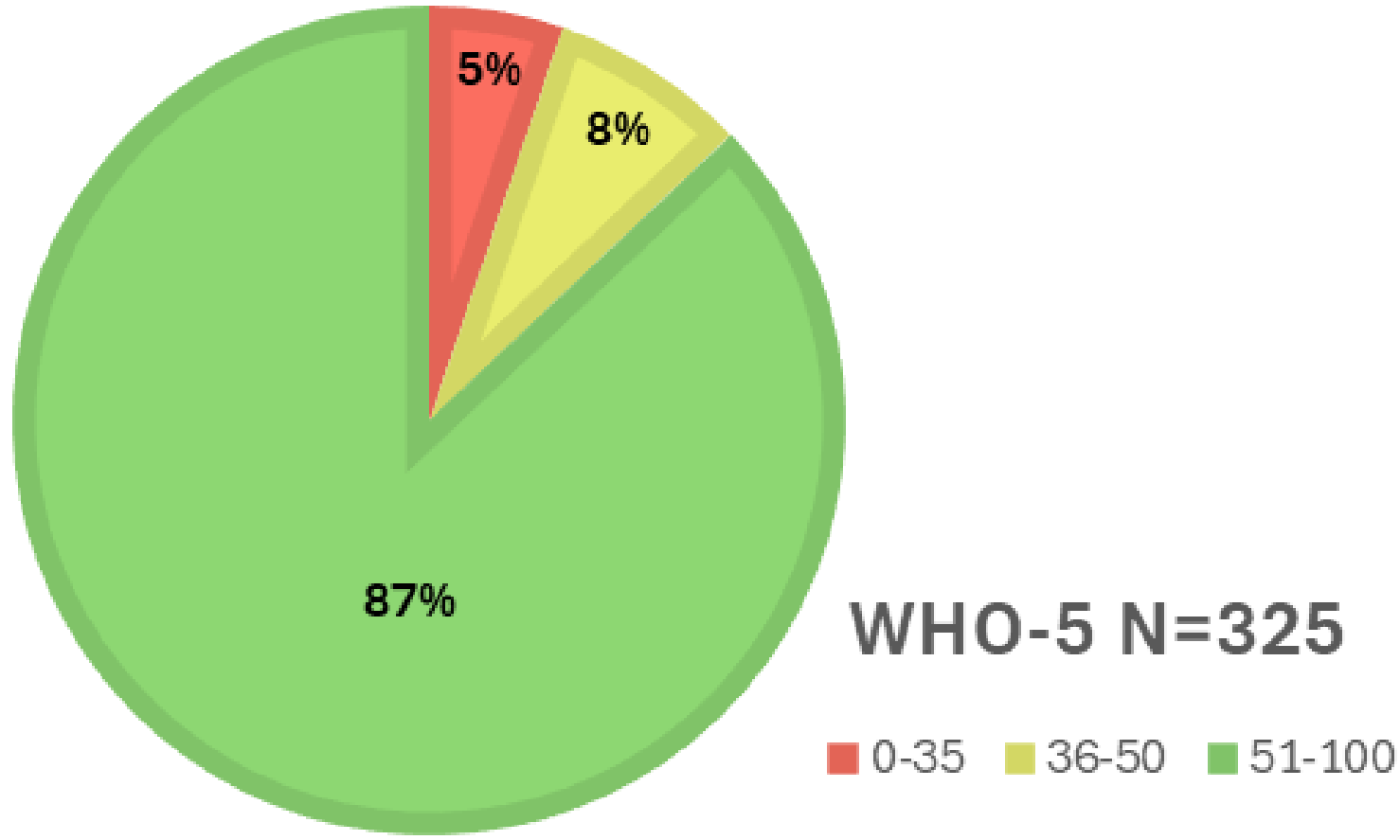


Figure 2: Results WHO-5 at time of inclusion

Percentage (score 0-100)	Interpretation
0-35	Indicates a signifikant risk of moderate to severe depression or burnout. A deeper clinical assessment is always recommended in this range
36-50	Indicates a reduced quality of life and it acts like as a signal to further investigate the person’s situation
51-100	Indicates generally good psychological well-being and adequate quality of life

Table 2: WHO-5 percentage ranking score

CONCLUSION

These results emphasize that despite a high prevalence of objective neurological complications, the majority of patients maintain good psychological well-being, although a minor subgroup shows signs of reduced psychological well-being. The study is ongoing.

Reference: 1: J. Nano *et al.* A standard set of person-centred outcomes for diabetes mellitus: results of an international and unified approach. *Diabet Med* 37, 2009-2018 (2020)
2: Topp C.W., Østergaard S.D., Søndergaard S., Bech P. (2015). *The WHO-5 Well-Being Index: A Systematic Review of the Literature.* Psychotherapy and Psychosomatics, 84(3), 167-176.