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Determining Knowledge and Practice of Self-Foot Care and Adherence of Patient on Self-Foot Assessment among Patients with Diabetes Mellitus

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ABSTRACT

Introduction: Diabetes neuropathy has been rated the third most common diabetes complication and diabetes foot ulcer which is the result of diabetic neuropathy commonly happens thus, patients with diabetes mellitus need to understand and practice self-foot care and possess excellent technique on foot self-assessment. **Objective:** This study aimed to determine the knowledge and practice of self-foot care and the technique of self-foot assessment among patients with diabetes mellitus. **Methods:** A quantitative, cross-sectional study was conducted at the diabetes clinic of two primary care centres in Kuantan Pahang. The study was conducted in May 2022 with 130 participants recruited in this study through the purposive sampling method. The data was collected using self-administered questionnaires and an audit checklist. **Results:** out of 130 participants, 89.2% had good knowledge, 62.3% had good practice with self-foot care and 43.8% performed good techniques on self-foot assessment. There is a significant association between knowledge and practice of self-foot care, and between practice of self-foot care and technique of self-foot assessment with a *p*-value of 0.001. **Conclusion:** It was found that knowledge, practice and techniques of foot self-assessment are significantly associated. However, the knowledge and practice of self-foot care do not determine the patient's ability to perform the self-foot assessment. The findings would assist in the development of a health education package for preventing foot ulcers among patients with diabetes in Malaysia.

Keywords: Diabetic Foot; Self-Care; Knowledge; Adherence; Practice; Nursing; Diabetes Mellitus; Self-Foot Assessment

INTRODUCTION

Diabetes Mellitus was acknowledged as a global outbreak with a total of 382 million people with diabetes, and it is expected to rise to 532 million in 2035 (Guariguata *et al.*, 2014). Chronic hyperglycemia, which is a common characteristic of uncontrolled diabetes mellitus, is associated with long-term damage, dysfunction, and failure of different organs, especially the eyes, kidneys, blood vessels, heart, and nerves (Cole & Florez, 2020; Harding *et al.*, 2019). Diabetes neuropathy, the most devastating microvascular complication of diabetes, causes damage to the blood vessels, tissues, and nerve fibers in the lower limbs that causes foot ulcers, which are difficult to treat and would lead to limb amputation (Brownlee *et al.*, 2016; Papatheodorou *et al.*, 2018). Diabetic foot ulcers and amputations have become the fifth most common complication of diabetes in Malaysia (Cefalu, 2013). The severity of the situation seems overwhelming, and this could be seen in a survey conducted at a tertiary hospital in the east coast region of Malaysia, where it was found that out of 138 patients with diabetes, 36.2% had undergone amputations (Zakaria, Afifi & Sharifudin, 2015). In the west coast region of Malaysia, the prevalence of diabetic foot ulcers and amputation seems to be lower, with 10% of patients recording diabetes foot ulcers and 1.2% experiencing amputation (Faridah & Azmi, 2008). However, this study was conducted more than 10 years ago, so the recent incidence of diabetic foot ulcers on the west coast of Malaysia is not known. Pahang, a state on the east coast of Malaysia, recorded a high incidence of diabetic foot ulcers, with 31.3% of cases recorded in primary care clinics and 36.2% of limb amputation cases

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recorded due to diabetic foot ulcers in tertiary hospitals (Azmi *et al.*, 2020; Zakaria, Afifi & Sharifudin, 2015). It has also been predicted that the prevalence of diabetic foot ulcers will increase in future years in parallel with the increasing incidence of diabetes mellitus. The study also highlighted that self-foot assessment and self-foot care would be factors that could reduce the risk of diabetic foot ulcers among patients with diabetes mellitus in Pahang (Azmi *et al.*, 2020). However, there is insufficient evidence to understand patients' levels of knowledge and practice of self-foot care in this area. In addition, the ability of the patients to perform self-foot assessment in identifying early symptoms of diabetic foot ulcers is also unknown.

Adherence reflects the extent of commitment that the patients have to put in to follow the medication regimen, diet prescription, or change their lifestyle, and it is known as self-care activities, which have become the cornerstone of diabetes management (Fernandez-Lazaro *et al.*, 2019; Huang *et al.*, 2010). Several studies showed that excellent adherence to self-care was found to be favorably correlated with enhancing the quality of life and decreasing the risk of diabetes complications (Bonger, Shiferaw & Tariku, 2018; Mogre *et al.*, 2017; Simon-Tuval, Shmueli & Harman-Boehm, 2016). However, most of the studies found that adherence of patients with diabetes mellitus to treatment regimens and self-care activities is still at a low level in many countries, and factors that contribute to adherence to self-care vary (Bonger *et al.*, 2018; Ishak *et al.*, 2017; Saidi, Milnes & Griffiths, 2018). As part of their self-care activities, people with diabetes strongly advocate adhering to a self-foot care regimen as a secondary prevention strategy in daily practice to prevent diabetic foot ulcers (Natovich *et al*., 2017). It has been highlighted that the incidence of foot ulcers among patients with diabetes could be hindered through regular assessment and self-foot care by the patients (Pereira, Pedras & Ferreira, 2019). However, the level of knowledge and adherence of the patients to self-foot assessment and self-foot care, particularly in Malaysia, is unclear due to the scarcity of evidence. Therefore, this study aimed to determine the level of knowledge and practices on self-foot care and adherence to self-foot assessment techniques among patients with diabetes mellitus in Kuantan, the capital of Pahang on the East Coast of Malaysia. Additionally, this study would also like to investigate the association between knowledge and practice of self-foot care and the ability of the patients to perform self-foot assessments.

METHODOLOGY

Study Setting

This study was conducted in two diabetes primary care clinics in Kuantan, Pahang which is in the east coast region of Malaysia.

Study Population and Sample Size

A cross-sectional study was used to identify the knowledge and practice of self-foot care and adherence to self-foot assessment among patients with diabetes mellitus. The sampling method adopted in this study was the purposive sampling method, and a total of 130 patients with diabetes mellitus from two primary care clinics in Kuantan, Pahang were recruited.

Inclusion and Exclusion Criteria

The participants of this study were those who are Malaysian citizens who are diagnosed with diabetes mellitus (both type 1 and type 2) aged above 18 years old, able to understand writing and speak in Malay or English and agree to participate in this study. Whereas patients with diabetes mellitus who are incapable of performing foot assessment and foot care due to other co-morbidities were excluded from the study. The co-morbidities include arthritis, visual impairments, and cognitive impairments.

Study Instrument

The data was collected using self-administered questionnaires and an audit checklist. The questionnaires consist of four parts. Part A consists of seven items that ask about their sociodemographic data, whereas part B consists of seven items, and part C consists of 15 items that were adapted and modified from Taher & Kalaldehta, whereas part B consists of seven items, and part C consists of 15 items that were adapted and modified from Taher & Kalaldeh (2016)

to measure their knowledge and practice of self-foot care. Part B consisted of true and false statements, and the level of knowledge was determined by the number of questions that the participants answered correctly. Participants will be rated as having good knowledge if they achieve 5-7 scores. Whereas part C consisted of statements with 'yes' or 'no' answers. Each item will be given 1 point if the participants answer correctly. The practice will be rated as good if they score 10 points above (Taher & Kalaldeh, 2016). Part D is the audit checklist adapted from the clinical practice guideline for management of diabetic foot (Ministry of Health Malaysia, Academy of Medicine Malaysia, 2018) for checking the participants' ability to perform self-foot assessment. It consists of six steps for performing the self-foot assessment. A score of 1 is given when participants perform the step and 0 if they omit it. The score of 4 or higher reflected good technique in self-foot assessment. The English version of the original questionnaire was translated into Malay and translated back to English after it was filled up. Both versions of the questionnaires were checked and validated by experts and the research team. A pilot study was conducted that involved 10% of samples from the estimated sample who were asked to fill out the questionnaire prior to the conduct of the study (Viechtbauer *et al.*, 2015). The reliability was assessed by performing Cronbach's alpha, whose value was 0.705 to 0.836.

Method of Recruitment and Data Collection Process

Upon approval from the Institutional Reviewer Board (IRB) and gatekeepers, the patients with diabetes mellitus in the clinics were selected based on the inclusion criteria from the appointment list. The selected patients were approached in the clinic and invited to participate in the study voluntarily. The participants were briefed about the study and the anonymity and confidentiality of the data obtained. Upon agreement and consent, the questionnaires (part A, B and C) were distributed, and participants were requested to answer the questionnaires and return them to the researcher once completed. Upon completion of the questionnaires, participants were invited to the treatment room to perform a self-foot assessment, and their performance was checked using the checklist (Part D). The process of data collection took about 30–40 minutes for each participant.

Statistical Analysis

All the data in this study was categorical. Data analysis was conducted using SPSS statistical software version 22.0. To examine the level of knowledge and practice of self-foot care and adherence to the technique of self-foot assessment, the test used was descriptive: frequency and percentage. Meanwhile, the chi-square test with p value of 0.05 was used to determine the association between knowledge on foot ulcers, practice of self-foot care, and adherence to the self-foot assessment techniques.

Ethical Consideration

The study was ethically approved by the IIUM Research and Ethics Committee (IREC), the National Medical Research Register (NMRR), and the Malaysia Registered Ethics Committee (MREC) on 25th, April 2019 with reference number KKM/NIHSEC/ P19-772.

RESULTS

In total, 130 patients with diabetes mellitus participated in this study, which showed a good response rate (89%). Demographically, most of the participants were between the ages of 40 and 60, and 26% (n = 34) of them were more than 60 years of age. The majority of participants were female (67.7%, n = 88), with most of them being overweight or obese (75%, n = 98). In terms of education level, most of them attended secondary school and were awarded a Malaysian Certificate of Education. The information on glucose control was retrieved from the HbA1c results of the participants' medical records. It showed that only 21% of them (n = 26) maintained a glucose level below 7 mmol/L, and 39% (n = 44) recorded a glucose level higher than 10 mmol/L. Most of them were treated with oral hypoglycemic agents and had received education on diabetes self-care from healthcare professionals. Table 1 details the demographic characteristics of the participants.

Table 1: Sociodemographic Characteristics of the Participants

N=130	Variables	Frequency (n)	Percentage (%)
Age	Less than 30 years old	10	7.7
	30-40 years old	14	10.8
	41-50 years old	34	26.2
	51-60 years old	38	29.2
	More than 60 years old	34	26.2
Gender	Male	42	32.3
	Female	88	67.7
BMI	Underweight (<18.5)	4	3.1
	Normal (18.5-24.9)	28	21.5
	Overweight (>24.9)	62	47.7
	Obese (>29.9)	36	27.7
Educational Level	UPSR/PMR/SPM	90	69.2
	Certificate/Diploma	28	21.5
	Bachelor/Master/PhD	12	9.2
Medication	No medication prescribed	20	15.4
	Oral hypoglycemic agent	93	71.5
	Insulin only or combination	17	13.1
Current Blood Sugar Level	<7 mmol/L	27	20.8
	7-10 mmol/L	59	45.4
	>10 mmol/L	44	33.8
Education on self-foot care	Yes	76	58.5
	No	54	41.5

Knowledge of Self-Foot Care

Out of 130 participants, 89.2% scored well and were regarded as having good knowledge, whereas 10.8% had poor knowledge of self-foot care. Most of the participants correctly answered the questions regarding signs and symptoms of foot ulcers, complications, and care of the feet, with a range of 85% to 96%. However, only 65% of participants answered correctly on the effect of exercise on preventing foot ulcers (Table 2).

Table 2: Frequency and Percentage of Correct Answers Related to Knowledge of Diabetes Self-Foot Care (N=130)

Knowledge of diabetic self-foot care (correct answers)		Frequency (n) N=130	Percentage N= 130
1.	People with diabetes should look after their feet because they may not feel minor injuries	114	87.7%
2.	People with diabetes should look after their feet because diabetes might delay wound healing	125	96.2%
3.	People with diabetes should look after their feet because they might get a foot ulcer	116	89.2%
4.	People with diabetes should not exercise to prevent their foot from injury	85	65.4%
5.	People with diabetes should not be smoking because it causes poor circulation in the lower limbs (leg)	110	84.6%
6.	People with diabetes should cut their toenails using a sharp instrument like a blade or knife	91	70%

Practice of Self-Foot Care

In total, 62% out of 130 participants have good practice with diabetic self-foot care, while 38% have poor practice. Most of the participants agreed that they washed their feet daily, inspected their feet regularly for skin conditions, and agreed to consult healthcare professionals when they found an abnormality on their feet. However, only a small number of them use footwear in the house, and many of them did not receive advice on how to select footwear that is suitable for them (Table 3).

Table 3: Practice of Self-Foot Care Among Patients with Diabetes (N=130)

The Practice of Self-Foot Care ("yes" answer)		Frequency (n) N=130	Percentage (%) N=130
1.	I wash my feet daily	128	98.5
2.	I wash my feet with warm water	94	72.3
3.	I dry between my toes after washing	104	80.0
4.	I moisturize dry areas of my feet daily	58	44.6
5.	I can see and move my feet	124	95.4
6.	I am wearing medical shoes	53	40.8
7.	I can cut my toenails by myself	117	90.0
8.	I cut my toenails straight	100	76.9
9.	I wear footwear in the house	30	23.1
10.	I receive advice when last time I bought footwear	39	30.0
11.	I change footwear more than once a year	81	62.3
12.	I break in new shoes slowly	101	77.7
13.	Before I put on my shoes, I inspect the inside of the shoes	100	76.9
14.	I bought my footwear in the evening	40	30.8
15.	I will consult a healthcare professional when I found any abnormality on my feet	113	86.9

Technique of Foot Self-Assessment

Regarding the technique of diabetes foot self-assessment, most of the participants were able to perform correctly with a percentage of 92%–95%. They are competent in checking their own feet and toes' temperatures and inspecting the toes, soles, heels, and areas that are unable to be seen. However, only 78% looked for infection, ulceration, calluses or corn, skin breaks, and nail disorders on their foot. Forty-five percent (45%) checked their toe's capillary refill time, 41% palpated pulse at the dorsalis pedis; and 38% palpated pulse at the posterior tibia. Overall, only 38% of the participants are using good techniques in diabetic self-foot assessment (Table 4).

Table 4: Techniques of Self-Foot Assessment by Patients with Diabetes (N=130)

Technique of self-foot assessment		Frequency (n) N=130	Percentage (%), N=130
1.	Patients look at both feet for: - infection - ulceration - calluses or corn - skin breaks - nail disorders	101	77.7
2.	Patient check for capillary refill time	59	45.4
3.	Patient check for feet and toes temperature	120	92.3
4.	Patient palpates pulses for both legs; dorsalis pedis	53	40.8
5.	Patient palpate pulses for both leg; posterior tibial	49	37.7
6.	Patient checks feet and toes, inspecting the top, sides, soles, heels, and the area between toes (using a mirror to look at the sole area or ask help from others to check the area that is unable to be seen)	124	95.4

Association between Knowledge and Practice of Self-Foot Care

An analysis of the level of knowledge of the participants on diabetes, foot ulcers, and self-foot care showed that 89% of the participants had good knowledge. When associated with the level of practice, the result showed that, among participants who have good knowledge, sixty-one percent (61%) of them have good practice on diabetic self-foot care, while 28.5% of them have poor practice. Of those with poor knowledge (11%), 1.5% have good practice, whereas 9.2% have poor practice in diabetic self-foot care. Hence, there is an association between knowledge and practice of diabetic self-foot care among diabetic patients, with an X^2 value of 15.406 and a *p*-value of 0.001 (Table 5).

Table 5: Association Between Knowledge and Practice of Self-Foot Care (N=130)

		Knowledge of diabetic self-foot care		X^2	*p*-value	Total
		Good knowledge	Poor knowledge			
The practice of self-foot care	Good practice	79 (60.8%)	2 (1.5%)	15.406	0.001*	81 (62.3%)
	Poor practice	37 (28.5%)	12 (9.2%)			49 (37.7%)
Total		116 (89.2%)	14 (10.8%)			130 (100%)

Association between Knowledge of Self-Foot Care and Adherence of Self-Foot Assessment Technique

Among 89.2% with good knowledge, 41.5% of them are having good adherence on self-foot assessment technique meanwhile 47.7% of them are having poor adherence of on self-foot assessment technique. Besides, among the 10.8% of participants with poor knowledge, 2.3% of them have good practice and 8.5% have poor practice of self-foot care. There is no association between knowledge and technique in diabetic foot self-care among patients with diabetes.

Association between Practice of Self-Foot Care and Adherence of Self-Foot Assessment Technique

Among 43.8% with good adherence to the self-foot assessment technique, 34.6% of them have good practice of self-foot care, whereas 9.2% have poor practice. Besides, among the 56.2% of participants with poor adherence to self-foot assessment technique, 27.7% of them have good practice and 28.5% have poor practice of self-foot care. Thus, practice of self-foot care seems to be associated with the adherence of self-foot assessment technique, with a p-value of 0.001 (Table 6).

Table 6: Association Between Practice of Self-Foot Care and Adherence to Self-Foot Assessment Technique (N=130)

		Technique of self-foot assessment		X^2	*p*-value	Total
		Good technique	Poor technique			
practice of self-foot care	Good practice	45 (34.6%)	36 (27.7%)	11.967	0.001*	81 (62.3%)
	Poor practice	12 (9.2%)	37 (28.5%)			49 (37.7%)
Total		57 (43.8%)	73 (56.2%)			130 (100%)

DISCUSSION

The results of various studies have shown that there are variable factors like age, gender, marital status, educational level, occupation, monthly income that affect diabetic patient self-footcare (Al-Sadawy, 2022). The aim and objectives of this study were to determine the level of knowledge and practice of self-foot care and the adherence

of patients to the self-foot assessment technique. Findings of this study showed that there is an association between the level of knowledge and the practice of self-foot care. In addition, this study also showed a significant association between the practice of self-foot care and adherence to the self-assessment technique. Overall, the study showed that patients with diabetes mellitus have good knowledge of self-foot care (89%), with their knowledge focusing on the care of their feet. These findings seem to resonate with a study conducted in Ho Chi Minh City, Vietnam, which reported that 74% out of 100 of their participants had good knowledge of diabetes self-care (Hellenberg *et al.*, 2013). Similarly, it was also found that more than 50% of patients in the National Hospital of Sri Lanka have good knowledge of diabetes foot care; however, the study has reported that the practice of foot care and foot assessment is substandard (Jinadasa & Jeewantha, 2011). The reason for these resonance findings could be due to the characteristics of the population in Kuantan, Pahang, where most of them had a good education level and many of them had received education on self-foot care. Foot care education has a positive impact on foot self-care behaviour and self-efficacy in individuals with diabetes.

Interestingly, a study in Iraq highlighted that participants from rural areas have less knowledge of diabetes foot care than participants from urban areas (Saber & Daoud, 2018). As for this current study, Kuantan is the capital city of Pahang, a state located in the east coast region of Malaysia. Kuantan could be considered an urban area where most of the population works with the government and private sectors. Therefore, it could be understood that the population in Kuantan has a good education level, which increases their awareness in searching for knowledge related to their health conditions and hence reflects the good knowledge that they have on self-foot care. However, it is very compelling to note that a survey on knowledge of diabetes foot care among 157 patients with diabetes in Kuala Terengganu has reported that most of them have poor knowledge of diabetes foot care and poor practice of foot care (Muhammad-Lutfi, Zaraihah & Anuar-Ramdhan, 2014). This finding is rather alarming, as Terengganu is a neighboring state to Pahang, and Kuala Terengganu is its capital city. It is assumed that both settings have a lot of similarities in terms of their population and socioeconomic status. Therefore, further exploration is needed to understand this situation clearly. Education plays a significant role in positively influencing the behavior of the patients. There is a gap between knowledge and practice level of patients. Accordingly, patients must be actively engaged in their health care plan with more importance to modifying their behavior (Qasim *et al.*, 2021).

In terms of the practice of self-foot care, out of 130 participants, 98.5% claimed they washed their feet daily. This seems to be correlated with the population of the participants in this study, where most of them were Muslims, and with the religious practice where they are required to wash their feet during ablution before praying. The case was not different in another study in Indonesia and Iraq with a high population of Muslims, where they found daily foot washing to have a high percentage of beliefs as the same reason (Indrayana *et al.*, 2019; Saber & Daoud, 2018). In contrast, the practice of self-foot care among patients with diabetes in Tanzania was low, although they were aware of the risk of developing diabetic foot ulcers (Chiwanga & Njelekela, 2015). This seems to be in line with a study by Dündar & Akıncı (2017), where they reported that patients who received education on self-foot care have good practice as compared to the patients who did not receive an education. It could be expected that knowledge and information could influence practice. Hence the findings highlighted by Dündar & Aknc (2017) are explainable; however, awareness of the risk and scare tactics commonly practiced by healthcare professionals in increasing awareness of patients' diabetes complications seems not suitable for ensuring good practice in self-foot care. Knowledge about diabetes and its foot complication, and positive attitude towards its management is necessary. However, there is still lack in the practices required for diabetic foot management (Shamim *et al.*, 2021)

Despite poor practice and attitude towards diabetic foot, knowledge about diabetic foot is increased among those with formal education, employment, and health education classes about diabetic foot. Therefore, more investment is needed in increasing health awareness about diabetic foot. Within this study, it was found that only 23.1% of participants wore footwear in the house, which indicates most of them walked barefoot while in the house. This should be important information to the healthcare professionals, which should alarm them to educate patients on foot safety while they are at home to prevent the formation of an ulcer. The notion of wearing footware at home to preserve the safety of the feet seems to be supported by Dündar & Akıncı (2017), where they have highlighted that ideal self-foot care is achieved when someone can perform proper foot hygiene, avoid barefoot walking, wear appropriate shoes and

socks, cut toenails regularly, protect the foot from injury, receive early medical care for foot wounds, and have a routine foot examination by a specialist trained in diabetic foot complications.

Most of the participants in this study had poor technique in self-foot assessment. The most crucial item that most patients missed out on during the assessment of their foot is palpation of pulse at the posterior tibia (37.7%), palpation of pulse at the dorsalis pedis (40.8%) and checking for a capillary refill (45.4%). Most of the participants expressed that they did not even know about the pulse's location at the feet or how to check for its function, regularity, or presence. The reason for this is that some of them expressed that they already have regular check-ups with the diabetic nurse and physician to perform foot examinations, so they did not perform daily and routine self-assessments on their feet. This argument seems to be echoed in a study in the United States and Ethiopia. Participants in their study highlighted that their feet were examined by a podiatrist due to their poor condition and risk of getting an ulcer. The patients are relying on the podiatrist to point out any abnormalities in their feet during the examination instead of doing it independently at home (Hirpha, Tatiparthi, & Mulugeta, 2020; Pocuis *et al.*, 2017). However, the frequency of the patients' visits to the diabetes clinic is commonly at a 1–3-month interval in many countries. As such, their chance to be examined by healthcare professionals is limited to once everyone or three months. Therefore, it informed the importance of self-foot assessment and self-foot care to be done regularly by the patients in identifying early symptoms of foot ulcers, which would lessen the risk of their worsening and amputation.

There is a necessity to educate all patients of diabetes about self-foot care. It is essential to create an integrated foot care services and awareness as early preventive measures and provide constant foot care education through images videos (Shaki *et al.*, 2022). In this study, there was an association between the level of knowledge on foot ulcers and self-foot care and practice on diabetic self-foot care. However, these findings seem to contradict previous studies. For example, a study in China found that knowledge and behaviors are not optimistic and need enhancement, as does participation in educational activities regarding foot care (Li *et al.*, 2014). This is supported by a study in the Philippines where they found that most of the patients with good knowledge have poor practices in self-foot care (Magbanua & Lim-Alba, 2017). The positive association between knowledge and practice of self-foot care in this study highlighted the importance of the patient's receiving education on self-foot care in increasing their engagement with self-foot care practice. Therefore, it could be emphasized that, besides empowering patients to manage glucose control, patients with diabetes mellitus also crucially need to receive education and training on self-foot care and self-foot assessment as early as possible after being diagnosed to minimize the risk of getting diabetic foot ulcers and to prevent the loss of limbs.

CONCLUSION

This study has provided insights into the understanding of patients with diabetes with a diabetic foot ulcer. Additionally, this study also provided clear and reliable data on the ability of patients with diabetes mellitus to perform self-foot assessment and identify the early symptoms of foot ulcers. In this study, most of the patients had good knowledge and practiced self-foot care. However, most of the patients in this study were unable to perform foot self-assessment satisfactorily. As self-assessment in this study is measured through an audit checklist where the patients were asked to assess their feet in front of the nurses, it provides actual data on the practice and performance of the patients. The data of this study explained the reasons why patients presented with advanced foot ulcers in the hospital and primary care clinics, as their ability to identify the early symptoms of foot ulcers is limited despite their good understanding of foot ulcers. Reinforcement and monitoring of the patient's adherence to foot care and foot assessment are very important and should be done regularly to ensure they are relevant to the patient's preferences and needs. As this study only focuses on foot care and foot assessment, a holistic understanding of the issues around the management of patients with diabetes, particularly in foot ulcer prevention and management, seems limited. Involving healthcare professionals, including doctors, nurses, podiatrists, and physiotherapists, in qualitative exploration will be beneficial in understanding the issues and challenges in managing patients with diabetes and preventing diabetic foot ulcer complications.

Conflict of Interest

The authors declare that they have no conflict of interests.

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