

Risk Assessment for Foot Ulceration in a Nigerian Diabetic Population attending University of Ilorin Teaching Hospital, Ilorin

John Kola Olarinoye, Abiodun Hamza Bello, Saint Ayodele Ogunkeyede¹, Adebisi Bunmi Aderibigbe¹, Babakayode Abel Olagbaye², Kolawole Wasiu Wahab³

Department of Medicine, University of Ilorin Teaching Hospital, ¹Department of Surgery, Plastic Surgery Unit, University of Ilorin, ²Department of Anatomy, University of Ilorin, ³Department of Medicine Neurology Unit, University of Ilorin Teaching Hospital, Ilorin, Kwara, Nigeria

Abstract

Background: Complications from diabetic foot ulcer often pose a strong threat to the life of patients with diabetes. The aim of this study was to evaluate the risk factors for foot ulceration among people living with diabetes attending University of Ilorin Teaching Hospital, Ilorin, Nigeria. **Materials and Methods:** One hundred and fifty-one diabetic patients were interviewed with a questionnaire to obtain their sociodemographic, foot care, and diabetes-related details. Both of their feet were then assessed for dermatological changes, musculoskeletal deformities, neurological and vascular complications. Risk stratification was done according to the diabetic foot risk classification system of the International Working Group on Diabetic Foot. Data were analyzed using SPSS version 22. Categorical variables were compared using the Chi-square test while correlation between the risk categories and patients' characteristics was determined using Pearson's Correlation Coefficient, setting statistical significance at $P < 0.05$. **Results and Conclusion:** Intermittent claudication was found in 40 patients (26.5%), 76 (50.3) had paresthesia. Eighty nine (58.9%) had foot care education but only 7 (4.6%) had special diabetic foot wears. Impaired monofilament sensitivity was seen in 27 (17.9%) of the right feet and in 23 (15.2%) of the left feet. Significant peripheral neuropathy was detected in 36 (23.9%) on the right and 30 (19.9%) on the left side. It was found that the longer the duration of diabetes, the higher the risk ($P = 0.04$). Furthermore, patients who had no education had significantly higher risk for diabetes foot ulcer (DFU) ($P = 0.01$). High risk was discovered among the retirees ($P = 0.01$). In addition, presence of kidney disease ($P = 0.046$), cardiovascular disease ($P = 0.001$), and visual impairment ($P = 0.19$) all conferred a high risk for developing DFU in our study population. Overall assessment showed that the prevalence of "foot-at-risk" in this study was 30.5% which we think is substantial enough to attract a more serious attention.

Keywords: Diabetic foot ulcer, Nigeria, risk assessment

INTRODUCTION

Foot complications in diabetes remain a major global health concern with medical, social, and economic implications.^[1,2] The lifetime risk of developing a foot ulcer is estimated to be 15%–25% while the point prevalence ranges from 4% to 10% with an annual incidence of 1%–4%.^[3,4] About 1 in 10 Nigerian adults living with diabetes would develop a foot ulcer with majority resulting in death or lower extremity amputation.^[5] The case-fatality rate for diabetes foot ulcer (DFU), according to a study in southwestern Nigeria, was found to be 53%.^[5,6] With the rising global prevalence of diabetes, especially in low-income nations like Nigeria, the disease burden from DFU is expected to increase in the near future, thus putting

a lot of strain on already weak health facilities and meager resources.^[7-9]

DFUs are mainly due to peripheral neuropathy (PN), vascular insufficiency, and infection making them largely

Address for correspondence: Dr. John Kola Olarinoye, Department of Medicine, University of Ilorin Teaching Hospital, Ilorin, Kwara, Nigeria. E-mail: kolaolarinoye@yahoo.com

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preventable.^[2,10] In a resource-poor setting like ours, it is easier and by far cheaper to prevent than to treat this devastating disease. Studies have shown substantial evidence supporting screening all patients with diabetes to identify those at risk for foot ulceration.^[11-13] These patients will benefit from prophylactic interventions such as structured diabetes education, prescription footwears, intensive podiatric care, and prompt surgical referral.

Certain risk factors have been traditionally associated with foot ulcers in diabetics including PN, foot deformities, impaired vascular supply to the lower extremities, poor glycemic control, prolonged diabetes as well as poor foot hygiene, and inappropriate footwears.^[1,14-16] Screening and identification of these risk factors; then ranking the patients into low, medium, or high foot risk group making use of validated risk stratification tools, followed by appropriate action or intervention have been known to reduce morbidity and mortality due to this disease.^[11,17,18] The aim of this study is to evaluate the risk factors for foot ulceration among people living with diabetes attending University of Ilorin Teaching Hospital (UITH), Ilorin, Nigeria.

MATERIALS AND METHODS

This cross-sectional study was carried out over a period of about 6 months (January 2019–December 2019) at the Diabetes Clinic, Medical Out-patient Department, UITH, Ilorin, Nigeria. The Diabetes Clinic runs every week with an average attendance of 30–50 patients. Ethical clearance was obtained from the ethics and research committee of the teaching hospital. Then, all consenting patients who were between 18 and 65 years of age and were known diabetes patients according to the WHO diagnostic criteria^[19] were interviewed with a structured questionnaire containing sociodemographic, diabetes and medical history, foot care habit, anthropometric profile, dermatological and musculoskeletal assessment, neurological assessment and vascular assessment domains. Patients with active foot ulcers, with other comorbid conditions causing PN and peripheral vascular diseases from other causes than diabetes were exempted from the study. Patients on drugs like isoniazid that can cause PN were also excluded.

Anthropometric parameters such as weight, height, waist circumference, blood pressure were measured and documented.

Dermatological assessment was carried out in a well lit room by the researchers for the presence of abnormal erythema, callus, paronychia, and warm or cold foot.

Musculoskeletal assessment was done to check for deformities like flat foot, claw toe, hammertoe, and rigid deformities.

For neurological assessment;

- Loss of protective sensation (LOPS) was determined with the use of 10 g Semmes-Weinstein monofilaments. With the eyes closed, nylon monofilament was applied perpendicularly on four anatomic sites (1st, 3rd and 5th metatarsal heads and plantar surface of distal hallux)

until it buckled to 90° and then left for 1 s. Loss of ability to detect it in one or more sites indicated LOPS^[14,20]

- Vibratory sensation was tested over the tip of the great toe bilaterally using a 128-Hz tuning fork. An abnormal response was defined by patient's inability to perceive vibratory sensation when the examiner still perceived it while holding the fork on the tip of the toe^[14,21]
- Pinprick sensation was tested using a disposable pin applied just proximal to the toenail on the dorsal surface of the hallux with just enough pressure to deform the skin. Inability to perceive pinprick over the hallux was regarded as LOPS^[14]
- Ankle reflex was tested with the use of a tendon hammer. Absence of reflex was regarded as an abnormal test.^[14]

Vascular integrity of the foot was assessed by palpation of Dorsalis pedis, posterior tibial as well as popliteal pulses.^[14,22]

Risk Stratification was done by assigning each participant to a foot risk category according to the diabetic foot risk classification system of the International Working Group on the Diabetic Foot (1999 version).^[23] The sensitivity of this stratification system was evaluated to be 74%, specificity was 86%, accuracy was 83% while the positive predictive value was 64%, all at confidence interval of 95%.^[24]

Statistical analysis was done using the Statistical Package for the Social Sciences (SPSS) version 22. The prevalence of each risk factor as well as each foot risk category was determined using descriptive statistics. Categorical variables were compared using the Chi-square test. Correlation between the risk categories and patients' characteristics was determined using Pearson's correlation coefficient. Statistical significance was set at $P < 0.05$.

RESULTS

One hundred and fifty-one diabetes patients responded with mean age ($\pm$ standard deviation) of 57.9 ± 12.7 years. Fifty-three (35.1%) were male while the remaining 98 (64.9%) were female. The higher female percentage is a reflection of gender distribution among the clinic attendees, perhaps an indication that women have a better health-seeking behavior. Ninety-five (62.9%) were Muslim while the remaining 56 (37.1%) were Christians.

One hundred and thirty-one (86.8%) were married, 8 (5.3%) were single, 11 (7.3%) were widowed with only one person being divorced. Thirty people (19.9%) had no formal education at all; 34 (22.5%) had primary education; 28 (18.5%) had secondary education while the remaining 59 (39.1%) were educated up to the tertiary level.

Ten patients (6.6%) took alcohol while only 3 (2%) smoked cigarettes. Most of the respondents, 118 (78.1%) had systemic hypertension with about half (49.7%) having a good blood pressure control; 8 (5.3%) had chronic kidney disease (Stage 4 or 5) while 29 (19.2%) had abnormal lipid profile and 68 (45%) had visual problems.

Table 1 shows the sociodemographic characteristics of the study subjects while the clinical parameters are displayed in Table 2. Majority of the patients (98%) had Type 2 diabetes while the remaining 2% had Type 1. The mean duration of diabetes disease was 8.1 ± 7.2 years. About a third (34%) had good glycemic control while the remaining 66% had poor control. Dyslipidemia (hypercholesterolemia, high low-density lipoprotein, low high-density lipoprotein, or hypertriglyceridemia) existed in 19.2% of the candidates.

Concerning foot-related complaints, 27 (17.9%) patients had developed foot ulcer in the past with only 4 (2.8%) having previously had amputation. Intermittent claudication was found in 40 patients (26.5%) while 76 (50.3%) had paraesthesia. Eighty-nine (58.9%) were exposed to foot care education but only 7 (4.6%) had special diabetic footwears. The anthropometric parameters are shown in Table 3.

The findings on comprehensive examination of the feet are displayed in Table 4. There was impairment in monofilament

sensitivity in 27 (17.9%) of the right feet and in 23 (15.2%) of the left feet. Vibratory perception sensation was undetected in 22 (14.6%) of the right feet and 21 (13.9%) of the left feet. Clinically detectable PN was detected in 36 (23.9%) on the right and 30 (19.9%) on the left side. Peripheral arterial disease (PAD) was identified in 20 (13.2%) on the right and 22 (14.6%) on the left side.

Overall foot ulcer risk assessment of the study population is shown in Figure 1 that 105 (69.5%) were in Category 0 (very low risk), 18 (11.9%) in Category 1 (low risk); 17 (11.3%) in Category 2 (moderate risk) while the remaining 11 (7.3%) were in Category 3 (severe risk). This puts the prevalence of significant “foot-at-risk” (Categories 1, 2, or 3) in this study population at 29.8%.

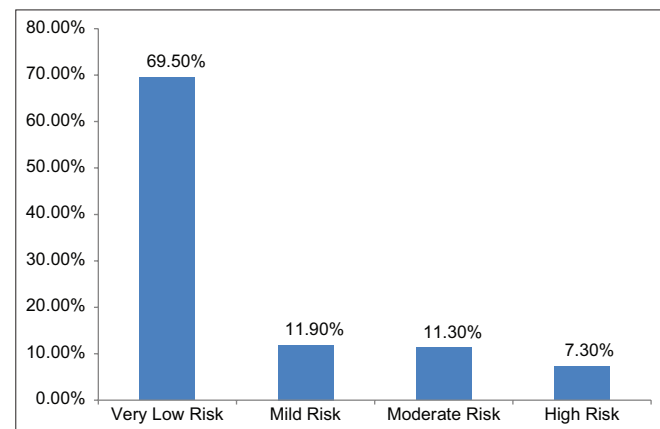


Figure 1: Diabetic foot ulcer risk categories among study population

Table 1: Sociodemographic parameters of the study subjects	
Parameter	Frequency, <i>n</i> (%)
Age group better mean age $\pm$ SD (years)	
<40	10 (6.6)
40-60	70 (46.4)
>60	71 (47)
Gender	
Male	53 (35.1)
Female	98 (64.1)
Ethnicity	
Yoruba	136 (90.1)
Others	15 (9.9)
Religion	
Christianity	56 (37.1)
Islam	95 (62.9)
Marital status	
Married	131 (86.8)
Widow	11 (7.3)
Divorced	1 (0.7)
Single	8 (5.3)
Educational status	
None	30 (19.9)
Primary	34 (22.5)
Secondary	28 (18.5)
Tertiary	59 (39.1)
Occupation	
Civil servant	25 (16.6)
Trading	65 (43.0)
Artisans	14 (9.3)
Retired	36 (23.8)
Unemployed	11 (7.3)
Social history	
Alcohol	10 (6.6)
Smoking	3 (2.0)

SD: Standard deviation

Table 2: Clinical history of the patients	
Characteristic	<i>n</i> (%)
Type 1 DM	3 (2.0)
Type 2 DM	148 (98.0)
Good DM control	47 (34.0)
Poor DM control	91 (66.0)
Diabetes duration (years)	
<5	62 (41.0)
5-10	33 (21.9)
>10	56 (37.1)
Hypertension	118 (78.1)
Good BP control	75 (49.7)
Poor BP control	76 (50.3)
Dyslipidemia	29 (19.2)
Kidney problem	8 (5.3)
Visual problem	68 (45.0)
Prior amputation	4 (2.6)
Prior foot ulcer	27 (17.9)
Intermittent claudication	40 (26.5)
Paraesthesia	76 (50.3)
Foot-care education	89 (58.9)
Extensive walking	69 (45.7)
Special shoes	7 (4.6)
Insoles	19 (12.6)

DM: Diabetes mellitus, BP: Blood pressure

Table 3: Anthropometric parameters of the respondents

Parameter	Mean $\pm$ SD
Height (m) nonsense	1.64 $\pm$ 0.08
Weight (kg) nonsense	69.5 $\pm$ 14.1
BMI (kg/m ²)	25.8 $\pm$ 4.8
Waist circumference (cm)	91.3 $\pm$ 14.5
Hip circumference (cm)	94.0 $\pm$ 14.2
Waist/hip ratio	0.92 $\pm$ 0.09
Systolic BP (mmHg)	133.8 $\pm$ 19.7
Diastolic BP (mmHg)	79.6 $\pm$ 11.9

SD: Standard deviation, BMI: Body mass index, BP: Blood pressure

Table 4: Findings on foot examination

Parameter	Right foot, <i>n</i> (%)	Left foot, <i>n</i> (%)
Ulcer	11 (7.3)	10 (6.6)
Erythema	6 (4.0)	3 (2.0)
Callus	22 (14.6)	17 (11.3)
Dryness	33 (21.9)	31 (20.5)
Paronychia	5 (3.3)	4 (2.6)
Cyanosis	8 (5.3)	8 (5.3)
Bunion	3 (2.0)	2 (1.3)
Fissures	17 (11.3)	16 (10.6)
In-growing toe nail	3 (2.0)	1 (0.7)
Muscle wasting	3 (2.0)	4 (2.6)
Temperature difference	12 (7.9)	12 (7.9)
Nail dystrophy	18 (11.9)	12 (7.9)
Tinea pedis	1 (0.7)	1 (0.7)
Claw toe	11 (7.3)	9 (6.0)
Charcot joint	1 (0.7)	1 (0.7)
Monofilament insensitivity	27 (17.9)	23 (15.2)
Loss of pin prick	8 (5.3)	6 (5.3)
Absent ankle jerk	16 (10.6)	13 (8.6)
No vibratory perception	22 (14.6)	21 (13.9)
Absent dorsalis pedis	20 (13.2)	22 (14.6)
Absent posttibia	17 (11.3)	17 (11.3)
Deformity	12 (7.9)	10 (6.6)
Neuropathy	36 (23.8)	30 (19.9)
Peripheral arterial disease	20 (13.2)	22 (14.6)

In Table 5, some risk factors of diabetic foot ulcer (DFU) were tested for statistical association. There was no significant difference in the presence of severe risk for DFU in any of the age groups considered. High DFU risk was also not significantly associated with gender, religion, or marital status. Duration of diabetes was significantly associated with high-risk foot; the longer the duration, the higher the risk ($P = 0.04$). Furthermore, patients who had no education had significantly higher risk for DFU ($P = 0.01$). Equally, patients that were retired were more prone to develop DFU than other occupational groups ($P = 0.01$). In addition, the presence of kidney disease ($P = 0.046$), cardiovascular disease ($P = 0.001$), and visual impairment ($P = 0.19$) all conferred a high risk for developing DFU in our study population.

Surprisingly, there is a significant decline in the risk for DFU as the body mass index increased ($P = 0.036$), meaning patients

who were underweight were at higher risk of DFU than others. Furthermore, 50 respondents (33.1%) had truncal obesity as assessed by the waist circumference. Significant risk factors for foot ulceration were detected in 18% of those with truncal obesity and 33% of those without ($P = 0.005$). Poor glycemic control ($P = 0.5$) and presence of hypertension ($P = 0.35$) were weakly associated with high foot ulcer risk but dyslipidemia had no association.

DISCUSSION

Although several studies have been carried out on the subject of DFU in Nigeria, very few documented foot risk assessment. The most common foot-related complaints in our study were paraesthesia and intermittent claudication which obviously indicate the presence of PN and ischemic vascular disease. Common findings on examination of the feet include dryness, fissure formation, monofilament insensitivity, and absence of vibratory perceptions similar to findings in an earlier study in this center.^[25] Clinically detectable neuropathy was found in about a quarter (23.8%) of the diabetic feet examined. This is similar to a previous survey among the Pakistani diabetic population, where 23% had disturbed sense of vibration and 26% had monofilament insensitivity.^[26] The proportion of patients with clinically detectable neuropathy is much less than that in a Lagos-based study^[5,27] where neuropathy was found in 76.3%. Neuropathy is a common complication of diabetes mellitus and its presence increases the risk of foot ulceration by seven fold in patients living with diabetes [Appendix I-III].^[27]

PAD occurs more commonly in diabetes mellitus than in general population.^[28] Intermittent claudication was present in 26.5% of our study participants while clinically significant PAD was diagnosed by pedal pulse palpation in 14.6% of them. This disparity implies that the clinical method of detecting PAD by pedal pulse palpation lacks sensitivity and should therefore give way to more reliable methods like the Ankle-Brachial Index (ABI). The sensitivity of ABI in detecting angiographically significant stenosis has been reported to be as high as 94%.^[29] On the other hand, another study showed that the sensitivity of a nondetectable pulse for the diagnosis of PAD was as low as 17.8% but specificity was 98.7%.^[30]

Ten patients (6.7%) had foot deformities; 9 (6.0%) had claw toe; and 1 person had Charcot foot. This was also quite lower than the report from previous Lagos study^[5,27] where 26% of their study subjects had detectable foot deformities.

Using the IWGDF Risk Classification (1999),^[23] about 30% of our patients studied had clinically significant risk for foot ulceration. About 70% had very mild risk (Category 0) while 11.9%, 11.3%, and 7.3% were in Risk Categories 1, 2, and 3, respectively. Similar figures were recorded in a similar study in Tunisia^[31] using the same criteria where significant risk was found in 27.6%, but lower than in a Bangladeshi study^[32] where 44.5% of the patients were at risk of foot ulceration.

Table 5: Predictors of high risk foot in patients with diabetes

Factor	N	N	Percentage	χ^2	P
Age group (years)					
<40	10	1	10	7.04	0.13
40-60	70	7	10		
>60	71	16	22.5		
Gender					
Male	53	11	20.8	1.90	0.39
Female	98	13	13.3		
Religion					
Christianity	56	5	8.9	3.24	0.20
Islam	95	19	20.0		
Marital status					
Single	8	0	0	11.86	0.06
Married	131	19	14.5		
Divorced	1	0	0		
Widowed	11	5	45.5		
Education					
Nil	30	10	33.3	2.63	0.01***
Primary	34	4	11.8		
Secondary	28	3	10.7		
Tertiary	59	7	11.9		
Occupation					
Civil servants	25	0	0	28.95	0.01***
Traders	65	9	13.8		
Artisans	14	2	14.3		
Retired	36	13	36.1		
Hypertension					
Yes	118	21	17.8	2.101	0.35
No	33	3	9.1		
Kidney disease					
Yes	8	3	37.5	9.701	0.046**
No	142	20	14.1		
CVD					
Yes	59	14	23.7	14.91	0.001***
No	92	10	10.9		
Dyslipidemia					
Yes	29	3	10.3	0.99	0.607
No	122	21	17.2		
Visual loss					
Yes	68	14	20.6	7.885	0.019***
No	83	10	12.0		
BMI status					
Underweight	3	2	66.7	16.506	0.036***
Normal weight	61	9	14.8		
Overweight	39	5	12.8		
Obesity	28	2	7.1		
Glycemic control					
Good	44	6	13.6	3.343	0.502
Poor	93	16	17.2		
Diabetes duration (years)					
<5	62	7	11.3	10.105	0.04***
5-10	33	5	15.2		
>5	56	12	21.4		

CVD: Cardiovascular disease, BMI: Body mass index

The factors that were associated with severe risk include lack of education, being retired from work, presence of diabetic complications such as neuropathy, retinopathy, and cardiovascular diseases. Other factors that appeared to contribute to DFU risk severity were long duration of diabetes illness, and surprisingly, being underweight. Poor glycemic control and hypertension were positively associated with DFU risk but not significant. The paradoxical finding that leaner patients were more at risk of DFU may be as a result of nutritional deficiency commonly found among the poorly controlled, indigent elderly diabetics.

In the Lagos study, similar factors such as diabetes duration, poor glycemic control were identified as possible contributors to DFU. In the landmark Seattle Diabetes Study, significant predictors of DFU were glycemic control, impaired vision, prior foot ulcer or amputation as well as presence of neuropathy.^[5,27]

In the Bangladeshi study,^[32] age, insulin use, retinopathy, neuropathy, and poverty were among the identified factors associated with DFU.^[29] In a Chinese study,^[33] DFU was associated with glycemic control, duration of diabetes, hypertension, neuropathy, retinopathy, and sedentary lifestyle.

Our study showed that the risk for foot ulceration in this subset of Nigerian diabetic population was substantial and comparable with other parts of the world. Particular attention should be given to identifying the presence of neuropathy and PAD. The use of simple screening tool like ABI should be encouraged in all Nigerian diabetes care centers. This will enhance the diagnostic performance of our screening and will help in early detection of more patients who are vulnerable to this dreaded complication of diabetes. In addition, the presence of diabetic complications such as retinopathy, neuropathy, cardiovascular diseases must be identified and appropriately managed. Special attention must be paid to patients who are uneducated and those with long diabetes duration.

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Conflicts of interest

There are no conflicts of interest.

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APPENDIX I: INFORMATION SHEET

What is this study about?

This study is designed to assess the risk of foot ulceration in a Nigerian diabetic population attending the University of Ilorin Teaching Hospital. Whereas it is largely preventable, about 1 in 10 Nigerian adults living with diabetes still develop a foot ulcer with majority resulting in death or amputation. We seek to find those factors that may put a patient with diabetes at risk of developing foot ulcers so that these can be addressed to prevent development of diabetic foot ulcers.

What is expected of you to participate in this study?

The investigators would be glad if you could kindly provide answers to the questions that would be asked using the questionnaires designed for this study. You will be examined by any of the investigators or a research assistant.

What is the benefit of participating?

You will have the opportunity of knowing your risk of developing diabetic foot. This will be of immense value to you because you will be able to focus on prescribed health actions to reduce the risk and thus prevent development of foot ulcers.

What is the risk of participating?

There is minimal risk involved in this study. Your responses to the questionnaires designed for the study shall be taken and you shall be examined by the investigator. The examinations will in no way hurt you. However, you may experience a little pain during blood sample collection for investigation. The examinations and blood tests shall be at no cost to you.

Confidentiality

Your record shall be kept strictly confidential. In the event that the results of this study are published, no information revealing your identity shall be in such publication as your data shall be merged with others and anonymity shall be maintained in doing this.

Right to withdraw

Your refusal to participate in this research will not in any way prevent your being attended to by any member of the research team or any other doctor in this hospital. You are also at liberty to withdraw an earlier consent at any time without your treatment being affected in any way. However, we would be glad if you could kindly participate in the study.

Contacts

If you have any questions concerning this research, please feel free to contact Dr JK Olarinoye, Endocrinology and Metabolism Unit, Department of Medicine, University of Ilorin Teaching Hospital, Ilorin.

Tel: ...08033975844 or 07056614762. E-mail: kolaolarinoye@yahoo.com

If you feel you are being coerced in any way to participate, please contact the Chairman of UITH Ethical Review Committee. Tel: 08033846351. E-mail: uitherc@yahoo.com

APPENDIX II: CONSENT FORM

I (Name)
 of (address)
 hereby consent to be enrolled into this study titled "Risk Assessment for Foot Ulceration in a Nigerian Diabetic Population".

The nature and purpose of the study have been explained to me by

I understand that the study is purely for research and that I am free to withdraw my consent at any time. I also understand that the results of the study may be of benefit to mankind. I therefore willingly and voluntarily consent to participate in this study.

Participant's or proxy's signature and date

Researcher's or Research assistant's signature and date

APPENDIX III: RISK ASSESSMENT FOR FOOT ULCERATION IN A NIGERIAN DIABETIC POPULATION**Study Questionnaire****Sociodemographic Data**

Name	Hosp No
Age	Gender
Ethnicity	Religion
Marital Status	Type of Marriage
Education	NONE/PRY/SEC/TERTIARY
Occupation	
Alcohol Intake	NONE/SOCIAL/HEAVY
Smoking	NONE/OCASSIONAL/HEAVY

Diabetes History

Type of Diabetes	Diabetes Duration
Oral Agents (years)	Insulin Treatment (years)
Latest HBA1 _c	RBS

Comorbidities

Hypertension	YES/NO	Dyslipidemia	YES/NO
Kidney Disease	YES/NO	Visual Problem	YES/NO
CVD Risk	YES/NO		

eGFR

Foot-related History

Prior Amputation	YES/NO
Prior Ulcer	YES/NO
Claudication	YES/NO
Paraesthesia	YES/NO
Can reach feet	YES/NO
Can see feet	YES/NO
Prior Education	YES/NO
Extensive walking	YES/NO
Insoles for shoes	YES/NO
Special shoes	YES/NO

Anthropometry

Height	Weight	BMI
Waist	Hip	W/H Ratio
Systolic BP	Diastolic BP	

FOOT EXAMINATION**Dermatological Assessment**

Ulcer	N/Y	Preulcer Muscle wasting
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Erythema	Cyanosis	Temperature differences
Callus/Corn	Bunion	
Dryness	Fissures	Nail dystrophy
Paronychia	In-growing Toe nail	

Musculoskeletal

Claw Toe	Hammer Toe	Charcot Joint
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Neurological Assessment

10G Monofilament Test	Sensate	Insensate
Pin Prick Sensed	YES/NO	
Ankle reflexes	NORMAL/ABSENT	
Vibratory Perception Testing	NORMAL/ABSENT	
Biothesiometry		

Vascular Assessment

Dorsalis pedis	(RT)	PRESENT/ABSENT
Dorsalis Pedis	(LT)	PRESENT/ABSENT
Posterior Tibial	(RT)	PRESENT/ABSENT
Posterior Tibial	(LT)	PRESENT/ABSENT
Ankle Brachial Index		

ملخص المقال باللغة العربية

تقييم مخاطر تقرح القدم السكري في السكان النيجيريين بمستشفى جامعة إيلورين التعليمي، إيلورين

المؤلفون

John Kola Olarinoye, Abiodun Hamza Bello, Saint Ayodele Ogunkeyede¹, Adebisi Bunmi Aderibigbe¹, Babakayode Abel Olagbaye², Kolawole Wasiu Wahab³
Department of Medicine, University of Ilorin Teaching Hospital, ¹Department of Surgery, Plastic Surgery Unit, University of Ilorin, ²Department of Anatomy, University of Ilorin, ³Department of Medicine Neurology Unit, University of Ilorin Teaching Hospital, Ilorin, Kwara, Nigeria
المؤلف المسؤول: John Kola Olarinoye ، E-mail: kolaolarinoye@yahoo.com

الخلفية: غالبًا ما تشكل المضاعفات الناتجة عن قرحة القدم السكرية تهديدًا قويًا لحياة مرضى السكري. كان الهدف من هذه الدراسة هو تقييم عوامل الخطر لتقرح القدم بين الأشخاص المصابين بداء السكري الذين يحضرون مستشفى جامعة إيلورين التعليمي، إيلورين، نيجيريا.

المواد والطرق: تمت مقابلة مائة وخمسين مريضًا من مرضى السكري باستخدام استبيان للحصول على التفاصيل الاجتماعية والديموغرافية والعناية بالقدم ومرض السكري. ثم تم تقييم كلا القدمين من حيث التغيرات الجلدية والتشوهات العظمية الهيكلية والمضاعفات العصبية والأوعية الدموية. تم تصنيف المخاطر وفقًا لنظام تصنيف مخاطر القدم السكرية التابع لمجموعة العمل الدولية المعنية بالقدم السكرية. تم تحليل البيانات باستخدام الإصدار 22 من SPSS. تمت مقارنة المتغيرات الفئوية باستخدام اختبار مربع كاي، بينما تم تحديد الارتباط بين فئات المخاطر وخصائص المرضى باستخدام معامل الارتباط بيرسون، حيث تم تحديد الأهمية الإحصائية عند $P < 0.05$.

النتائج والخلاصة: تم العثور على العرج المتقطع في 40 مريضًا (26.5٪)، 76 (50.3٪) لديهم تنمل. تسعة وثمانون (58.9٪) تلقوا تعليمًا في مجال العناية بالقدم، لكن 7 فقط (4.6٪) كانوا يرتدون حذاء خاصًا لمرضى السكري. لوحظ ضعف حساسية الشعيرات الأحادية في 27 (17.9٪) من القدم اليمنى، و 23 (15.2٪) من القدم اليسرى. تم اكتشاف اعتلال عصبي محيطي كبير في 36 (23.9٪) على القدم اليمنى و 30 (19.9٪) على القدم اليسرى. وجد أنه كلما طالست مدة الإصابة بالسكري زادت المخاطر ($P = 0.04$). علاوة على ذلك، كان المرضى الذين لم يتلقوا أي تعليم لديهم مخاطر أعلى بشكل ملحوظ للإصابة بقرحة القدم السكري ($P = 0.01$). تم اكتشاف مخاطر عالية بين المتقاعدین ($P = 0.01$). بالإضافة إلى ذلك، فإن وجود أمراض الكلى ($P = 0.046$)، وأمراض القلب والأوعية الدموية ($P = 0.001$)، وضعف البصر ($P = 0.19$) كلها تمنح مخاطر عالية لحدوث قرحة القدم السكري في مجتمع دراستنا. أظهر التقييم العام أن انتشار "القدم تحت الخطر" في هذه الدراسة كان 30.5٪ وهو ما نعتقد أنه كبير بما يكفي لجذب انتباه أكثر جدية.

الكلمات المفتاحية: قرحة القدم السكرية ، نيجيريا ، تقييم المخاطر