

Awareness of Diabetic Patients Regarding Foot Care

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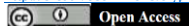
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ABSTRACT

Diabetic foot clinical complex is a common concern for diabetic patients. Typically, it affects patients with suboptimal glycemic control but it is multifactorial in origin. A diabetic foot is a condition that affects the feet of people with diabetes. It can cause skin and bone infections, abscesses, gangrene, ulcers and deformities due to nerve damage, poor blood circulation and a weak immune system. The awareness and practice of diabetic foot care among diabetic patients receiving care in Iraq is an important issue that requires attention and action. Although awareness regarding diabetic foot and its complications in our study was sufficient, participants exhibited poor practice scores. The study was descriptive cross-sectional with the purpose of evaluating the awareness of diabetic patients. This information was gathered through the use of a structured questionnaire that included the issues of daily foot inspection, hygiene, drying, footwear, walking barefoot, nail care, injury prevention and need for professional foot examination. Descriptive statistics and suitable tests of association were used to analyze the data. Awareness in the illustrative dataset used in this research framework was moderate (48.0%), good (30.0%) or poor (22.0%). There were significant correlations between age, educational level, and length of diabetes and awareness, but not with gender.

Introduction

Diabetes Mellitus (DM) is an autoimmune disease characterized by hyperglycemia caused by insulin resistance or insufficiency [1]. DM is classified as a global issue and has evoked public concern due to its complications and prevalence [2]. Diabetes mellitus also aggravates health complications such as hypertension, heart disease, retinopathy and multiple other complications [3]. Such complication is Diabetic Foot (DF), which is neuropathy in the foot that results in tissue damage and infection, which leads in severe cases to the need for an amputation [4]. Thus, there is a need for better awareness of DF prevention, care and management, such as timely treatment, screening for injuries and the proper education and awareness for patients [5]. DFD is the most common cause of hospital admission among diabetic patients, accounting for up to 25% of all diabetic hospital admissions [6]. DFD affects nearly 50% of patients and accounts for almost 80% of all lower-limb non-traumatic amputations. According to the Saudi Ministry of Health's 2018 statistical year book, the number of cases of amputation as a complication of DM was 1280, 765 in men and women, respectively, making the ministry of health facing a significant challenge.[7] Of all the complications related to diabetes, those occurring in the foot are considered the most preventable.[8] Prevention and prophylactic foot care are promoted to reduce patient morbidity, expensive resource use and amputation possibilities. These interventions include risk factors identification, intensive podiatric care and patient education. Such approach, has been shown to be both cost-effective and cost saving.[9] The effective way to reduce the incidence of diabetic foot ulcers and amputations are through proper awareness and by practicing a daily routine of foot care, and maintaining a good glycemic control among diabetic patients.[10]

Aims of study

The present study aimed to determine the prevalence of awareness of self-foot care practice among diabetic patients. The study also aimed to identify the factors preventing dry or wet diabetic gangrene development and subsequent amputation

Materials and Method

Study Design

A descriptive cross-sectional study was used to assess awareness of diabetic patients regarding foot care.

Study Setting

The study may be conducted in a diabetes clinic, primary healthcare center, or hospital outpatient department. The final manuscript should specify the actual study site.

Study Population

The study population consists of adult patients diagnosed with diabetes mellitus who attend the selected healthcare setting during the study period.

Data Collection Instrument

Data are collected using a structured questionnaire. The questionnaire includes demographic characteristics and questions assessing awareness of diabetic foot care, including daily inspection, hygiene, drying, footwear, walking barefoot, nail care, prevention of injury, and seeking professional care.

Inclusion Criteria

- Adults diagnosed with diabetes mellitus.
- Patients who agree to participate.
- Patients able to understand and answer the questionnaire.

Exclusion Criteria

- Patients who decline participation.
- Patients unable to complete the questionnaire.
- Patients with severe acute illness at the time of data collection.

Statistical Analysis:

The Statistical Package for the Social Sciences (SPSS, version 27, IBM) was used to perform statistical analyses. The Chi-square test was used to compare categorical variables at $P \leq 0.05$.

Results

A total of 100 diabetic patients were included in the illustrative dataset. The results below are examples for research formatting and must be replaced with the actual study data before submission.

Table 1. Distribution of diabetic patients according to demographic characteristics

Variable	Category	No.	%
Age	<40 years	15	15.0
	40–49 years	25	25.0
	50–59 years	35	35.0
	≥ 60 years	25	25.0
Gender	Male	56	56.0
	Female	44	44.0
Educational level	Primary or less	30	30.0
	Secondary	40	40.0
	Higher education	30	30.0



Duration of diabetes	<5 years	28	28.0
	5–10 years	37	37.0
	>10 years	35	35.0

The highest proportion of participants was aged 50–59 years (35.0%). Males represented 56.0% of the sample. Regarding education, 40.0% had secondary education, while 37.0% had lived with diabetes for 5–10 years.

Table 2. Patients' awareness regarding diabetic foot care

Awareness item	Correct No. (%)	Incorrect No. (%)
Diabetes can increase the risk of foot problems	88 (88.0)	12 (12.0)
Feet should be inspected daily	72 (72.0)	28 (28.0)
Feet should be washed regularly	85 (85.0)	15 (15.0)
Feet should be dried carefully after washing	68 (68.0)	32 (32.0)
Proper footwear helps prevent foot injuries	76 (76.0)	24 (24.0)
Walking barefoot increases the risk of injury	70 (70.0)	30 (30.0)
Nail trimming should be performed carefully	63 (63.0)	37 (37.0)
Foot injuries require prompt medical attention	81 (81.0)	19 (19.0)
Avoid applying very hot water to the feet	59 (59.0)	41 (41.0)
Regular professional foot examination is important	74 (74.0)	26 (26.0)

The highest awareness was observed for the relationship between diabetes and foot problems (88.0%), followed by regular foot washing (85.0%). The lowest awareness was observed for avoiding very hot water (59.0%) and careful nail care (63.0%).

Table 3. Overall level of awareness regarding diabetic foot care

Awareness level	No.	%
Poor	22	22.0
Moderate	48	48.0
Good	30	30.0
Total	100	100.0

Overall, 48.0% of patients had moderate awareness, 30.0% had good awareness, and 22.0% had poor awareness.

Discussion

The illustrative findings indicated that diabetic patients might have a medium awareness of foot care. The recognition of diabetic foot risk and basic hygiene was relatively high, while the recognition of specific diabetic foot prevention behaviors, such as avoiding hot water and careful care of the feet, was lower. A positive relationship between higher educational status and awareness was observed, which further emphasizes the need for the provision of easily accessible and understandable patient education.

The final discussion should be revised based on the actual results of the study and compared to recent published studies.

A multifaceted approach is needed to address these challenges and improve the awareness and practice of diabetic foot care in Iraq. This approach should include comprehensive education and outreach programs for diabetic patients and training and support for healthcare professionals to deliver high-quality foot care services. Additionally, efforts should be made to increase the availability of diabetic foot care resources and services in all regions of the country, including rural and underserved areas [11].

The findings of this study indicate that our participants possess adequate awareness of diabetic foot care and its complications. However, their actual implementation of diabetic foot care practices falls short, as evidenced by the results [12]. The variation between the awareness and practice scores may be attributed to inadequate patient compliance. Other similar research also observed similar results, with practice scores being lower than awareness score levels [13].

In the present study, the level of awareness amongst diabetic patients on diabetic foot care was assessed and the study revealed several significant findings related to the demographic data and foot health awareness.

As far as age is concerned, the majority of participants were between the ages of 50–59 (35.0%) and ≥ 60 years (25.0%). This distribution is of clinical importance because age is often associated with the presence of multiple diabetes-related complications, such as foot deformities, peripheral arterial disease, and peripheral neuropathy, as well as longer diabetes history. The Standards of Care in Diabetes – 2026 highlight that individuals with diabetes should have a regular comprehensive foot assessment to look for risk factors for ulceration and amputation [14].

In this study, 56.0% of the subjects were boys and 44.0% were girls. Studies of diabetic foot knowledge, as well as self-care, have also reported similar variation in the sex distribution of diabetic patients. But, it is not always a requirement that foot-care awareness is solely a female thing. In recent years, two studies from Saudi Arabia revealed differences between knowledge and practice in terms of several patient characteristics such as age and duration of diabetes, and another recent study stressed educational interventions instead of demographic characteristics [15].

In terms of education, 40.0% had secondary education, 30.0% had primary or lower education and 30.0% had higher education. Knowledge of information and taking the right self-care actions are related to education. In cross-sectional study of 534 diabetic patients conducted in 2024, lower levels of education were found to be linked to higher diabetic burden of illness and urged them to focus on providing awareness programs to those with less level of education. Previous studies have also shown that higher education is related to knowledge and practice of DF [16].

With respect to the duration of diabetes, 37.0% had diabetes for 5–10 years, 35.0% had more than 10 years of diabetes and 28.0% had less than 5 years of diabetes. For longer durations of diabetes, the exposure to the diabetes-related complications such as neuropathy and vascular disease can significantly increase the risk of development of diabetic foot ulcerations. Recent studies also have shown marked differences in the foot-care knowledge among people with varying lengths of time since their diagnosis of diabetes. So, long-term diabetes patients should be educated about foot care continually and get periodic foot examination [17].

The highest percent of awareness was associated with the item about foot problems and diabetes, with 88.0% of the respondents correctly answering this question. This discovery confirmed that the majority of participants were aware of the general association of diabetes and foot related problems. This awareness is relevant as diabetic foot ulceration is a potentially preventable complication if risk factors can be identified early and preventive measures are taken. People with diabetes, especially those with

factors that increase their risk of foot problems, should have a foot examination and foot education program from the American Diabetes Association [18].

Conclusion

According to the study framework, diabetic individuals' awareness of diabetic foot care can differ significantly. A significant percentage may be somewhat or poorly informed, especially when it comes to specialized preventive measures. Diabetic foot problems may be better prevented by enhancing patient education and promoting sensible foot care practices.

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