Original Article

Knowledge of diabetic foot care management among medical students at Tabuk University, Tabuk, Saudi Arabia

Yousef S. Al Alawi[1], Ibrahim A. Albalawi[2], Sultan A. Alamrani[2], Abdulaziz A. Alwakeel[2], Abdulrahman A. Alwakeel[2], Wedad E. Aljthli[2], Razan K. Albalawi[3], Ghadah A. Alanaz[3].

[1]Director of Surgery Department Consultant Breast and Endocrine Surgeon, King Salman Armed Forces Hospital Northwestern Region, Tabuk, KSA.
[2]Medical student, Tabuk University, Tabuk, KSA.
[3]Medical Intern, Tabuk University, Tabuk, KSA.

ABSTRACT

Background: Diabetic foot (DF) is a common condition among diabetic patients and the leading cause of diabetic hospitalizations. This study aims to assess the knowledge about diabetic foot care management among medical students at Tabuk University in Tabuk, Saudi Arabia.

Methods: This cross-sectional study was conducted among medical students at Tabuk University in Tabuk, Saudi Arabia from October to December 2022. Participants were selected via convenient non-probability sampling technique. An online self-administered questionnaire was used to collect the data via Google form. Data analysis was conducted by using SPSS.

Results: In this study we included 301 respondents. Most of them were females (63.8%). Our results showed that the mean knowledge score of study population was 52.7 ± 8.76, range (8 – 64). Moreover, we noted that foot examination domain achieved the highest knowledge score 8.5 ± 1.92, range (0 – 10) and applications for preventing foot complications domain reported the lowest knowledge score 23.2 ± 3.90, range (6 – 29). Foot examination was the most common training need by respondents. Age, gender, marital status, academic years, previous training on diabetic foot care, patients' education about diabetic foot risk and problems and performing foot examination for diabetic patients, were significantly associated with knowledge about diabetic foot care management.

Conclusion: Our findings revealed that medical students in Tabuk region, Saudi Arabia had acceptable level of knowledge about diabetic foot care management. Above mentioned associated factors should be considered in future research.

Keyword: Diabetes, diabetic foot care, Saudi Arabia, medical students, Tabuk, knowledge.

Introduction

Diabetes mellitus (DM), one of the most significant global public health issues, is defined as a collection of chronic metabolic illnesses characterized by high blood sugar (hyperglycemia) that arise from a deficit in insulin action, production, or both [1]. The International Diabetes Federation (IDF) estimates that diabetes mellitus (DM), which affects 8.8% of adults Worldwide, accounts for 10.7% of all-cause mortality among those aged 20 to 79 [2]. There are 425 million persons with diabetes mellitus globally [1]. Furthermore, Saudi Arabia has the highest prevalence of diabetes in the Middle East and North Africa, at roughly 18.5%, according to the International Diabetes Federation (IDF) [1].

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Address for correspondence: Yousef Saleh Al Alawi, Director of Surgery Department Consultant Breast and Endocrine Surgeon, King Salman Armed Forces Hospital Northwestern Region, Tabuk, KSA.
E-mail: yalalawi@hotmail.com

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The diabetic foot is a severe chronic consequence of diabetes that comprises of lesions in the deep tissues that are related with neurological diseases and peripheral arterial disease in the lower extremities [3]. Diabetic foot occurs when a person has diabetes for a long period of time [4]. The rising rate of diabetes mellitus all over the world and the longer lifespan of diabetic patients have both contributed to a rise in the number of cases of diabetic foot [5, 6]. This study tries to find out how much medical students at the University of Tabuk know about caring for diabetic feet at different points in their clinical training. The goal is to find out if there are any educational needs or places where the curriculum could be improved, as well as to find out what makes medical students learn more about diabetic foot care. There is no official information from an educational or medical institution that tells the public if medical students are tested on how to treat diabetic foot disease.

Methods

This is a cross-sectional study of Tabuk University medical students based in the city of Tabuk, Saudi Arabia conducted from October to December 2022. The Faculty of Medicine is a new medical school in the Kingdom of Saudi Arabia committed to achieving Saudi Arabia's Vision 2030 ambitions and objectives.

Inclusion criteria: Participated in by all clinical year medical students (fourth, fifth, and sixth year) who studied at the Faculty of Medicine at Tabuk University.

Exclusion criteria: Involved all foundation year and the basic years (second and third year) medical students who studied in the Faculty of Medicine, Tabuk University.

The university's educational programme lasts for six years. All entering freshmen spend their first year, commonly known as the foundation year, as a group. Following that, there are two years of clinical sciences, the second and third basic medical years, and the fourth, fifth, and sixth basic medical years. Students have the chance to join the medical staff in any specialty they rotate through during these clinical years (internal medicine, surgery, etc.) where they have the chance to inform patients about their illness while an attending specialist watches over them.

Study Population: Medical students in their fourth, fifth, and sixth years of study at Tabuk University's Faculty of Medicine made up the study population.

Sample size: The sample size was established using the EPI info programme. Based on a 5% error margin, a 95% confidence interval, and a sample size of the total population of Tabuk, Saudi Arabia. The projected sample size of 194 was increased to 390 to accommodate for a 10% non-response rate.

Data collection tools: A Google Form was used to administer an online self-administered questionnaire for the study. The produced link will be disseminated at random on social media platforms including Twitter, Facebook, What's App, and Telegram.

A validated questionnaire was used based on previous study [1]. A total of 68 true or false questions about the care of diabetic feet made up the second part of the survey, which was divided into two sections. The first section of the survey sought demographic and sociodemographic information about the students. Risk factors, foot examination, foot problems, and selecting proper footwear were divided into four categories. The sections each included a different number of questions, ranging from 16 to 32 to 10, respectively. An overall score that falls anywhere from 0 to 68 was determined by assigning a point value of 1 for each right answer and a point value of 0 for each erroneous response. The greater the student's overall score, the more knowledgeable they are on the treatment of diabetic foot complications. For the purpose of this research, the perspectives of diabetic foot treatment specialists working at King Salman Armed Forces Hospital was solicited in order to evaluate the questions in the questionnaire form with regard to the clarity of their statements and the validity of their substance.

Sampling Technique: The information from the participants was gathered using a practical non-probability sampling technique.

Data analysis: The 23rd version of the Statistical Package for Social Science (SPSS) was used to code, enter, and analyze the data. Quantitative information was presented as a number and a percentage (No. &%). To investigate the qualitative associations between two groups, the independent samples t test and one way ANOVA test were applied.

Ethical considerations: The King Salman Armed Forces Hospital's Research Ethics Committee gave the project its due permission. The decision to take part in this study was your own. The participants will receive an explanation from the researchers on the study's goals and methods. The youngsters received no additional rewards for their engagement (like extra credit in class). All information was kept private and was only used for study. Ethics id number: KSAFH-REC-2022-476

Results

Socio demographic characteristics of participants: A total of 301 respondents were included in this study. About two thirds of them were females and one third were males. All the participants were Saudi Arabian. Regarding the marital status of our respondents, most of them were unmarried (97%). Almost one third of participant were in fourth academic year (33.6%), 33.2% were in fifth academic year and the same percentage in sixth academic year. When we evaluated the GPA of the students, we noted that more than half of them scored GPA of 3.75 - 4.49. GPA of 4.5 – 5 was scored by 21.6%, 2.75 - 3.74 GPA was reported by 20.6% and only 2% participants scored less than 2.75. Additionally, the highest proportion of respondents they did not know their clinical interest yet. 18.3% showed that they interested more in general surgery, 16.6% interested in internal medicine, 9.6% interested in family medicine and pediatrics, 7.6% interested in emergency medicine and only 6.3% in obstetrics. Moreover, more than half of students (53.2%) have not received any training on diabetic foot care. All participants reported that they had no history of diabetic foot and 96.3% of them had no family history. On the other side, 3.7% revealed they had family history of diabetic foot. Furthermore, less than half of respondents (48.2%) stated that they educated patients with diabetic foot risk or complications. 47.2% showed that they performed foot examinations for diabetic patients in their unit and 52.8% did not perform it. (Table 1). When we assessed the sources of training on diabetic foot care, most of them stated that they received their training within curriculum of the college of medicine (79.4%). Followed by 41.1% received their training within elective training program and only 15.6% of them they attended courses, seminars and symposium programs related to diabetic foot care. As shown on (Figure 1). When we asked our participants about the training which they need in diabetic foot care, we found that foot examination was the most mentioned training, reported by 78.7%. Then, 66.8% reported that they required training on initiatives to prevent diabetic foot and 66.4% needed training about diabetic foot risk factors and etiology. Lastly, footwear selection training was reported by 56.1% as demonstrated on (Figure 2). Knowledge of diabetic foot care management: Our results revealed that the mean knowledge score of study population was 52.7 ± 8.76, range (8 – 64).

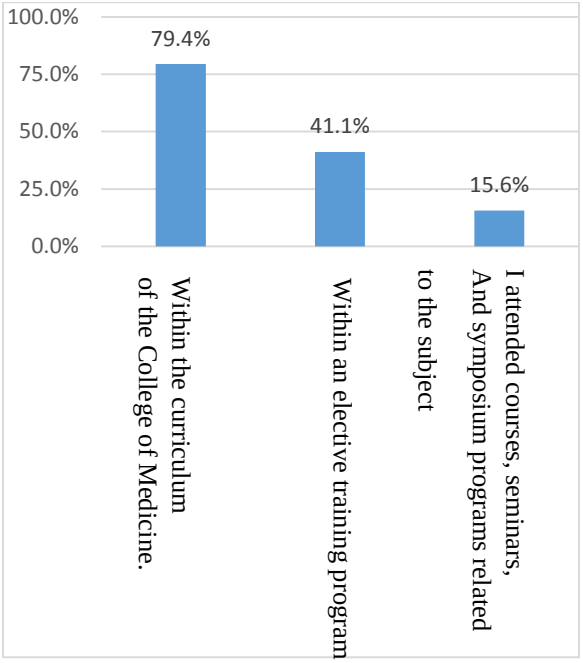

Figure 1: Where did you get training on diabetic foot care? (n=141)

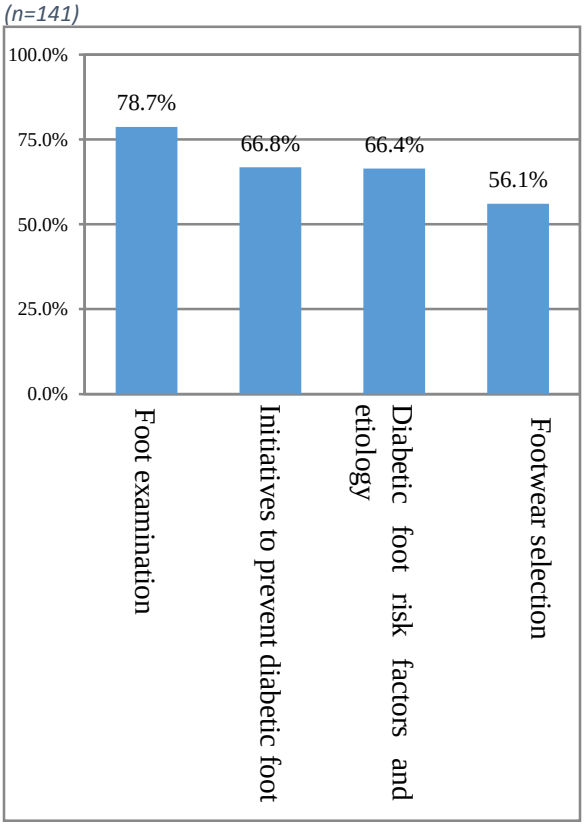

Figure 2: What training do you need in diabetic foot care?

We observed that foot examination domain achieved the highest knowledge score 8.5 ± 1.92, range (0 – 10), risk factors knowledge score was 13.3 ± 2.89, range (0 – 16). Then, the mean knowledge score about foot ware selection was 7.6 ± 1.48, range (2 – 10) and finally applications for preventing foot complications domain reported the lowest knowledge score 23.2 ± 3.90, range (6 – 29) (Table 2). Detailed knowledge about diabetic foot care management: Our findings demonstrated that the overall knowledge about risk factors of diabetic foot was good enough. We found that the vast majority of them recognized poor glycemic control as a risk factor (94.4%) and most of them identified presence of sense of chill, pain, burning, tingling, and tenderness in foot. Moreover, diabetes complications such as neuropathic foot and peripheral vascular disease were perceived as risk factor for diabetic foot, recognized by (91.7%) and (86.7%) respectively. 87% of respondents believed that inadequate foot care and lack of hygiene may lead to diabetic foot. In addition, skin changes like: foot edema, callus and cracked foot skin were recognized by most of participants (69.4%), (80.1%) and (82.7%) respectively. (Table 3). Our findings also indicated that the study population knew enough about the various types of foot inspection. The evaluation of the foot skin (color change, edema-atrophy, dryness, crack, callus, ulcer, etc.) was the most frequently recognized sign in the foot examination, as indicated by (94.4%). Temperature regulation (89%), the presence of a foot ulcer (89%), the presence of neuropathy (86.7%), circulatory control (86.4%), the suitability of the shoes (84.7%), color regulation (83.1%), the presence of deformity (82.4%), the condition of the toenails (81.1%), and muscular functions (77.7%) are then evaluated. (Table 3). Factors associated with Knowledge of diabetic foot care management: Our findings demonstrated that age showed significant association with all subscales of knowledge about diabetic foot care respondents aged between 23-25 years significantly associated with higher knowledge score about diabetic foot care then other age groups (P value< 0.001). There significant correlation between gender knowledge about foot Examination, applications for preventing foot complications and foot ware selection (P values= 0.006, 0.035 and 0.011 respectively). Female respondents had higher knowledge about diabetic foot care than males, this difference was found to statistically significant (P value=0.019). In spite of this, there no significant relationship between gender and knowledge about risk factors of diabetic foot care (P value<0.211). In addition, marital status showed significant correlation with knowledge about diabetic foot care, as married participants had higher knowledge than single respondents (P value=0.002), specifically in foot examination and applications for preventing foot complications (P values= 0.009 and 0.001 respectively). Furthermore, respondents who educated patients with diabetic foot risk or problems reported higher knowledge than participants did not (P value=0.024), this was particularly obvious in domains of foot examination, applications for preventing foot complications and foot ware selection (P values= 0.025, 0.035 and 0.017 respectively). We observed a higher knowledge level about diabetic foot care among participants who performed foot examinations for diabetic patients in their unit than respondents who did not, this correlation was found to significant (P value< 0.001), this significant association was found with all the domains. (Table 4).

Discussion

The current study at Tabuk University in Tabuk, Saudi Arabia, aims to assess medical students' understanding of managing diabetic foot care. According to a study conducted in Saudi Arabia, 3.3% of diabetes mellitus patients experienced overall diabetic foot issues [7]. Patients with diabetic foot issues had a greater mortality rate than those without foot complications [8]. This demonstrates the need for medical students to become more aware about treating diabetic feet and to apply their classroom learning to real-world clinical situations. In this study, we found that the study population's mean knowledge score was 52.7 8.76, with a range of 8 to 64. This outcome was consistent with a prior survey conducted in Saudi Arabia, which revealed a nearly identical level of knowledge; the overall average knowledge score was 55.5 out of 68 [1]. The results of a second study on nurses showed that they had a considerably better level of knowledge; the average overall score was 59 (standard deviation, 7) (9. This might be brought on by differences in the scoring methodologies and experience levels. Moreover, our results demonstrated that the best knowledge level was about foot examination domain (score 8.5 ± 1.92), range (0 – 10) and the poorest knowledge was about foot complications subscale 23.2 ± 3.90, range (6 – 29). This conclusion was validated by a prior study carried out in Saudi Arabia. Our findings showed that there was sufficient general knowledge regarding the risk factors for diabetic foot. Most participants were aware of the risk factors for

Table 1: Socio-demographic characteristics and data on diabetic foot care of students (n=301).

Variable	Categories	Frequency	Percent
Gender	Male	109	36.2
	Female	192	63.8
Marital status	Single	292	97
	Married	9	3
Academic years	4th year	101	33.6
	5th year	100	33.2
	6th year	100	33.2
GPA	Less than 2.75	6	2
	2.75 - 3.74	62	20.6
	3.75 - 4.49	168	55.8
	4.5 – 5	65	21.6
What is your clinical interest	Emergency	23	7.6
	Family	29	9.6
	General surgery	55	18.3
	Internal medicine	50	16.6
	Obstetrics	19	6.3
	Pediatrics	29	9.6
	Don't know	96	31.9
Have you received any training on diabetic foot care?	Yes	141	46.8
	No	160	53.2
Have you ever had diabetic foot?	Yes	0	0
	No	301	100
Has any of your relatives had diabetic foot?	Yes	11	3.7
	No	290	96.3
Do you educate patients with diabetic foot risk or problems?	Yes	145	48.2
	No	156	51.8
Do you perform foot examinations for diabetic patients in your unit?	Yes	142	47.2
	No	159	52.8

Table 2: Knowledge of diabetic foot care management.

Knowledge score	No. of items	Mean ± SD	Range	Mean percentage
Risk Factors	16	13.3 ± 2.89	0 – 16	83.1%
Foot Examination	10	8.5 ± 1.92	0 – 10	85%
Applications for preventing foot complications	32	23.2 ± 3.90	6 – 29	72.5%
Foot ware selection	10	7.6 ± 1.48	2 – 10	76%
Total score	**68**	**52.7 ± 8.76**	**8 – 64**	**77.5%**

Table 3: Detailed knowledge about diabetic foot care management.

Risk factors	True	False
1. Poor glycemic control	284 (94.4)	17 (5.6)
2. Presence of sense of chill, pain, burning, tingling, and tenderness in foot	222 (73.8)	79 (26.2)
3. Neuropathic foot (loss of sensory-motor function)	276 (91.7)	25 (8.3)
4. Peripheral vascular disease	261 (86.7)	40 (13.3)
5. Inadequate foot care and lack of hygiene	262 (87)	39 (13)
6. Presence of foot edema	209 (69.4)	92 (30.6)
7. Presence of foot callus	241 (80.1)	60 (19.9)
8. Dry and cracked foot skin	249 (82.7)	52 (17.3)
9. Those with diabetic foot history or diabetic ulcers in opposite extremity	248 (82.4)	53 (17.6)
10. Infection (redness, tenderness, and temperature increase are present in foot)	262 (87)	39 (13)
11. Traumas (barefoot walking, bad shoes, accident, foreign body in shoes)	269 (89.4)	32 (10.6)
12. Foot deformity (mallet toes, claw toes, hallux valgus, amputation, charcot deformity, low foot, etc.)	247 (82.1)	54 (17.9)

13. Smoking	234 (77.7)	67 (22.3)
14. Obesity	225 (74.8)	76 (25.2)
15. Age of 65 and over	252 (83.7)	49 (16.3)
16. Patients not trained in diabetic foot	261 (86.7)	40 (13.3)
Foot examination	**True**	**False**
1. Foot skin (color change, edema-atrophy, dryness, crack, callus, ulcer, etc.) is evaluated.	284 (94.4)	17 (5.6)
2. Color control (pale, cyanosis, red) is made.	250 (83.1)	51 (16.9)
3. Temperature control (temperature, coldness) is made.	268 (89)	33 (11)
4. Presence of neuropathy in foot (pain, tingling, burning, tenderness, sensory loss) is evaluated.	261 (86.7)	40 (13.3)
5. Muscle functions (atrophy due to motor damage in the muscles) are assessed.	234 (77.7)	67 (22.3)
6. Circulatory control (foot is pale and cyanosis) is made.	260 (86.4)	41 (13.6)
7. Presence of ulcer on foot (temperature increase in foot, redness, edema, and tenderness) is evaluated.	268 (89)	33 (11)
8. Presence of deformity (hammer finger, claw, hallux valgus, amputation, Charcot deformity, low foot, etc.) is evaluated.	248 (82.4)	53 (17.6)
9. Toenails (thickening, ingrowth, and length in the nails) are controlled.	244 (81.1)	57 (18.9)
10. Shoe suitability is assessed.	255 (84.7)	46 (15.3)

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Applications for preventing foot complications	True	False
1. Feet should be checked every day by the patient or a relative by eye, hand, and mirror (callus, crack, redness, bulla, open wound, etc.).	279 (92.7)	22 (7.3)
2. Feet should be washed with warm water every day.	221 (73.4)	80 (26.6)
3. The water temperature used for washing feet should be checked.	254 (84.4)	47 (15.6)
4. Feet, especially spaces between toes, should be dried very well after each wash.	264 (87.7)	37 (12.3)
5. Moisturizing cream should be applied to feet.	248 (82.4)	53 (17.6)
6. Moisturizing cream should be applied to spaces between toes.	212 (70.4)	89 (29.6)
7. Toes should be kept dry to protect from fungal growth.	257 (85.4)	44 (14.6)
8. Cutting tools and chemicals should not be used to remove calluses or hardened skin areas.	246 (81.7)	55 (18.3)
9. Callus and skin stiffness should be thinned with a pumice stone.	203 (67.4)	98 (32.6)
10. Exercise in the form of twisting and stretching toes several times a day should be done to prevent foot corn and callus formation.	235 (78.1)	66 (21.9)
11. There is no inconvenience to use callus band and plaster	203 (67.4)	98 (32.6)
12. Only socks should be worn to warm feet.	197 (65.4)	104 (34.6)
13. Direct heat sources (radiators, hot-water bottle, electrical appliances, etc.) should be used to warm feet.	176 (58.5)	125 (41.5)
14. Socks should not be torn, wrinkled, or oversized.	246 (81.7)	55 (18.3)
15. Socks should be checked for wetness and color darkness.	263 (87.4)	38 (12.6)
16. Socks should be changed every day.	265 (88)	36 (12)
17. Rubber socks preventing circulation should not be worn.	236 (78.4)	65 (21.6)

18. Wool socks should be worn in winter and mercerized socks should be worn in summer.	226 (75.1)	75 (24.9)
19. Walking with bare feet should not occur.	256 (85)	45 (15)
20. Pressure on feet should be removed by not standing for long periods.	258 (85.7)	43 (14.3)
21. Legs should not be crossed when sitting on a chair.	230 (76.4)	71 (23.6)
22. If there is clawing of toes, massage should not be done to prevent joint stiffness.	226 (75.1)	75 (24.9)
23. Toenails should be controlled in terms of thickening, ingrowth, and length.	269 (89.4)	32 (10.6)
24. Toenails should be cut flat.	244 (81.1)	57 (18.9)
25. Skin around toenails should not be cut.	237 (78.7)	64 (21.3)
26. The thickened nails should be cut with a special scissors after they are softened in warm water.	265 (88)	36 (12)
27. Blind patients must never cut their own toes.	255 (84.7)	46 (15.3)
28. The nails should be cut round.	214 (71.1)	87 (28.9)
29. Any changes to feet and toes (color, temperature, or shape) and signs of infection should be reported to the doctor immediately.	269 (89.4)	32 (10.6)
30. Foot exercises should be done every day to help circulation.	258 (85.7)	43 (14.3)
31. In case of any foot lesion, only shoes should be replaced to reduce the load on feet.	236 (78.4)	65 (21.6)
32. Smoking is strictly forbidden since it will reduce the amount of blood going to feet.	270 (89.7)	31 (10.3)

Footwear selection	True	False
1. Shoes should fit and grasp feet.	262 (87)	39 (13)
2. Soft-skinned and comfortable shoes should be preferred.	253 (84.1)	48 (15.9)
3. Shoes should be checked for foreign bodies such as nail, gravel, etc. before each wear.	276 (91.7)	25 (8.3)
4. Shoes should be worn without socks.	163 (54.2)	138 (45.8)
5. If shoe insoles are worn off, they should be replaced.	259 (86)	42 (14)
6. Shoes should not lose its exterior protection feature.	265 (88)	36 (12)
7. Shoes should be painted frequently.	221 (73.4)	80 (26.6)
8. New shoes should be worn by allowing feet to get used to them.	217 (72.1)	84 (27.9)
9. High-heeled shoes tapering forward should be preferred.	176 (58.5)	125 (41.5)
10. If there is a deformity in the foot, a doctor should be consulted for proper treatment or orthopedic shoes.	271 (90)	30 (10)

Table 4: Factors associated with Knowledge of diabetic foot care management.

Variable	Risk factor	Foot Examination	Applications for preventing foot complications	Foot ware selection	Total Score
	Mean ± SD				
Age (in years)					
20-22	12.4 (2.96)	7.9 (2.09)	22.1 (4.22)	7.2 (1.60)	49.6 (9.33)
23-25	**14.0 (2.54)**	**9.0 (1.72)**	**24.0 (3.59)**	7.8 (1.37)	**54.8 (8.06)**
26-29	13.7 (3.26)	**9.0 (1.23)**	23.9 (3.01)	**8.0 (1.25)**	54.6 (5.77)
P value	**< 0.001**	**< 0.001**	**< 0.001**	**0.001**	**< 0.001**
Gender					
Male	13.0 (2.84)	8.1 (1.97)	22.6 (3.91)	7.3 (1.56)	51.1 (9.16)
Female	13.5 (2.92)	**8.8 (1.85)**	**23.6 (3.86)**	**7.8 (1.42)**	**53.6 (8.41)**
P value	0.211	**0.006**	**0.035**	**0.011**	**0.019**
Marital status					
Single	13.3 (2.91)	8.5 (1.94)	23.1 (3.92)	7.6 (1.50)	52.5 (8.84)
Married	13.8 (2.11)	**9.3 (0.71)**	**25.8 (1.56)**	8.2 (0.83)	**57.1 (3.18)**
P value	0.612	**0.009**	**0.001**	0.201	**0.002**
Academic years					
4th year	12.4 (2.78)	7.9 (2.03)	22.7 (4.07)	7.5 (1.68)	50.5 (8.98)
5th year	**13.9 (2.56)**	**9.1 (1.58)**	23.4 (3.77)	7.8 (1.40)	**54.2 (7.94)**
6th year	13.6 (3.10)	8.7 (193)	23.5 (3.83)	7.5 (1.35)	53.3 (8.96)
P value	**< 0.001**	**< 0.001**	0.285	0.284	**0.007**

GPA					
< 2.75	11.5 (3.51)	7.5 (2.07)	22.5 (4.42)	6.3 (1.51)	47.8 (8.64)
2.75 - 3.74	12.9 (2.53)	8.3 (1.85)	22.9 (3.82)	7.5 (1.47)	51.5 (7.95)
3.75 - 4.49	13.6 (2.79)	8.8 (1.76)	23.7 (3.66)	**7.8 (1.42)**	53.8 (8.34)
4.5 – 5	13.2 (3.34)	8.3 (2.27)	22.4 (4.40)	7.3 (1.57)	51.3 (10.16)
P value	0.180	0.116	0.118	**0.017**	0.060
Have you received any training on diabetic foot care?					
Yes	**13.8 (3.09)**	**9.0 (1.71)**	**23.8 (3.70)**	**7.8 (1.34)**	**54.4 (8.36)**
No	12.9 (2.64)	8.1 (1.99)	22.7 (4.01)	7.4 (1.58)	51.1 (8.83)
P value	**0.004**	**< 0.001**	**0.019**	**0.010**	**0.001**
Do you educate patients with diabetic foot risk or problems?					
Yes	13.5 (2.98)	**8.8 (1.79)**	**23.7 (3.63)**	**7.8 (1.31)**	**53.8 (8.16)**
No	13.1 (2.81)	8.3 (2.01)	22.8 (4.09)	7.4 (1.61)	51.6 (9.17)
P value	0.187	**0.025**	**0.035**	**0.017**	**0.024**
Do you perform foot examinations for diabetic patients in your unit?					
Yes	**13.9 (2.58)**	**9.1 (1.64)**	**24.0 (3.50)**	**7.9 (1.24)**	**54.9 (7.67)**
No	12.7 (3.04)	8.1 (2.03)	22.5 (4.10)	7.3 (1.63)	50.7 (9.21)
P value	**< 0.001**	**< 0.001**	**0.001**	**0.001**	**< 0.001**

Developing diabetic feet, as shown in table 3. Another study conducted in Saudi Arabia [1] backed up this. The mean scores for risk factors were 14.11/16, for foot inspection they were 9.24/10, for complications they were 24.21/32, and for subscales relating to footwear choice they were 7.88/10 in the latter study [1]. This was a reflection of the clinical academic years' primary concentration in college courses.

Furthermore, our results showed that only 46.8% of participants had received instruction on diabetic foot care. This was in contrast to a Saudi Arabian study that found that 95.4% of students had received training on diabetic foot care, which was inconsistent [1]. This can be a result of variations in university academic curricula. However, this outcome was consistent with earlier research on the subject among nurses [9, 10]. This is a worrying conclusion because, due to a lack of training, it might be challenging for students to apply their prior knowledge of ulcer therapy in the clinical situation. We also found that 48.2% of participants reported to have told patients about the risks or challenges of having diabetes. As opposed to the preceding study, which had better results [1]. According to a previous study of nurses, 80.9% of them did not offer advice to patients with diabetic foot problems [10]. Despite being a severe physical and mental burden for patients, a diabetic foot can be avoided with the correct patient education, consistent preventative care, and treatment [11]. With the correct information, up to 85% of diabetic foot amputations can be avoided [12]. Our findings demonstrated that female respondents and who aged between 23-25 years significantly associated with higher knowledge scores. This was not supported by another study in Pakistan, which noted that no statistical significance between participants' knowledge and gender and age [13]. Additionally, responders with more knowledge reported educating patients with diabetic foot risk or issues and performing foot exams. This was in line with a Saudi Arabian study that discovered that students' levels of knowledge were considerably higher when they taught diabetic patients, examined feet, or took part in an additional optional clinical rotation in a diabetic foot team [1]. We encountered certain limitations in our investigation. We only included Tabuk University medical students. Furthermore, we only included medical students in our study, not other colleges or the general community, which may limit the generalizability of our findings. Furthermore, due to the observational character of our research, we were unable to establish a causal association between the relevant parameters.

Conclusion

Our findings demonstrated that medical students in the Tabuk region of Saudi Arabia had a sufficient understanding of diabetic foot care management. Medical students need to learn more about diabetic foot care and consequences. It is suggested that more educational initiatives and campaigns be implemented. Future study should take into account the factors listed above.

Conflict of Interest

None

Funding

None

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