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1 **ORIGINAL ARTICLE**

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3 **Disease Knowledge and Behavior Regarding Diabetic Foot Among Persons at Different Risks**
4 **of Foot Ulceration According to the International Working Group Guidelines**

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20 **Background:** This article aims to analyze levels of knowledge and behavior about diabetic foot
21 care and prevention in persons with diabetes according to International Working Group
22 (IWGDF) risk stratification system.

23 **Methods:** A descriptive study in 83 persons with diabetes at different level of risk for foot
24 ulceration (IWGDF risk 0-3). A previously validated questionnaire, the PIN Questionnaire, was
25 used to analyze their levels of understanding of foot complications. Participants were
26 responded on a 5-point Likert scale.

27 **Results:** IWGDF-3 risk patients knew that good circulation and absence of polyneuropathy in
28 their feet were related to healthy feet relative to the other groups (19.6 ± 2.7 , $p < .001$ and 14.2
29 ± 0.7 , $p < .001$ respectively). Additionally, they knew that a foot ulcer (DFU) on their feet will not
30 be painful relative to other groups (6.6 ± 2.8 , $p < .001$). High-risk patients knew which physical
31 causes could affect the development of a DFU (18 ± 1.4 , $p < .001$) and that foot self-care and
32 medical control could prevent DFU appearance (23.4 ± 2.15 , $p < .001$ and 13.9 ± 0.9 , $p < .001$
33 respectively).

34 **Conclusion:** IWGDF-3 patients knew the natural progression of diabetes foot complications and
35 how to prevent them. Clinicians should focus their efforts and educate diabetes at lower risk of
36 foot ulcer.

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38 In 2019, 463 million people were diagnosed with diabetes mellitus (DM). This is expected to rise
39 to 578 million in 2030 and 700 million in 2045 representing a 51% increase (1). Diabetic foot
40 disease affects approximately 19% and 34% of persons with diabetes (2). Not all patients with
41 DM are at-risk for ulceration and its complications (3). Data show that 25% of patients with
42 diabetes develop a foot ulcer in their lifetime (4). Additionally, the risk of death after 10 years in
43 patients with diabetes and history of diabetic foot ulcer (DFU) is twice as high as the risk for a
44 patient without foot ulcer history (5).

45 Foot ulcers and related foot amputations cause an extensive burden in the individuals with
46 diabetes, health care systems, and direct and indirect related costs (6). Despite this, patients
47 with DM have a lack of foot care knowledge, which is a key determinant of successful
48 management of disease and prevention especially long-term poor health (7).

49 According to American Diabetes Association, annual assessments of knowledge and skills are
50 necessary for patients with DM (8). Understanding the level of knowledge in patients with
51 diabetes is important to incorporate strategies that include elements of prevention, patient and
52 staff education, multidisciplinary treatment, and close monitoring that can reduce the burden
53 of diabetic foot disease (9). Prior research has indicated that it is possible for a series of
54 relatively simple foot self-care actions to be effective in minimizing the impact of diabetic
55 peripheral neuropathy (DPN) risk factors and thus reduce the risk of DFU occurrence (10).

56 The Patient Interpretation of Neuropathy (PIN) questionnaire is a validated instrument for
57 assessment of cognitive and emotional representations DPN that can influence adherence to

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58 foot self-care. Patient interpretation of neuropathy scales have shown a direct association with
59 past foot ulceration and foot self-care behaviors (11). The International Working Group on
60 Diabetic Foot (IWGDF) in the 2019 prevention guidelines state that one of the most important
61 key elements to improve the prevention of foot ulcers is to identify the at-risk foot (12). The
62 IWGDF proposed a quantitative classification that varies from risk-0 (very low risk of DFU) to
63 risk-3 (high risk of DFU).

64 To the best of our knowledge, no research has yet evaluated if there is any difference in the
65 diabetic foot disease knowledge among persons with diabetes with different risks of foot
66 ulceration according to the IWGDF guidance. Stratifying risk according to the level of knowledge
67 based on the risk of foot ulceration could be very useful to implement preventive actions.

68 Therefore, the main aim of this study was to analyze levels of knowledge and behavior about
69 diabetic foot care and prevention in persons with diabetes according to International Working
70 Group risk stratification system.

71

72 **Methods**

73 **Subjects**

74 Patients at different risks (IWGDF risk 0-3) for foot ulceration that came consecutively to a
75 specialized diabetic foot unit participated in this descriptive study between November 2019 and
76 June 2021. The inclusion criteria were confirmed type 1 or type 2 diabetes and age > 18 years.

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77 Exclusion criteria were the inability to answer the questionnaire autonomously. After
78 institutional review board approval was obtained, patients' medical records and
79 clinicopathologic conditions were recorded. The study was completed following the ethical
80 standards of the responsible committee. Informed consent was obtained from each patient.
81 The authors declare that they complied with the code of ethics of the Declaration of Helsinki
82 (13).

83

84 **Clinical evaluation**

85 Clinical characteristics at baseline were assessed after the patient signed informed consent on
86 day zero. Body mass index (BMI) was calculated as weight (kg) divided by height (m²).
87 Clinicopathologic data including diabetes type, hypertension, and HbA1c (%) values in the
88 previous three months were collected. The patients' renal, cardiac, and retinopathy status, and
89 previous minor amputation were recorded in the clinical record form from the patient's clinical
90 history. DPN was diagnosed according to the inability to sense the pressure of a 10-g Semmes-
91 Weinstein monofilament at three plantar foot sites and a vibration perception threshold > 25 V
92 applied to a bony part on the dorsal side of the distal phalanx of the first toe as assessed using a
93 biothesiometer (Me.Te.Da. s.r.l., Via Silvio Pellico, 4, 63074 San Benedetto del Tronto, Italy) (12).
94 Peripheral arterial disease (PAD) was assessed by foot pulse palpation in combination with
95 ankle systolic pressure and systolic ankle brachial index (ABI) or toe systolic pressure and toe
96 brachial index (TBI) measurement (14).

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97 Foot deformity was recorded in the standing position for the following conditions: claw,
98 hammer, mallet toes, hallux abductus valgus (15), plantar bony prominence, and rocker
99 midfoot deformity secondary to Charcot neuroarthropathy (16). The level of education was
100 stratified into primary education, middle education, short-cycle tertiary education, and
101 university.

102 After clinical evaluation, patients were classified into four different groups according to the
103 IWGDF risk classification system (12): 1) Category-0 (very low risk of DFU): no loss of protective
104 sensation (LOPS) and no PAD; 2) Category-1 (low risk of DFU): LOPS or PAD; 3) Category-2
105 (moderate risk of DFU): LOPS + PAD or LOPS + foot deformity or PAD + foot deformity; 4)
106 Category-3 (High risk of DFU): LOPS or PAD, and one or more of the following: history of DFU,
107 minor or major foot amputation, and end-stage renal disease.

108

109 **Patient Interpretation of Neuropathy (PIN) questionnaire**

110 After clinical evaluation and risk stratification, patients were asked to complete the
111 questionnaire. The PIN questionnaire is a reliable and valid measure of patient's cognitive and
112 emotional representations of DPN affecting foot self-care (11). The PIN questionnaire is a 39-
113 item draft instrument stratified into 11 domains: ID1 (illness identity 1, good circulation means
114 healthy feet); ID2 (illness identity 2, accurate interpretation of neuropathy); ID3 (illness identity
115 3, ulcers accompanied by pain); C1 (causes 1, physical causes for ulcers); C2 (causes 2,
116 self/practitioner blame); TL (timeline, acute ulcer onset); CC1 (cure/controllability 1, efficacy of

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117 foot self-care); CC2 (cure/controllability 2, practitioner-foot ulcer control); CONS
118 (consequences, anticipated consequences); Em1 (emotions 1, worry about consequences); and
119 Em2 (emotions 2, anger at practitioners). The 39-item PIN questionnaire is shown in
120 supplementary file 1.
121 The responses to each statement were scored on a 5-point Likert scale (1= strongly disagree, 2=
122 disagree, 3= uncertain, 4= agree, and 5= strongly agree). Depending on the domain under
123 analyses, it can reach a different maximum final point value: ID1 (20 points), ID2 (15 points), ID3
124 (15 points), C1 (20 points), C2 (20 points), TL (15 points), CC1 (25 points), CC2 (15 points), CONS
125 (20 points), Em1 (20 points), and Em2 (10 points).

126

127 **Outcome measures**

128 The main outcome measure was to analyze if there is any difference in the levels of knowledge
129 and behavior about diabetic foot care and prevention in persons with diabetes according to
130 IWGDF risk stratification system.

131

132 **Statistical analyses**

133 The assumption of normality of all continuous variables was verified using the
134 Kolmogorov-Smirnov test. Normally distributed variables (Kolmogorov-Smirnov test
135 with $p \geq 0.05$) were reported as mean and standard deviations (SD), and non-normally
136 distributed variables (Kolmogorov-Smirnov test with $p < 0.05$) were reported as medians and

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137 interquartile ranges. To explore differences in clinical features between the risk groups, the
138 analyses of variance (ANOVA) test was performed for normally distributed variables, and the
139 Chi squared test was performed for non-normally distributed variables.

140 To analyze differences between IWGDF risk groups and PIN questionnaire, the 11 domains were
141 analyzed separately, and a one factor Anova test was performed to explore differences
142 between IWGDF groups and PIN questionnaire results.

143 P-values <0.05 were considered statistically significant with confidence intervals (CI) of 95%. All
144 statistical analyses were performed using SPSS statistics version 25.0 for Mac OS (SPSS, Chicago,
145 IL, USA).

146 A descriptive study of patients with diabetes and different risks for foot ulceration (17) showed
147 that patients with long diabetes duration diagnosis had a proper foot care knowledge rate of
148 86.7%. As a relevant risk reduction, we assumed a difference in the recurrence rate of 10% in
149 the group of patients who had an appropriate diabetic foot disease knowledge on the basis of
150 what we considered a relevant risk reduction compared with the group of patients who did not
151 have an appropriate diabetic foot disease knowledge. With 0.05 setting (one-sided), power of
152 0.80 in a x2 analysis, and an anticipated loss to follow-up of 0%, we intended to include 83
153 patients.

154

155 **Results**

156 Eighty-three patients at different risk of foot ulceration were included.

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157 Baseline data on demographic characteristics and diabetes complications are shown in Table 1.
158 From the eighty patients included in the study, 22 (26.5%) were IWGDF-risk 0, 20 (25.24.1%)
159 were IWGDF-risk 1, 20 (24.1%) were IWGDF-risk 2, and 21 (25.3%) were IWGDF-risk 3.
160 High risk patients (IWGDF-3) had more previous DFU, minor amputation, and foot deformities
161 than the other groups. Additionally, patients at high risk were older, and patients at low risk
162 had the highest education. Differences between the risk factors for the risk of suffering a DFU
163 are shown in Table 2.
164 Regarding primary outcome measure, IWGDF-3 risk patients reported that good circulation
165 (ID1) and absence of DPN in their feet (ID2) were related to healthy feet relative to the rest of
166 the groups (19.6 ± 2.7 , $p < .001$ and 14.2 ± 0.8 , $p < .001$ respectively). IWGDF-3 risk patients
167 reported that foot ulcer (DFU) on their feet will not be painful (ID3) relative to the other groups
168 (6.5 ± 2.8 , $p < .001$). Additionally, IWGDF-3 risk patients knew which physical causes could affect
169 the development of a DFU (C1) (18.1 ± 1.4 , $p < .001$) and that foot self-care (CC1) and medical
170 control (CC2) could prevent DFU appearance (22.6 ± 2.1 , $p < .001$ and 13.8 ± 0.9 , $p < .001$
171 respectively). Regarding the capability to anticipate complications (CONS) and the worry about
172 them (Em1) we did not find any difference between groups. Finally, IWGDF-3 risk patients of
173 DFU occurrence had lower anger against practitioners (Em2) (3.2 ± 1.1 , $p < .001$) (Table 3).

174 **Discussion**

175 The results show that patients at high-risk for foot ulceration (IWGDF-3) had an increased
176 knowledge and behavior about diabetic foot disease versus the other IWGDF risk groups. The

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177 main difference is that IWGDF-3 risk patients have previous DFU and minor amputation, and
178 thus they know the natural timeline of diabetic foot disease. Additionally, IWGDF risk patients
179 frequently have a close monitoring follow-up in specialized diabetic foot units.
180 Despite this, most studies in the literature report on poor foot care practices and knowledge
181 among patients with DM (18). Additionally, it was difficult to compare the results of the current
182 study with other studies because the nature of the study populations, and the applied
183 measurements were different due to the sample size, the heterogeneous disease status, the
184 different methods of frequent data collection, and use of non-validated questionnaires (19).
185 Previous studies about diabetic foot care knowledge have demonstrated how demographic
186 variables can modify the level of knowledge. Factors related to a major knowledge are more
187 than ten years of diabetes duration (19); furthermore, previous DFU, history of hospitalization,
188 history of amputation, and female gender had a significant relationship with knowledge (20).
189 Compared to other results, patients with previous DFU and amputation (IWGDF risk 3) had
190 higher knowledge level indicating that training in patients with previous diabetic foot injuries is
191 higher due to the normal course of the disease. Clinicians and diabetes educators should focus
192 on their efforts to educate persons from the beginning of DM diagnosis to prevent further
193 complications. Patients at a lower or moderate risk of foot ulceration (IWGDF 0-2) will benefit
194 from better outcomes such as to prevent the first foot ulcer event by the application of
195 structured education programs.

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196 Structured education is considered by many to be a key aspect of a foot ulcer prevention
197 program (21). The results derived from the current research support the fact that educational
198 programs should be focused on validated systems such as IWGDF classification and are not
199 based in demographic factors like age, gender, or educational level: These are important factors
200 that clinicians must consider, but they could be heterogeneous.

201 Studies are needed to better define the categories of patients that will benefit from
202 preventative interventions and what specific types of interventions should be included (3).

203 Patients with diabetes at lower risk for foot ulceration (IWGDF 0-2) need to understand their
204 disease in order to engage in proactive foot self-care as previous literature has shown (22-27).

205 To the best of our knowledge, this is the first research to analyze diabetic foot disease
206 knowledge and behavior separately as a function of risk of foot ulceration. Clinicians and
207 diabetes educators should focus their efforts on educating people from the beginning of DM
208 diagnosis to prevent complications including the first ulcer event or foot amputation.

209 However, our results should be interpreted with caution because of some limitations: We did
210 not analyze if patients at different risk for foot ulceration could achieve better outcomes
211 despite their different levels of knowledge and behaviors. Additionally, the results were
212 obtained from a single center (i.e., clinic-based study). The study sample thus could not
213 represent the entire whole population and the heterogenous nature of the sample due to the
214 inclusion on both type 1 and 2 diabetes patients. Nevertheless, this is the first study to

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215 separately analyze diabetic foot disease knowledge and behavior of persons at different risks of
216 foot ulceration.

217

218 **Conclusion**

219 High risk patients (IWGDF-3) clearly understood the natural progression of diabetes foot
220 complications and how to prevent it versus IWGDF 0-2 risk patients. Clinicians and diabetes
221 educators should focus their efforts on educating people with diabetes at lower risk of foot
222 ulcer (IWGDF 0-2) to prevent further complications. High-level research is still needed to better
223 define the categories of patients that will benefit from preventative interventions and what
224 specific types of interventions should be included.

225

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228 **Financial Disclosure:** None reported.

229 **Conflict of Interest:** None reported.

230

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301 **Table 1. Patient baseline characteristics.**

Baseline Characteristics	Patients (N=83)
Male, n (%)	57 (68.7%)
Female n, (%)	26 (31.3%)
Type 1 Diabetes, n (%)	18 (21.7%)
Type 2 Diabetes, n (%)	65 (78.3%)
Retinopathy, n (%)	28 (33.7%)
End stage renal disease, n (%)	2 (2.4%)
Hypertension, n (%)	51 (61.4%)
Cardiopathy, n (%)	15 (18.1%)
Current smoker, n (%)	12 (14.4%)
Previous foot ulcer, n (%)	21 (25.3%)
Previous minor Amputation, n (%)	9 (10.8%)
Foot deformity, n (%)	34 (40.9%)
Peripheral neuropathy, n (%)	59 (71.1%)
Permeable Pedis pulse, n (%)	60 (72.3%)
Permeable Posterior tibial pulse, n (%)	64 (77.1%)
Systolic ankle pressure (mmHg), mean \pm SD	144.7 \pm 36.9
Systolic toe pressure, mean \pm SD	103.5 \pm 27.62

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Mean age \pm SD (years)		64.2 \pm 14.0
Body mass index (kg/cm ²), mean \pm SD		28.1 \pm 3.7
Glycated hemoglobin mmol/mol (%), mean \pm SD		7.1 \pm 1.0
Diabetes mellitus (years), mean \pm SD		17.9 \pm 10.5
Level of education	Primary education, n (%)	15 (18.1%)
	Middle education, n (%)	15 (18.1%)
	Tertiary education, n (%)	29 (34.9%)
	University, n (%)	24 (28.9%)

302 Table 1 Legend: DM, diabetes mellitus; SD, standard deviation; Kg, kilograms; cm², squared
303 centimeters; mm, millimeters; Hg, mercury.

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306 **Table 2. Associations between the risk factors for IWGDF risk groups.**

Baseline Characteristics	IWGDF-0 (n=22)	IWGDF-1 (n=20)	IWGDF-2 (n=20)	IWGDF-3 (n=21)	P- value
Male, n (%)	17 (77.3%)	9 (45%)	13 (65%)	18 (85.7%)	.019*
Female n, (%)	5 (22.7%)	11 (55%)	7 (35%)	3 (14.3%)	
Type 1 Diabetes, n (%)	12 (54.5%)	4 (20%)	0 (0%)	2 (9.5%)	<.001*
Type 2 Diabetes, n (%)	10 (45.4%)	16 (80%)	20 (100%)	19 (90.5%)	
Retinopathy, n (%)	4 (18.2%)	5 (25%)	12 (60%)	7 (33.3%)	.018*
End stage renal disease, n (%)	0 (0%)	0 (0%)	0 (0%)	2 (9.5%)	.283
Hypertension, n (%)	15 (68.2%)	12 (60%)	15 (75%)	9 (42.8%)	.012*
Cardiopathy, n (%)	2 (9.1%)	1 (5%)	7 (35%)	5 (23.8%)	.058
Current smoker, n (%)	5 (22.7%)	1 (5%)	3 (15%)	3 (1.42%)	.572
Previous foot ulcer, n (%)	0 (0%)	0 (0%)	0 (0%)	21 (100%)	<.001*
Previous minor Amputation, n (%)	0 (0%)	0 (0%)	0 (0%)	9 (42.8%)	<.001*
Foot deformity, n (%)	0 (0%)	0 (0%)	13 (65%)	21 (100%)	<.001*

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Peripheral neuropathy, n (%)		0 (0%)	18 (90%)	20 (100%)	21 (100%)	<.001*
Permeable Pedis pulse, n (%)		22 (100%)	16 (80%)	11 (55%)	11 (52.4%)	.003*
Permeable Posterior tibial pulse, n (%)		22 (100%)	18 (90%)	13 (65%)	11 (52.4%)	.006*
Systolic ankle pressure (mmHg), mean \pm SD		128.6 \pm 24.9	152.4 \pm 33.1	149.5 \pm 28.5	148.3 \pm 52.8	.159
Systolic toe pressure, mean \pm SD		107 \pm 22.1	112.9 \pm 24.1	99.1 \pm 25.2	95.1 \pm 35.7	.174
Mean age \pm SD (years)		51.1 \pm 16.6	70.5 \pm 10.0	72.26 \pm 9.4	63.6 \pm 7.4	<.001*
Body mass index (kg/cm ²), mean \pm SD		26.2 \pm 2.9	27.9 \pm 3.5	29.1 \pm 4.4	29.6 \pm 3.5	.02*
Glycated hemoglobin mmol/mol (%), mean \pm SD		7.0 \pm 0.83	7.1 \pm 1.4	7.3 \pm 0.8	7.0 \pm 0.9	.692
Diabetes mellitus (years), mean \pm SD		18.9 \pm 11.8	18.1 \pm 12.3	17.2 \pm 6.9	17.4 \pm 11.1	.962
Education	Primary education, n (%)	1 (4.5%)	2 (10%)	9 (45%)	3 (14.3%)	.003*

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Middle education, n (%)	3 (13.6%)	5 (25%)	2 (10%)	5 (23.8%)
Tertiary education, n (%)	7 (31.8%)	9 (45%)	3 (15%)	10 (47.6%)
University, n (%)	11 (50%)	4 (20%)	6 (30%)	3 (14.3%)

307 Table 2 Legend: DM, diabetes mellitus; SD, standard deviation; Kg, kilograms; cm², squared
308 centimeters; mm, millimeters; Hg, mercury. IWGDF-0, very low risk of DFU; IWGDF-1, low risk
309 of DFU; IWGDF-2, moderate risk of DFU; IWGDF-3, high risk of DFU; *P < 0.05 indicates
310 statistical significance. Statistical significance refers to differences between the IWGDF risk
311 groups with chi-square test.

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314 **Table 3. Differences between the IWGDF risk groups for PIN scales.**

PIN Questionnaire domain	IWGDF-0 (n=22)	IWGDF-1 (n=20)	IWGDF-2 (n=20)	IWGDF-3 (n=21)	P-value
ID1	14.7 ± 2.2	14.5 ± 4.4	14.1 ± 3	19.6 ± 2.7	<.001*
ID2	10.8 ± 2.8	11.8 ± 3	11.7 ± 2.3	14.2 ± 0.8	<.001*
ID3	11.3 ± 2.3	11.1 ± 2.1	10.2 ± 3.2	6.5 ± 2.8	<.001*
C1	15.5 ± 2.7	16.3 ± 2.8	13.8 ± 3.2	18.1 ± 1.4	<.001*
C2	14.5 ± 3.2	14 ± 2.8	11.2 ± 4.7	15.3 ± 2.3	<.001*
TL	9.8 ± 1.6	10.5 ± 2.2	9.7 ± 2.3	18.3 ± 2.1	.004*
CC1	21.1 ± 2.5	21.1 ± 4.5	19.1 ± 2.6	22.6 ± 2.1	<.001*
CC2	12.4 ± 1.8	12.4 ± 2.2	10.7 ± 2.8	13.8 ± 0.9	<.001*
CONS	16.2 ± 2.7	17.1 ± 3.7	15 ± 3.7	17.3 ± 2.43	.139
Em1	17 ± 2.3	18.3 ± 3.7	17.1 ± 3.3	18.5 ± 1.3	.351
Em2	5.9 ± 2.59	3.9 ± 2.2	4.9 ± 2.9	3.2 ± 1.1	<.001*

315 Table 3 Legend: IWGDF-0, very low risk of DFU; IWGDF-1, low risk of DFU; IWGDF-2, moderate
 316 risk of DFU; IWGDF-3, high risk of DFU. ID1, illness identity 1, good circulation means healthy
 317 feet; ID2, illness identity 2, accurate interpretation of neuropathy; ID3, illness identity 3, ulcers
 318 accompanied by pain; C1, causes 1, physical causes for ulcers; C2, causes 2, self/practitioner
 319 blame; TL, timeline, acute ulcer onset; CC1, cure/controllability 1, efficacy of foot self-care; CC2,

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320 cure/controllability 2, practitioner-foot ulcer control; CONS, consequences, anticipated
321 consequences; Em1, emotions 1, worry about consequences; Em2, emotions 2, anger at
322 practitioners.
323 *P < 0.05 indicates statistical significance. Statistical significance refers to differences between
324 the IWGDF risk groups.

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325 Supplementary file 1. Patient interpretation neuropathy questionnaire
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PIN Questionnaire scales	PIN Questionnaire items	1 – strongly disagree	2 – disagree	3 – uncertain	4 – agree	5 – strongly agree
ID1 (illness identity 1, good circulation means healthy feet)	Lost or reduced feeling means poor circulation in my feet.					
	Good circulation in the feet means that I will not get foot ulcers.					
	Good circulation in the feet means healthy feet.					
	If the feet feel warm to the touch, it means healthy feet.					
ID2 (illness identity 2, accurate interpretation of neuropathy)	Lost or reduced feeling means damage to the nerves in my feet.					
	It is possible to have lost or reduced feeling and at the same time have pain in the feet.					
	It is possible to have reduced feeling in the feet despite having sensitivity to touch.					
ID3 (illness identity 3, ulcers accompanied by pain)	If I had a foot ulcer, I would get pain in my feet.					
	When a foot ulcer gets worse it would be painful.					
	I could develop a foot ulcer without feeling any pain.					
C1 (causes 1, physical causes for ulcers)	Changes in foot shape can cause foot ulcers					
	Ill-fitting shoes can cause foot ulcers.					
	Excessive hard skin formation (callus) can cause foot ulcers.					

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	Dry skin on the feet can cause foot ulcers					
C2 (causes 2, self/practitioner blame)	Lost or reduced feeling in my feet was caused by poor medical care in the past.					
	Lost or reduced feeling in my feet was caused by not taking good care of my diabetes.					
	Foot ulcers are caused by poor medical care.					
	Foot ulcers are caused by not taking care of oneself.					
TL (timeline, acute ulcer onset)	Foot ulcers take a long time to develop.					
	Foot ulcers can develop very fast.					
	I can develop a foot ulcer at any time.					
CC1 (cure/controllability 1, efficacy of foot self-care)	Checking my feet every day can prevent foot ulcers from occurring.					
	Seeing my foot care specialist regularly can prevent foot ulcers from occurring.					
	Wearing shoes that fit properly can prevent foot ulcers from occurring.					
	Moisturizing feet can prevent foot ulcers from occurring.					
	Removing hard skin (callus) can prevent foot					
CC2 (cure/controllability 2, practitioner-foot ulcer control)	Diabetes doctors can prevent foot ulcers from occurring.					
	My family doctor can prevent foot ulcers from occurring.					
	Foot care specialists can prevent foot ulcers from occurring.					

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CONS (consequences, anticipated consequences)	Lost or reduced feeling in my feet could lead to injuries to my feet.					
	Lost or reduced feeling in my feet could lead to foot gangrene.					
	Lost or reduced feeling in my feet could lead to foot ulcers.					
	Lost or reduced feeling in my feet could lead to amputation.					
Em1 (emotions 1, worry about consequences)	Lost or reduced feeling in my feet makes me worry about what is going to happen next.					
	Lost or reduced feeling in my feet makes me worry about a foot injury.					
	Lost or reduced feeling in my feet makes me worry about a foot ulcer.					
	Lost or reduced feeling in my feet makes me worry about losing a leg.					
Em2 (emotions 2, anger at practitioners)	Lost or reduced feeling makes me angry about docs who don't seem to care about me.					
	Lost or reduced feeling makes me angry about docs not telling me what is really going on with my feet.					

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