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Awareness and Practices Regarding Diabetic Foot Care Among Diabetic Patients in Saudi Arabia: A Cross-Sectional Study

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Abstract **Background:** 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. If not identified early and treated properly, it can lead to serious consequences, such as amputation. **Objectives:** This study assessed the knowledge and awareness levels of diabetic foot symptoms, management and complications among diabetic patients in Saudi Arabia. **Methods:** This study used a cross-sectional design and a pre-made questionnaire. It was carried out from August 2023 to March 2024 in all regions of the Kingdom of Saudi Arabia. The sample size was estimated using the Qualtrics calculator with a confidence level of 95%; the minimum sample size was 384. The data were then analyzed using version 20 of the Statistical Social Sciences (SPSS) program. **Results:** Of 107 respondents (mean age 40.6±13.2 y; 60.5 % women; 64.4 % type 2 diabetes), 72.9 % demonstrated high awareness while 57.9 % exhibited poor practice. Participants aged ≥51 years were more than twice as likely to report poor practice than younger patients (adjusted OR 2.4, 95 % CI 1.1–5.5; p = 0.03). It also appears that frequency showed that 15% are categorised as good practice, 27.1% as fair practice and 57.9% as poor practice. Age was the only parameter with a significant association with practice (p-value = 0.028). **Conclusion:** In conclusion the awareness and practice of diabetic foot care among diabetic patients receiving care in Saudi Arabia 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. Knowledge about DF does not automatically translate into healthy behaviour; more than half of Saudi adults with diabetes neglect basic foot-care measures. **Clinical relevance:** Targeted, age-tailored education and structured follow-up could avert preventable amputations and lower diabetes-related healthcare costs in Saudi Arabia.

Key Words Diabetes Mellitus, Diabetic Foot, Saudi Arabia

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]. Saudi Arabia has experienced a substantial increase in diabetes mellitus prevalence from 3.4% in 1996 to over 20% in recent years [3]. This is multifactorial but primarily due to lifestyle changes. By 2030, projections indicate 366 million DM consumers, up from 171 million in 2000 [4].

Diabetes mellitus also aggravates health complications such as hypertension, heart disease, retinopathy and multiple other complications [5]. 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 [6]. 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 [7].

International guidelines emphasise daily foot self-inspection, hygienic practices and prompt reporting of minor trauma [4]. A growing body of Saudi and regional research documents variable patient knowledge; however, far fewer studies concurrently examine whether awareness translates into correct behaviour [8-10]. Furthermore, the methodological quality and geographical reach of existing surveys remain inconsistent.

To date, no national-level study has quantified both awareness and actual self-care practice in a single Saudi diabetic cohort. Addressing this gap is essential for designing effective educational interventions and for benchmarking progress towards Vision 2030 diabetes targets.

Therefore, this study aimed to (i) assess levels of awareness and self-reported foot-care practice among adults with diabetes across all regions of Saudi Arabia and (ii) identify demographic predictors of good practice. We hypothesised that high awareness would not necessarily be accompanied by good practice and that older age and lower education would predict poorer practice.

MATERIALS AND METHODS

Study Design

This study used a cross-sectional design and a pre-made questionnaire. It was carried out from August 2023 to March 2024 in all regions of the Kingdom of Saudi Arabia.

Study Setting

Participants, Recruitment and Sampling Procedure

The study targets diabetic patients, adults over 18 and people of different genders from various regions of Saudi Arabia. Online Platforms: To reach a wide audience of diabetic patients across KSA, utilise social media platforms, diabetes-related forums, online surveys (Google form) and relevant research. Categorise participants by age, gender, diabetes type and region and utilise online survey platforms to distribute questionnaires efficiently and gather responses.

Inclusion and Exclusion Criteria

Patients with diabetes on follow-up, the age of majority being 18 years or older, the gender of male or female and all patients with DM initially diagnosed are included. Exclusion criteria: Prevalence of gestational diabetes mellitus, hospitalized diabetics or critically ill diabetics with diabetes and persons with dementia who cannot complete the questionnaire; the study excluded patients with psychosis or profound deafness, complications such as hypertension, heart disease, retinopathy and foot complications.

Sample Size

The sample size was estimated using the Qualtrics calculator with a confidence level of 95%; the minimum sample size was 384.

Method for Data Collection and Instrument (Data Collection Technique and Tools)

Data was collected through an online Google form distributed electronically in Arabic to the targeted population. The participants were randomly chosen to ensure that the sample was representative of the questionnaire, which contains the following sections: (1) Consent form, (2) Sociodemographic data and (3) Specific questions related to the research objectives (To assess knowledge and awareness of diabetic foot symptoms, management and complications among Diabetic patients). The participants were informed about the study's goals and their informed consent was obtained. In our study, we used a questionnaire done by Alsumairi *et al.* [8].

Questionnaire Validation

The original English instrument by Alsumairi *et al.* [8] was translated into Arabic and back-translated by two bilingual experts. A pilot study involving 30 patients yielded a Cronbach's $\alpha = 0.82$ for internal consistency. Content validity was reviewed by two endocrinologists and a diabetologist.

Sampling Method and Bias

Convenience sampling via social-media channels (WhatsApp, X, Facebook) was employed owing to pandemic-related restrictions. This may have favored younger, more educated users, introducing selection bias. To mitigate this, targeted adverts were distributed to diabetes-support groups for older adults.

Final Sample

Of 385 eligible respondents, 278 were non-diabetic and therefore excluded from analysis, leaving 107 adults with self-reported diabetes for final analysis.

Scoring System

- 30 questions in our survey
- The Knowledge questions regarding foot care are 10 questions
- Practice questions regarding foot care are 9 questions
- Any correct answers received a score of 1
- Any non-correct answers (no, I don't know) received a score of 0
- The maximum score is 10
- The minimum score is 0

The participants were divided into three groups: those with a score below 6 are considered to have poor awareness,

those with a score between 6 and 8 are considered to have moderate awareness and those who score over 8 are considered to have high awareness.

Analysis and Entry Method

The collected information was entered into Microsoft Excel (2019) for the Windows program. The data were then analyzed using version 20 of the Statistical Social Sciences (SPSS) program.

RESULTS

In Table 1, the data is divided by age, with most respondents falling into the 20-30 age group, followed by the 41-50 and 51-60 age groups. This indicates that the sample population is relatively young, with only a small percentage being over 60. In terms of gender, the sample population is predominantly female, with 80.5% of respondents identifying as female and 19.5% as male. The nationality breakdown shows that most respondents are Saudi (91.4%), with a smaller percentage being non-Saudi (8.6%). This could be reflective of the overall population demographics in the region. The location data reveals that most respondents are from the West (49.1%), followed by the South (33.8%). Education level varies among the respondents, with the majority having a Bachelor's degree (43.1%) or a Secondary education (27.0%). Annual income distribution showed that the most significant percentage of respondents have an income between 5,000-15,000 Saudi Riyals (44.2%), followed by less than 5,000 (31.2%). Marital status is fairly evenly distributed among the respondents, with the majority being single (50.1%) or married (44.4%). Finally, the data on diabetes prevalence shows that 27.8% of respondents have diabetes, while 72.2% do not.

The first parameter shown in Table 2 is the type of diabetes the individual suffers from. Out of the total respondents, 33.6% suffer from the first type of diabetes, 47.7% suffer from the second type and 18.7% do not know their type of diabetes. The next parameter is the source of information about diabetic foot care. The majority of the respondents (53.3%) received information from health staff, followed by friends and relatives (44.9%), internet and social media (40.2%), books and magazines (11.2%) and others (10.3%). The presence of pre-existing risk factors related to diabetic foot is also analyzed. The most common risk factor reported is foot inflammation (18.7%), followed by low vision/retinopathy (29.0%), angiopathy/absence (15.0%), neuropathy (14.0%), foot deformity (6.5%) and dorsal pulse of the feet (3.7%). Additionally, 51.4% of the respondents reported having no pre-existing risk factors related to diabetic foot. The majority of the respondents agreed that people with diabetes must take medications regularly and start a healthy diet because they are at risk of developing diabetic complications (94.4%). Similarly, a significant proportion of the respondents agreed that people with diabetes should take care of their feet because they may not feel a slight injury in their feet (97.2%), wounds and

Table 1: Sociodemographic characteristics of participants (n = 385)

Parameter		No.	%
Age	Less than 20	80	20.8
	20-30	139	36.1
	31-40	49	12.7
	41-50	61	15.8
	51-60	47	12.2
	More than 60	9	2.3
Gender	Male	75	19.5
	Female	310	80.5
Nationality	Saudi	352	91.4
	Non-Saudi	33	8.6
Location	East	16	4.2
	Middle	35	9.1
	North	15	3.9
	South	130	33.8
	West	189	49.1
Education Level	I do not have an educational qualification	2	.5
	Primary	10	2.6
	Middle	24	6.2
	Secondary	104	27.0
	Diploma	72	18.7
	Bachelor's	166	43.1
	Postgraduate	7	1.8
Annual Income (in Saudi Riyals)	Less than 5,000	120	31.2
	5,000-15,000	170	44.2
	16,000-25,000	61	15.8
	Over 25,000	34	8.8
Marital Status	Married	171	44.4
	Single	193	50.1
	Divorced	12	3.1
	Widowed	9	2.3
Do you have diabetes?	Yes	107	27.8
	No	278	72.2

Table 2: Participants' knowledge of diabetic foot complications (n = 107)

Parameter		No.	%
What type of diabetes do you suffer from?	The first type	36	33.6
	The second type	51	47.7
	I don't know	20	18.7
Your source of information about diabetic foot care in diabetics:	Friends and relatives	48	44.9
	Health staff	57	53.3
	Internet and social media	43	40.2
	Books and magazines	12	11.2
	others	11	10.3
The presence of a pre-existing risk factor related to diabetic foot:	Low vision/retinopathy	31	29.0
	Neuropathy	15	14.0
	Angiopathy/absent	16	15.0
	Foot deformity	7	6.5
	Foot inflammation (redness, swelling, foulodour)	20	18.7
	Dorsal pulse of the feet	4	3.7
	Nothing	55	51.4
People with diabetes must take medications regularly and start a healthy diet because they are at risk of developing diabetic complications	Yes	101	94.4
	No	3	2.8
	I don't know	3	2.8
People with diabetes should take care of their feet because they may not feel a slight injury in their feet	Yes	104	97.2
	No	1	.9
	I don't know	2	1.9
People with diabetes should take care of their feet because wounds and infections may not heal quickly	Yes	104	97.2
	No	2	1.9
	I don't know	1	.9
People with diabetes should take care of their feet because they may develop foot ulcers	Yes	98	91.6
	No	3	2.8
	I don't know	6	5.6
Poor diabetic foot ulcer care can lead to amputation	Yes	99	92.5
	No	2	1.9
	I don't know	6	5.6
People with diabetes should not smoke because smoking causes poor blood circulation that affects the feet	Yes	90	84.1
	no	4	3.7
	I don't know	13	12.1
People with diabetes should maintain the flexibility of their feet by using a foot moisturize	Yes	88	82.2
	no	7	6.5
	I don't know	12	11.2

infections may not heal quickly (97.2%) and they may develop foot ulcers (91.6%). Furthermore, poor diabetic foot ulcer care can lead to amputation (92.5%). Smoking is also identified as a risk factor for diabetic foot care, with 84.1% of the respondents agreeing that people with diabetes should not smoke because it causes poor blood circulation that affects the feet. Lastly, most respondents (82.2%) agreed that people with diabetes should maintain the flexibility of their feet by using a foot moisturizer.

Table 3 shows that only 27.1% of respondents believe they should check their feet daily, while 29.9% believe it should be done monthly. Regarding redness or bleeding between the toes, 27.1% of respondents would go to the doctor directly, while 25.2% would take care of it themselves. Similarly, if a hard skin ulcer or lesion occurs, only 30.8% of respondents would go to the doctor directly, while 20.6% would take care of it themselves. It is encouraging to see that most respondents (94.4%) and (65.4%), respectively, wash and dry their feet regularly and trim their toenails. However, a significant percentage still do not dry between their toes after washing. Additionally, it is concerning that 33.6% of respondents clean their nails with a sharp object. Furthermore, it is alarming that 67.3% of respondents always walk barefoot. Additionally, only 39.3% of respondents add disinfectants to the water when cleaning their feet. The reasons provided for not taking proper care of their feet varied, with the most common being a lack of information about diabetic foot (37.4%), not having enough time (31.8%) and fear of discovering serious problems (21.5%).

Figure 1 showed that most respondents, 72.9 % (n = 78) of participants demonstrated high awareness (score>8/10). Additionally, 22.4% of respondents reported having moderate awareness. It is also worth noting that 4.7% of respondents reported having a weak understanding of the topic.

The data provided in Figure 2 shows that frequency showed that out of the total practices observed, 15% are categorized as good practice, 27.1% as fair practice and 57.9 % (n = 62) reported poor practice (score<6/9), 15 % (n = 16) good practice.

In Table 4, when looking at the awareness score based on age, it is interesting to note that the highest awareness is among individuals aged 51-60, with 22.4% having high awareness and 28% having moderate awareness. On the other hand, individuals aged less than 20 and those aged 31-40 have the lowest awareness scores. Regarding marital status, married individuals have the highest awareness score, with 47.7% having high awareness and 60.7% having moderate awareness. When considering gender, there is a

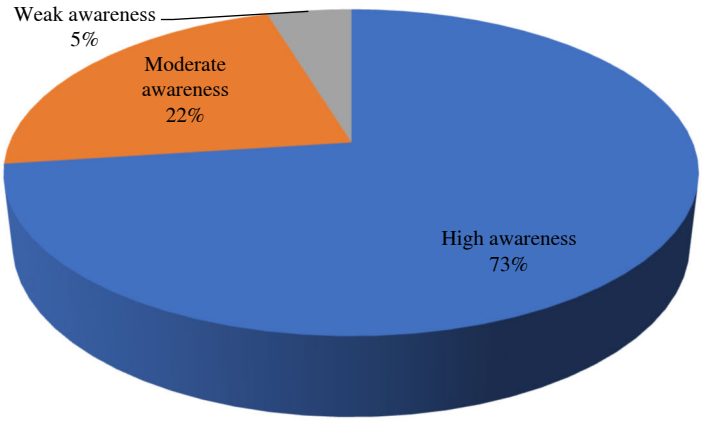

Figure 1: Awareness score of participantsabout diabetic foot and its complications

Table 3: Practice of participants of diabetic foot and its complications (n = 107)

Parameter		No.	%
How often do you think you should check your feet?	Daily	29	27.1
	Weekly	23	21.5
	Monthly	32	29.9
	Annually	23	21.5
What is the first thing you do if you find redness/bleeding between your toes?	Go to the doctor directly	29	27.1
	I change the type of shoes I wear, and that's enough	4	3.7
	I take care of them myself (wash the feet and cover them with a clean compress)	27	25.2
	All of the above	47	43.9
What will you do if you have a hard skin ulcer or lesion, even if you have never had one before?	Go to the doctor directly	33	30.8
	I change the type of shoes I wear, and that's enough	7	6.5
	I take care of them myself (wash the feet and cover them with a clean compress)	22	20.6
	All of the above	42	39.3
	I do not do anything	3	2.8
[Do you check your feet regularly]	Yes	72	67.3
	No	35	32.7
[Do you wash your feet regularly]	Yes	101	94.4
	No	6	5.6
[Do you dry the feet and the places between the toes after washing]	Yes	70	65.4
	No	37	34.6
[Do you wash your feet with warm water]	Yes	74	69.2
	No	33	30.8
[Do you always trim your dolls' toenails]	Yes	90	84.1
	no	17	15.9
[Do you always walk barefoot]	Yes	35	32.7
	no	72	67.3
[Do you clean your nails with a sharp object]	Yes	36	33.6
	no	71	66.4
[Do you add disinfectants to the water before cleaning the feet]	Yes	42	39.3
	No	65	60.7
[Do you wear rubber socks]	Yes	45	42.1
	No	62	57.9
Living in a remote area		10	9.3
Fear of discovering serious problems with it		23	21.5
There is not enough information about diabetic foot		40	37.4
Not having enough time		34	31.8
There is no reason		29	27.1
Other reasons		23	21.5

relatively equal distribution of awareness scores between males and females. However, females (40.2%) have a slightly higher percentage of high awareness than males (32.7%). Regarding nationality, Saudi individuals have a significantly higher awareness score than non-Saudi individuals, with 68.2% having high awareness and 93.5% having high or moderate awareness. Regarding location, we can see that most of the respondents are from the West, accounting for 76.6% of the total. This is followed by the Middle region with 10.3%, South with 9.3%, North with 1.9% and East with 1.9%. Moving on to the education level, we see that the highest percentage of respondents have a Bachelor's degree, accounting for 38.3% of the total. This is followed by Secondary education with 31.8%, Middle education with 13.1%, 5.5% with a Diploma, 3.7% with Primary education and 1.9% with a post-graduate degree.

Table 4: Association between sociodemographic characteristics and knowledge score of participants (n = 107)

Parameters		Awareness score			Total (N = 107)	p-value
		High awareness	Moderate awareness	Weak awareness		
Age	Less than 20	5	4	1	10	0.720
		4.7%	3.7%	0.9%	9.3%	
	20-30	18	6	2	26	
		16.8%	5.6%	1.9%	24.3%	
	31-40	6	2	1	9	
		5.6%	1.9%	0.9%	8.4%	
	41-50	17	5	1	23	
		15.9%	4.7%	0.9%	21.5%	
	51-60	24	6	0	30	
		22.4%	5.6%	0.0%	28.0%	
	More than 60	8	1	0	9	
		7.5%	0.9%	0.0%	8.4%	
marital status	Single	20	10	3	33	0.445
		18.7%	9.3%	2.8%	30.8%	
	Married	51	12	2	65	
		47.7%	11.2%	1.9%	60.7%	
	Divorced	4	2	0	6	
		3.7%	1.9%	0.0%	5.6%	
	Widow	3	0	0	3	
		2.8%	0.0%	0.0%	2.8%	
Gender	Male	35	11	1	47	0.542
		32.7%	10.3%	0.9%	43.9%	
	Female	43	13	4	60	
		40.2%	12.1%	3.7%	56.1%	
Nationality	Saudi	73	23	4	100	0.426
		68.2%	21.5%	3.7%	93.5%	
	Non-Saudi	5	1	1	7	
		4.7%	0.9%	0.9%	6.5%	
Location	East	2	0	0	2	0.769
		1.9%	0.0%	0.0%	1.9%	
	Middle	10	1	0	11	
		9.3%	0.9%	0.0%	10.3%	
	North	2	0	0	2	
		1.9%	0.0%	0.0%	1.9%	
	South	8	2	0	10	
		7.5%	1.9%	0.0%	9.3%	
	West	56	21	5	82	
		52.3%	19.6%	4.7%	76.6%	
Education Level	Illiterate	1	0	0	1	0.982
		0.9%	0.0%	0.0%	0.9%	
	Primary	4	0	0	4	
		3.7%	0.0%	0.0%	3.7%	
	Middle	10	3	1	14	
		9.3%	2.8%	0.9%	13.1%	
	Secondary	25	8	1	34	
		23.4%	7.5%	0.9%	31.8%	
	Diploma	8	2	1	11	
		7.5%	1.9%	0.9%	10.3%	
	Bachelor's	28	11	2	41	
		26.2%	10.3%	1.9%	38.3%	
	Post-graduate	2	0	0	2	
		1.9%	0.0%	0.0%	1.9%	
Monthly Income (in Saudi Riyals)	Less than 5,000	20	5	0	25	0.388
		18.7%	4.7%	0.0%	23.4%	
	5,000-15,000	42	12	4	58	
		39.3%	11.2%	3.7%	54.2%	
	16,000-25,000	11	7	1	19	
		10.3%	6.5%	0.9%	17.8%	
	Over 25,000	5	0	0	5	
		4.7%	0.0%	0.0%	4.7%	

Finally, looking at annual income, we see that most respondents fall into the income bracket of 5,000-15,000 Saudi Riyals, accounting for 54.2% of the total. This is followed by the bracket of less than 5,000 Riyals with 23.4%, 16,000 - 25,000 Riyals with 17.8% and over 25,000 Riyals with 4.7%. Lastly, all parameters showed no significant association. Awareness and practice were not correlated (Spearman $r = 0.08$, $p = 0.42$).

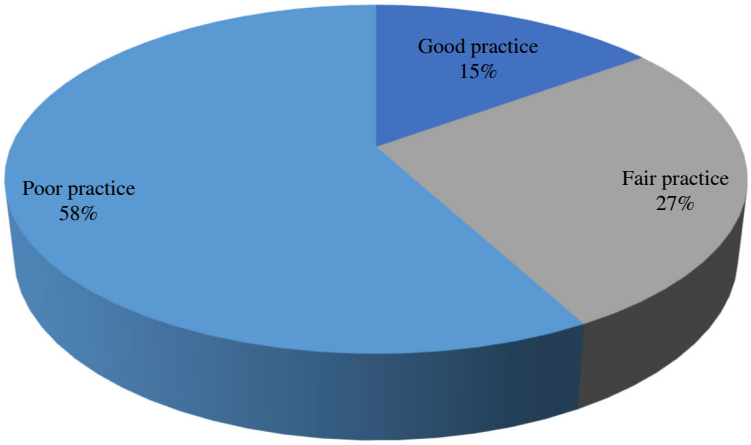

Figure 2: Practice score of participants about diabetic foot and its complications

Table 5 showed that the analysis of age groups revealed that individuals aged 51-60 and those over 60 had the highest percentage of poor practice scores at 16.8% and 7.5%, respectively and was the only parameter with significant association with practice (p-value = 0.028). In terms of marital status, married individuals have the highest percentage of poor practice scores at 37.4%. Regarding gender, the data shows that females have a higher percentage of poor practice scores at 30.8% compared to males at 27.1%. Additionally, the nationality analysis reveals that non-Saudi individuals have a higher percentage of poor practice scores at 4.7% compared to Saudi individuals at 53.3%. The location factor also shows variations in practice scores, with individuals from the West region having the highest percentage of poor practice scores at 43.0%. Moreover, the education level analysis demonstrates that individuals with a primary education have a lower percentage of poor practice scores at 2.8% compared to those with a Bachelor's degree at 20.6%. Finally, the analysis of annual income reveals that individuals earning 5,000-15,000 Saudi Riyals have the highest percentage of poor practice scores at 32.7%. Age ≥51 years independently predicted poor practice (aOR 2.4, 95 % CI 1.1-5.5).

DISCUSSION

Diabetes is a chronic disease that affects millions of people worldwide and Saudi Arabia is no exception. Therefore, it is essential for diabetic patients to be educated about the importance of proper foot care and to receive adequate support and resources to prevent and manage diabetic foot complications.

In our study, participants showed a high overall score awareness level (72.9%). This is consistent with a cross-sectional survey in Saudi Arabia that showed that diabetic individuals possess a high awareness score (55.1%) and exhibit a positive attitude towards diabetic foot [11]. On the other hand, a study in Saudi Arabia revealed that 41.3% of participants, including patients and their families, exhibited a high level of awareness of DM. Also, the findings indicated that (91.65%) of the participants possessed a high level of knowledge and a positive attitude towards DM (diabetes mellitus) and the care of the diabetic foot [12]. The findings indicate a significant disparity compared to a comparable study from 2018, wherein the majority of patients (66.1%) showed average diabetes awareness, while only 4.7% exhibited good knowledge [13]. These findings were higher than the awareness level score in the studies conducted in Iran (15.2%) [14] and in Jordan (41.5%) [15].

Our overall practice score for the majority of participants was found to be poor (57.9%). This is similar to a study that showed that the majority of participants (56.5%) scored between 6 and 10 out of 15 in the evaluation of their practice with diabetic foot, which indicates a poor practice score for more than half of the participants [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. 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 [1,11,16].

Awareness scores showed no significant association with any of the sociodemographic characteristics; however, practice showed a significant association with age (p-value = 0.028). On the contrary, a study held in the Buraydah-Qassim region, Saudi Arabia, showed no significant association with practice but showed a significant relationship between age and knowledge score (p-value = 0.009) [17].

A multifaceted approach is needed to address these challenges and improve the awareness and practice of diabetic foot care in Saudi Arabia. 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 [13-17].

Table 5: Association between sociodemographic characteristics and practice score of participants (n = 107)

Parameters		Practice score			Total (N = 107)	p-value
		Good practice	Fair practice	Poor practice		
Age	Less than 20	3	2	5	10	0.028
		2.8%	1.9%	4.7%	9.3%	
	20-30	8	8	10	26	
		7.5%	7.5%	9.3%	24.3%	
	31-40	1	5	3	9	
		0.9%	4.7%	2.8%	8.4%	
	41-50	1	4	18	23	
		0.9%	3.7%	16.8%	21.5%	
	51-60	3	9	18	30	
		2.8%	8.4%	16.8%	28.0%	
	More than 60	0	1	8	9	
		0.0%	0.9%	7.5%	8.4%	
marital status	Single	9	9	15	33	0.211
		8.4%	8.4%	14.0%	30.8%	
	Married	7	18	40	65	
		6.5%	16.8%	37.4%	60.7%	
	Divorced	0	2	4	6	
		0.0%	1.9%	3.7%	5.6%	
	widow	0	0	3	3	
		0.0%	0.0%	2.8%	2.8%	
Gender	Male	7	11	29	47	0.731
		6.5%	10.3%	27.1%	43.9%	
	Female	9	18	33	60	
		8.4%	16.8%	30.8%	56.1%	
Nationality	Saudi	16	27	57	100	0.506
		15.0%	25.2%	53.3%	93.5%	
	Non-Saudi	0	2	5	7	
		0.0%	1.9%	4.7%	6.5%	
Location	East	0	0	2	2	0.404
		0.0%	0.0%	1.9%	1.9%	
	Middle	0	5	6	11	
		0.0%	4.7%	5.6%	10.3%	
	North	1	0	1	2	
		0.9%	0.0%	0.9%	1.9%	
	South	2	1	7	10	
		1.9%	0.9%	6.5%	9.3%	
	West	13	23	46	82	
		12.1%	21.5%	43.0%	76.6%	
Education Level	Illiterate	0	0	1	1	0.885
		0.0%	0.0%	0.9%	0.9%	
	Primary	0	1	3	4	
		0.0%	0.9%	2.8%	3.7%	
	Middle	2	3	9	14	
		1.9%	2.8%	8.4%	13.1%	
	Secondary	3	11	20	34	
		2.8%	10.3%	18.7%	31.8%	
	Diploma	3	3	5	11	
		2.8%	2.8%	4.7%	10.3%	
	Bachelor's	8	11	22	41	
		7.5%	10.3%	20.6%	38.3%	
	Postgraduate	0	0	2	2	
		0.0%	0.0%	1.9%	1.9%	
Monthly Income (in Saudi Riyals)	Less than 5,000	1	8	16	25	0.490
		0.9%	7.5%	15.0%	23.4%	
	5,000-15,000	9	14	35	58	
		8.4%	13.1%	32.7%	54.2%	
	16,000-25,000	5	6	8	19	
		4.7%	5.6%	7.5%	17.8%	
	Over 25,000	1	1	3	5	
		0.9%	0.9%	2.8%	4.7%	

CONCLUSIONS

This study reveals a critical gap between awareness and practice regarding diabetic foot care among diabetic patients in Saudi Arabia. While 72.9% of participants demonstrated high awareness levels, 57.9% reported poor self-care practices; highlighting a disconnect that poses serious clinical risks, including foot ulcers and potential amputations.

The findings underscore the urgent need for targeted educational interventions that move beyond knowledge dissemination to actively shape patient behavior. Structured programs led by healthcare providers, especially those using culturally appropriate methods and digital tools, may bridge this gap. Improving patient adherence to foot care routines could significantly reduce the risk of complications, prevent amputations and lower healthcare system costs.

These insights call for immediate public health action and support the development of tailored diabetic foot care initiatives throughout Saudi Arabia.

Study Limitations

Certain constraints impacted our investigation. The online, self-administered nature of the survey may have excluded older or less literate patients. Self-reported awareness and practice were not validated against clinical foot examinations and subjective behavioral questions are prone to social-desirability bias.

The questionnaires comprised numerous inquiries with either affirmative or negative responses, affecting the data's validity. The prevalence of good knowledge and habits in over 50% of the participants may be attributed to reporting bias, specifically social desirability bias, when respondents tend to provide answers that are perceived as favourable.

Acknowledgement

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Conflicts of Interest

The authors declare that there are no conflicts of interest.

Ethical Approval

Ethical approval was obtained from the research ethics committee of the Faculty of Medicine in Rabigh-King Abdulaziz University with Application number [24026]. After explaining the study in full and clarifying that participation is voluntary, each participant provided informed consent. The data collected were securely saved and used for research purposes only.

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