

Knowledge And Practices of Foot Care Among Patients With Type Two Diabetic Mellitus Attending Out Patient Department of Selected Hospitals In Benin City, Edo State

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Abstract

Background: Diabetic foot ulcer is one of the most devastating complications of diabetes, as it can lead to lower limb amputations and even death. **Aim:** This study assesses the knowledge and practice of diabetic foot care among diabetic patients visiting tertiary health hospital in Benin City Edo state. **Methods:** A descriptive cross sectional design was adopted in a sample size of 252 diabetic patients. Convenience sampling technique was used to select the respondents in the study. A self-structured questionnaire with a Cronbach alpha reliability value of 0.776, 0.872 and 0.741 served as instrument for data collection. **Result:** Findings revealed majority 168(66.7%) of the respondents have good knowledge, 73(29.0%) have fair knowledge, while 11(4.4%) have poor knowledge. Majority of the respondents 210(83.4%) have poor practice of diabetic foot care. Lack of time 2.745 ± 0.450 , lack of money 2.780 ± 0.455 , distance from health facilities 2.692 ± 0.460 , lack of appropriate shoe 2.910 ± 0.446 , Ignorance/lack of knowledge on foot care practice (2.25 ± 0.82) were some of the factors that negatively affect practice of diabetic foot care among the respondents. There was an association between marital status (OR=1.08 C.I:0.37-3.19), residence (OR=7.90 C.I:1.31-47.56), educational level (OR=0.33 C.I: 0.11-0.93) income (OR=1.14 C.I:0.48-2.2.72) and practice of diabetic foot care among the respondent. **Conclusion:** Daily screening for diabetic sensory neuropathy and foot complications is recommended for all diabetics' patients and continuous health education by health care workers on diabetic foot ulcer with emphasis on emphasized foot care.

Keywords: Knowledge, Practice, Diabetic foot care, Diabetic patients

Introduction

Diabetic foot is a serious complication of diabetes mellitus and it constitutes an increasing public health problem as it is a predominant cause of admissions, amputations and death among diabetic patients (1). Diabetic foot is the most devastating among the many diabetic complications (2), nearly 50% of patients and is responsible for almost 80% of all non-traumatic amputations of the lower limbs (3,4). Diabetic foot ulcers and eventual amputation have a negative psychological impact on those affected and reduces their quality of life. It also increases cost of health care and has a negative impact on the relatives of those affected. Studies

have shown that diabetic foot problems majorly contribute to health care costs and greatly result in morbidity and early mortality (5). Fejfarova et al found that amputees have a lower quality of life resulting from being unemployed, socially isolated, and when compared with diabetes without amputations, they have been described as having the worst readaptation to stress (6).

Diabetic foot care includes self-care practices carried out by diabetic patients as preventive measures against foot disease. Diabetic foot care is directed towards the prevention of secondary infections, peripheral ischemia and abnormal pressure loading caused by peripheral neuropathy

and limited mobility of the joints (7). Its practices ranges from daily inspection of foot to making the right choice of foot wear. Other foot care practices include bathing properly, drying and lubricating the foot, trimming of toe nails and avoiding walking barefoot. Also very important in foot care are regular visits to the hospital for examination of the feet by the physician.

In the cross sectional study in Krishna hospital, Kardi, the level of practice score of diabetic patients showed the majority (58%) had average practice, 12% had good practice and 20% had poor practice (8). In another study it was discovered that among the 210 persons that participated, 87 participants (41.4%) adhered to good foot care practices. Most of them; daily examined and washed their feet and whenever there was an abnormality, they visited the doctor (9).

Moreover, an institution based observational descriptive study, on knowledge and practice of foot care amongst diabetic patients attending a tertiary hospital of Kolkata, India. The result of their study revealed that only 40% had good practice of diabetic foot care (10).

Furthermore, in a study of knowledge and practice foot care among diabetics at King Hussein Medical Centre, Jordan, findings shows 24.8% of the respondents were found to have poor practice, 56.9% had satisfactory score and only 18.2% had good practice (11). Similarly, another study reported that most of the patients had good practice scores such as; 53% spent time doing exercise mostly by walking. 94% are able to reach and inspect the bottom of their feet and only 7.8% felt fullness of sensation on their feet. 68% of diabetes examined their feet for any type of ulceration, 86.7% washed their feet daily while 57.8% dried toes and in between toes (12). Nevertheless, Muhammed –Lufti reveal in their study that while 58% had poor knowledge, 61% had poor practice when compared to the median score (13). However, it was also discovered in a cross sectional study on the assessment of foot care knowledge among diabetic amputees at National Orthopaedic Hospital Enugu, that no participant had good level of foot care knowledge while 31% had fair knowledge, 69% had poor knowledge. Only 42% reported having been taught foot care (14).

Diabetes has become a growing menace globally and diabetic foot ulcers are one of the common complications of diabetes. Diabetic foot ulcers and lower limb amputations have a negative impact on

the quality of life of the patients and are the leading cause of death among patients. It also create a huge financial burden for those affected. Diabetic foot problems are most preventable of all diabetic complications with adequate blood glucose control and the practice of foot care. However, it has been observed that most patients with diabetic foot ulcers living in developing countries come to the health facilities late and with advanced foot ulcers. The increase in the occurrence of diabetic foot ulcers and lower limb amputations calls for great concern. Could this be attributed to poor economic status, inadequate knowledge of diabetic foot self-care, or lack of practice of diabetic foot care? Therefore this study was undertaken to assess the level of knowledge of diabetic patients regarding foot care and its practices in Benin City.

This study seeks to assess the knowledge and practices of diabetic foot care among diabetic patients attending a tertiary health facility in Benin City.

Materials and Methods

Design: The study adopted a descriptive cross-sectional research design in two purposively selected hospitals; University of Benin Teaching Hospital (UBTH) and Central Hospital all in Benin City.

Population: The target population for the study are diabetic patients attending the outpatient departments of the selected hospitals which have an average of monthly attendance of 534 put together.

Sample size: The Taro Yamani formula was used to obtain a sample size of 252. The sample was proportionately distributed to the selected hospital in percentage of 78.2% and 21.8% respectively according to their target population from these hospitals. Using a convenience sampling technique the respondents were selected into the study.

Instrument for data collection: A self-structured questionnaire with closed ended questions was used as instrument for data collection. It comprises of Section A (social demographic data), Section B It consist of 13 items questions on knowledge of diabetic foot care. Each correct answers carry a score of 1 which was converted to percentage with a total score of 100%. The knowledge was classify on a score range of 0-100 as poor (0-49%), fair (50-

69.9%) and good (70-100%). Section C consist of 12 items questions on the practice of diabetic foot care using 5 point likert scale with average mean of 3.0 any item with an average mean score of greater than 3.0 is regarded as good practice while average mean score of less than 3.0 is regarded as poor practice. Section D consist of 8 items to ascertain the factors affecting the practice of foot care among the respondents in the selected hospitals using 4point likert scale with average mean of 2.5. Item with average mean of 2.5 and above is regarded as factors affecting the practice while those with less than 2.5 are regarded as factors which do not affect the practice.

Validity of the instrument was done by an expert on measurement and evaluation from University of Benin and a consultant endocrinologist from UBTH.

Reliability was done by administering the instrument to 20 diabetic patients visiting another hospital Benin City aside the ones used in this study. Data generated was calculated and the Cronbach alpha value of 0.776 for section B 0.872 for section C and 0.741 for section D

Ethical Consideration: Ethical approval with reference number; ADM/E22/A/VOL.VII/14759 was obtained from the ethical and research committee of the UBTH after submission of the proposal. Consequently ethical approval with reference number A/732/T/1 was also obtained from Hospital Management Board of Edo State. Confidentiality was maintained and participants were informed on voluntary withdrawal from participation if they deem it fit at any point in time.

Method of data collection: Data were collected with the assistances of two research assistants who are nurses and working in the respective hospitals. Questionnaires were administered to the patients after due consent was taken and explanation made to them. Data were collected from the respondents while waiting to see consultants in the clinic in the respective hospitals. The questionnaires were retrieved after they have been filled.

Statistical analysis: descriptive statistics was used and hypotheses tested using t-test chi-square and multiple logistics regression at 5% level of significance. Statistical package for social science (SPSS) was used to analyse the data.

Results

Table 1 shows the socio-demographic characteristics of respondents. Respondents monthly income shows that 201(79.8%) earn <100,000 monthly, 51(20.2%) earn >100,000 monthly. The table 2 shows knowledge of diabetics regarding foot care. It was reported by 222(88.1%) of the respondents that diabetic patients should inspect their feet daily, It was reported by 241(95.6%) of the respondents that diabetic patients should wash and dry feet daily, It was reported by 224(88.9%) that diabetics should trim their nails straight across with a clipper. It was reported by 210(83.3%) of the respondents that diabetics should keep their feet supple with a moisturizer. Generally the level of knowledge of respondents on diabetics shows that majority 168(66.7%) of the respondents have good knowledge, 73(29.0%) have fair knowledge, the remaining 11(4.4%) have poor knowledge

Table 3 shows practice of diabetic foot care among diabetic patients. It shows that washing and drying feet daily (3.03 ± 1.37) and inspecting shoes before wearing it (3.22 ± 1.33) were the only good practices of diabetic foot care practiced by the respondents. From the table above it can be infer that the ratio of good practice to poor practice is 2:10. Converting this 16.6% of the respondents have good practice of foot care while 83.4% have poor practice of diabetic foot care.

Table 4 shows factors that affects practice of foot care. It shows that I don't have enough time to practice foot care with an average mean score of 2.745 ± 0.450 , I don't have enough money to purchase the necessary items to practice foot care 2.780 ± 0.455 , health facilities are too far 2.692 ± 0.460 , I find it difficult to get shoes that are not tight had 2.910 ± 0.446 , I sometimes forget to practice foot care 2.650 ± 0.463 . I don't know how to practice foot care 2.740 ± 0.457 and I don't think am at risk of developing a diabetic foot 2.650 ± 0.463 is factors affecting the poor practices of diabetic foot care among the respondents. Only the respondents' occupation 2.00 ± 0.503 did not affect their poor practices of diabetic foot care.

Table 1: Socio-demographic characteristics of Respondents

Variables	Attributes	Frequency	Percentage
Study Centre	UBTH	197	78.2
	Central	55	21.8
Age	30 - 40yrs	14	5.6
	41-50yrs	39	15.5
	51-60yrs	66	26.2
	Above 60yrs	133	52.8
Gender	Male	65	25.8
	Female	187	74.2
Marital Status	Single	20	7.9
	Married	232	92.1
Educational Status	Illiterate	46	18.3
	Read and Write	15	6.0
	Primary	33	13.1
	Junior Secondary	4	1.6
	Senior Secondary	52	20.6
	Intermediate	24	9.5
Occupation	University	78	31.0
	Government employed	54	21.4
	Private employed	113	44.8
	Retired	72	28.6
	Housewife	9	3.6
Residence	Farmer	4	1.6
	Rural	11	4.4
	Urban	241	95.6
Smokes	Yes	3	1.2
	No	249	98.8
Religion	Christian	247	98.0
	Muslim	5	2.0
Duration of diabetes	<5yrs	88	34.9
	6-10yrs	70	27.8
	11-15yrs	39	15.5
	16-20yrs	29	11.5
Monthly Income	21yrs and above	26	10.3
	<N100,000	201	79.8
	>N100,000	51	20.2

Table 2: General level of knowledge on diabetic foot care with classification on the level of knowledge

	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Diabetic patients should inspect their feet daily	222	88.1	30	11.9
Diabetic patients should wash and dry feet daily	241	95.6	11	4.4
Diabetics should trim their nails straight across with a clipper	224	88.9	28	11.1
Diabetics should keep their feet supple with a moisturizer	210	83.3	42	16.7
Diabetics should keep in between toes dry.	172	68.3	80	31.7
Diabetics should never walk bare foot even inside their homes	220	87.3	32	12.7
Diabetics should never feel tight in their shoes	227	90.1	25	9.9
Diabetics should inspect their shoes before wearing them	246	97.6	6	2.4
Diabetics should never wear shoes without socks	85	33.7	167	66.3
Diabetic patients should change their socks daily	119	47.2	133	52.8
Diabetics should never use their feet to check the temperature of water or an object.	196	77.8	56	22.2
Diabetic patients should visit a doctor when they notice any wound on their feet.	206	81.7	46	18.3
Classification of level of knowledge		Frequency (f)	Percentage (%)	
	percentage score			
Poor	0-49	11	4.4	
Fair	50-69.9	73	29.0	
Good	70-100	168	66.7	

Table 3: General level/extent of practice of diabetic foot care among the respondents in the various hospitals

Items	Never	Rarely	Some times	Often	Always	Mean ±SD	Remark
1.examining feet daily	32(12.7)	67(26.6)	22(8.7)	21(8.3)	110(43.7)	2.44±1.56	Poor
2.wash and dry feet daily	8(3.2)	57(22.6)	13(5.2)	16(6.3)	158(62.7)	3.03±1.37	Good
3.trimming toe nails straight across with a clipper	21(8.3)	39(15.5)	23(9.1)	17(6.7)	152(60.3)	2.95±1.44	Poor
4.Inspecting shoes before wearing them?	13(5.2)	38(15.1)	7(2.8)	17(6.7)	177(70.2)	3.22±1.33	Good
5. applying moisturizing creams on your feet	42(16.7)	55(21.8)	0(0.0)	18(7.1)	137(54.4)	2.61±1.67	Poor
6.visiting the doctor whenever you notice a wound on your feet	68(27.0)	45(17.9)	18(7.1)	11(4.4)	110(43.7)	2.20±1.74	Poor
7.wearing socks before shoes	171(67.9)	12(4.8)	27(10.7)	8(3.2)	34(13.5)	0.90±1.46	Poor
8.changing socks daily	163(64.7)	16(6.3)	43(17.1)	7(2.8)	23(9.1)	0.85±1.32	Poor
9.walking barefoot outdoors	195(77.4)	14(5.6)	25(9.9)	8(3.2)	10(4.0)	0.51±1.06	Poor
10. feet to test the temperature of water or an object	220(87.3)	5(2.0)	18(7.1)	3(1.2)	6(2.4)	0.29±0.84	Poor
11.shoes feel tight when worn	171(67.9)	27(10.7)	42(16.7)	6(2.4)	6(2.4)	0.61±1.00	Poor
12.applying moisturizing creams in between toes	129(51.2)	27(10.7)	13(5.2)	23(9.1)	60(23.8)	1.44±1.70	Poor
Classification of level of practice of diabetic foot care							
	UBTH					Central	
Poor (0-49.9%)	83(42.1)					55(100.0)	
Good (50-100%)	114(57.9)					0(0.0)	

$\chi^2 = 58.120, p = 0.000$ *indicates good practice of foot care for mean >3.0 for items 2,3,4,5 and mean < 3.0 for items 9,10,11. While others indicate poor practice.

Table 4: Perceived factors affecting poor practice of diabetic foot care

Items	SA	A	D	SD	Mean SD	Remark
I don't have enough time to practice foot care	21(8.3)	188(74.6)	21(8.3)	22(8.7)	2.745±0.450	Factor
I don't have enough money to purchase the necessary items to practice foot care	22(8.7)	165(65.5)	53(21.0)	12(4.8)	2.780±0.455	Factor
Health facilities are too far	9(3.6)	176(69.8)	48(19.0)	19(7.5)	2.692±0.460	Factor
I find it difficult to get shoes that are not tight	23(9.1)	195(77.4)	23(9.1)	11(4.4)	2.910±0.446	Factor
My occupation does not allow me to practice foot care	9(3.6)	11(4.4)	202(80.2)	30(11.9)	2.00±0.503	Not factor
I sometimes forget to practice foot care	26(10.3)	133(52.8)	73(29.0)	20(7.9)	2.650±0.463	Factor
I don't know how to practice foot care	39(15.5)	132(52.4)	59(23.4)	22(8.7)	2.740±0.457	Factor
I don't think am at risk of developing a diabetic foot	52(20.6)	101(40.1)	59(23.4)	40(15.9)	2.650±0.463	Factor

**factor ($x > 2.5$) mean factor affecting their practice negatively ($x < 2.5$) means factors not affecting their practice*

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Table 5: Association between knowledge and level of practice in study locations

Knowledge	Level of Practice		χ^2	P
	Poor	Good		
Good	52(61.9)	32(38.1)	2.595	0.107
Bad	86(51.2)	82(48.8)		

OR = 1.549; CI=0.91-2.64

The table 5 shows that majority of the respondents with good knowledge have good practice of diabetic foot care, also those with good knowledge are twice more likely (OR=1.54; CI = 0.91-2.64) to have good practice. However this is not statistically significant therefore, there is no significant association between the level of knowledge of diabetic foot care and extent of practice of diabetic foot care among the respondents in the study locations.

Table 6: Multivariate logistic regression association socio-demographics and level of knowledge of diabetic foot care

	p	OR	95% C.I. for OR
Study Centre			
UBTH	0.471	1.31	0.63-2.74
Central			-
Age			
30 - 40yrs	0.088	0.28	0.06-1.21
41-50yrs	0.001	8.04	2.24-28.87
51-60yrs	0.780	1.12	0.49-2.56
Above 60yrs			-
Gender			
Male	0.079	2.15	0.91-5.03
Female			-
Marital Status			
Married	0.000	0.08	0.02-0.29
Single			-
Residence			
Urban	0.007	0.09	0.02-0.52
Rural			-
Duration of diabetes			
<5yrs	0.473	0.66	0.21-2.07
6-10yrs	0.330	1.86	0.53-6.44
11-15yrs	0.891	1.10	0.29-4.18
16-20yrs	0.598	0.69	0.18-2.72
21yrs and above			-
Monthly Income			
<N100,000	0.007	3.78	1.43-9.98
>N100,000			-
Educational Level			
None	0.184	0.45	0.14-1.46
Primary	0.000	0.11	0.03-0.38
Secondary	0.000	0.18	0.07-0.45
Tertiary			-
Constant	0.410	1.71	-

Table 6 shows the multivariate logistic regression of socio-demographic characteristics and level of knowledge of diabetic foot care. It shows that that males (OR=2.15; C.I=0.91-5.03) are twice more likely to have poor knowledge than females. Those who are married (OR=0.08, CI =0.02-0.29) are 8% less likely to have poor knowledge than singles respondents. Those without any educational background (OR=0.45; C.I 0.14-1.46) are more likely to have poor knowledge level compared to those with tertiary level of education, those in the urban area (OR=0.09; C.I 0.02-0.52) are 9% less likely to have poor knowledge than those in rural. Respondents that are 41-50yrs (OR=8.04; C.I 2.24-28.87) are more likely to have poor knowledge than those who are 60yrs and above. Although some of the socio demographic

characteristics didn't show any statistical significance, marital status, residence, educational level, income and age show statistically significant relationship $p < 0.05$ with the knowledge of diabetic foot care

Table 7 shows the multivariate logistic regression of socio-demographic characteristics and level of practice of diabetic foot care. The table shows that males are twice more likely to have poor practice than females (OR=1.92; C.I=0.90-4.11). Those without any educational background (OR=0.33; C.I:0.11-0.93) are less likely to have poor practice level compared to those with tertiary level of education, Those in the rural areas are eight times (OR=7.90;C.I:1.31-47.56) more likely to have poor practice than those in rural. Although some of the socio-demographic characteristics did not show any statistical significance, the residence, duration of diabetics and educational level were statistically significant ($p < 0.05$). It is an indication that they were associated with practice of diabetic foot care among the respondent.

Table 7: Multivariate logistic regression association socio-demographics and level of practice of diabetic foot care

	p	OR	95% C.I. for OR
Age			
30 - 40yrs	0.70	0.76	0.18-3.14
41-50yrs	0.69	0.82	0.32-2.12
51-60yrs	0.18	1.67	0.78-3.59
Above 60yrs		1.00	-
Gender			
Male	0.09	1.92	0.90-4.11
Female		1.00	-
Marital Status			
Single	0.88	1.08	0.37-3.19
Married		1.00	-
Residence			
Rural	0.02	7.90	1.31-47.56
Urban		1.00	-
Duration of diabetes			
<5yrs	0.06	0.36	0.12-1.05
6-10yrs	0.35	0.58	0.19-1.79
11-15yrs	0.34	1.80	0.54-5.98
16-20yrs	0.04	0.25	0.07-0.91
21yrs and above		1.00	-
Monthly Income			
<N100,000	0.76	1.14	0.48-2.72
>N100,000		1.00	-
Educational level			
None	0.04	0.33	0.11-0.93
Primary	0.73	0.84	0.30-2.30
Secondary	0.43	0.74	0.36-1.55
Tertiary		1.00	-
Constant	0.63	1.29	-

Discussion

This study is a survey on the knowledge and practice of diabetic foot care among diabetic patients visiting a tertiary hospital in Benin City. Findings from the study shows that majority (66.7%) of the respondents have good knowledge. This is however higher than the level of knowledge reported in Chennai, Jordan and Malaysia, where the level of knowledge reported were low (9,15, 13). The findings of this present study was also far higher than the one reported in Enugu, Nigeria where there was no report of participants having good knowledge of foot care knowledge as majority in that study 69% had poor knowledge (14).

The high proportion of good knowledge among the participants in this present study could be related to the fact that majority of them are literate with at least a secondary school certificate which enables them to read and understand educational materials and also from urban setting as compared to other studies. Therefore it could be infer that the level of education couple with availability of information technologies in the urban setting highly influences their knowledge unlike this study that sampled patients in an urban health facility with higher educational qualifications. This was further validated by multiple logistic regression analysis which show that those without any educational background are more likely to have poor knowledge compared to those with tertiary level of education and those in the urban area are 9% less likely to have poor knowledge than those in rural. Nevertheless, it should be noted that the level of knowledge reported in this present study is lower than that reported in Lahore, Pakistan, where about 86.6% of the participants recorded high level of knowledge on diabetic foot care (12).

The finding from this study also shows that males are more likely to have poor knowledge than females as the female showed a higher mean knowledge scores. Though it was not statistically significant as ($p>0.05$). This finding corroborates the findings in Malaysia and that reported in Saudi Arabia who didn't find any significant association between gender and knowledge of diabetic foot care (13,15). However the result

from this study differ from the findings in Jordan where males had a slightly higher knowledge than their females counterpart which was statistically significant ($p<0.05$) and that reported in Lahore Pakistan where there was a significant statistical association between sex and knowledge of foot care. (11, 12).

Finding from this study show that large majority (83.4%) of the respondents have poor practice of diabetic foot care. This is in concordant with findings of reported in Kardi were only 12% of the respondents had good practice diabetic foot care (8), also in line with that reported in rural Chennai where the level of good practice was 41.4% (9). Though the level of knowledge of diabetic foot care is high in this study it does not translate into good practice as this is not statistically significant. However it was reported that those with good knowledge were twice more likely (OR=1.54; C.I:0.91-2.64) to have good practice of diabetic foot care. This support the findings of previous studies who reported that the good practices was as a result of the high knowledge recorded by the respondents (13, 8)

This study shows that the major perceived factors that affect the practice of foot care are lack of time, lack of finance, distance from hospital, difficulty in getting appropriate shoe recommended, occupation forgetfulness lack of knowledge and ignorance. These findings were supported by the findings in south India which reported currently not facing any problem with their feet as the reason, lack of knowledge and lack of time among participants respectively (16). Findings from north Ethiopia where they reported that poor communication between patients and health care provider "I did not know what to do" and "inconveniency from work" as barriers to diabetic foot care (17). However an Asian qualitative study sees these factors from another perspective as

predisposing and precipitating factors. Predisposing factors were as reported by the participants were; education level, socioeconomic status, lack social support, age, presence and severity of comorbidities restricting ability to self-care and past experiences. While precipitating factors were degree of reception of information, presence of

psychological barriers, provider factors, presence of administrative inconveniences and presence of diabetic sensory neuropathy, complexity of disease process (18).

In whichever perspective these factors are looked at one thing is obvious the ability of the health care workers to ensure compliance to the practice of foot care among these diabetic patients in their domain. Nurses working at out-patient department must try to spend some time with diabetic patients by which teaching and training programmes can be conducted on deficient areas such as diet, self-care activities (foot and nail care), exercises and medications. Furthermore, patients should check their feet every day and note any areas of concern, including red marks caused by pressure from shoes or infection, cuts, blisters, or swelling, and report these immediately to their health care provider in addition to scheduling an appointment to have these areas checked. Patients who cannot see the bottoms of their feet should be taught to use a mirror or have a trusted family member or friend check them daily.

Conclusion

This study assessed the knowledge and practice of diabetic foot care among diabetic patients visiting a tertiary health facility in Benin City. The result from the study shows a good knowledge level of diabetic foot care, with poor practice. The many factors have been reported to be associated with practice poor practice of foot care. Diabetic patients need intensive education regarding daily foot care and the importance of having a health care provider check their feet at each clinic visit, or at least annually. As part of preventive health care services, education on glucose monitoring, insulin administration, diet, daily foot inspection and care, proper footwear needs to be emphasized to these patients. Careful clinical examination of the feet and necessity for prompt treatment of new lesions and constant risk assessment should of great concern for all health workers. Daily screening for diabetic sensory neuropathy and foot complications is recommended for all diabetics' patients.

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