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Predictors of Foot Care Practices among Patients with Type 2 Diabetes Mellitus: A Cross-Sectional Study

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ABSTRACT

Background: Foot complications are a major cause of morbidity in Type 2 Diabetes Mellitus (T2DM), which often leads to ulcers, infections, and amputations. Despite the fact that most of the diabetic foot complications are preventable, gaps in patient understanding, awareness and education lead to suboptimal practices in foot care. This study investigated the knowledge and education-related predictors of foot care practices among patients with T2DM.

Methodology: A multicenter cross-sectional study was conducted on 328 individuals with T2DM, attending tertiary care hospitals in Karachi. The data collection involved a self-administered structured questionnaire, aimed at assessing demographics, educational exposure, diabetes knowledge, foot care knowledge and self-reported foot care practices. Random Forest algorithms were employed to select variables for ordinal regression to assess predictors for foot care practices.

Results: A total of 328 participants were included in the study. Better practices were predicted by older age (OR = 1.03; 95% CI: 1.01-1.05). Participants who had a monthly income of PKR 100,000 - 250,000 were less likely to have better practices as opposed to those with monthly income of PKR <100,000 (OR = 0.43; 95% CI: 0.20-0.93). Received formal foot care education was significantly associated with improved foot care practices (OR = 3.73; 95% CI: 1.24-11.13), as was community foot care education (OR = 2.90; 95% CI: 1.29-6.50). The knowledge of diabetes (OR = 4.51; 95% CI: 2.09-9.74), and foot care knowledge (OR = 7.54; 95% CI: 3.47-16.39) were the strongest predictors of improved foot care practices.

Conclusion: This study demonstrates that diabetes and foot care knowledge along with formal and community-based education are highly significant predictors of foot care practices in patients with T2DM showing the significance of targeted educational interventions to enhance preventive practices.

Keywords: Attitudes, Self-Care, Foot Care, Health Knowledge, Practice, Type 2 Diabetes Mellitus

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INTRODUCTION

Diabetes mellitus is among the most urgent public health issues globally, and its prevalence is rising at a concerning rate throughout the past decades.[1] International Diabetes Federation estimates that one out of nine individuals globally are affected by diabetes, with a vast majority having Type 2 Diabetes Mellitus (T2DM).[2] It is estimated that of the 537 million people with diabetes in the world 80% resides in low, and middle-income countries (LMICs).[3] This is especially noticeable, where the unprecedented urbanization, sedentary lifestyles, poor dieting habits, and underdeveloped health care infrastructures contribute to raise the incidence of the disease and provide subpar disease control.[4]

Pakistan is one of the nations that have been hit most by the diabetes epidemic. With the highest adult prevalence of diabetes in 2021 at 30.8%, and 26.9% of cases undiagnosed.[2] According to the national and regional studies, the prevalence of T2DM keeps increasing in both urban and rural populations.[5] Delayed diagnosis, inadequate follow-up and limited access to structured diabetes education increase the burden of long-term complications of diabetes.[6] Diabetes-related morbidity and mortality, therefore, have significant social and economic burden on individuals, families, and the health care system.[7]

Diabetic foot disease is one of the most threatening and incapacitating chronic consequences of diabetes. This disorder is a continuum of pathological alterations, which includes peripheral neuropathy, peripheral arterial disease, foot abnormalities, skin breakdown, ulceration, infection, and amputation.[8] Diabetic foot ulcers are the foremost cause of non-traumatic lower-limb amputations and linked to long-term hospitalization, high treatment cost, recurrence, and increased rates of mortality.[9] According to estimates a patient loses a limb every 20 seconds globally, and more than half such patients dies within 5 years.[10]

Diabetic foot complications significantly impact mobility, balance and functional independence which is important in the context of both rehabilitation and podiatry. Foot ulcers and amputations result in decrease engagement in daily activities, unemployment, psychological distress, and low quality of life.[11] The rehabilitation cost in relation to the diabetic foot disease is not only limited to acute

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management but also necessitates long-term wound management, offloading strategies, gait training, orthotic management, and patient education.[12]

Evidence suggests that up to 85% of amputations of the lower limb are related to diabetes and are preventable by early risk detection, routine monitoring of the foot and practicing proper self-care.[13] Such practices comprise of inspecting the feet regularly, good nail and skin care, avoid walking barefoot, provision of the right footwear, and early reporting of minor injuries and abnormalities.[3, 14]

The focus of prevention of diabetic foot complications is patient education. Sufficient information can help people to identify emergency symptoms, practice safety measures, and promptly access medical treatment. In spite of solid clinical guidelines and preventive interventions, in most populations, especially in resource limited ones, adherence to foot self-care practices is still impracticable.[15]

Socioeconomic status is a critical determinant of health in chronic diseases such as diabetes. Factors including income, education, employment, and access to healthcare services, affect the health literacy, self-care behaviors, and the treatment adherence.[8,16] Fundamentally, lower socioeconomic groups are usually subjected to financial impediments, decreased access to specialized treatment, and lesser exposure to institutionalized training, which can negatively influence practices in diabetic foot care.[17]

In Pakistan, there is a relatively small number of studies that assessed the relationship between diabetic foot care knowledge, self-care practices, and socioeconomic status. It is important to know such inequities to develop specific context-based interventions to meet the demands of vulnerable populations. Therefore, the present study aimed to assess diabetic foot care knowledge and self-care practices among patients with type 2 diabetes mellitus and to examine association with Socioeconomic status, measured using monthly household income, in an urban Pakistani population.

METHODOLOGY

A multicenter cross-sectional study was conducted in 2025. The study aimed to assess foot health knowledge and self-care practices among patients with T2DM. The Ethical Review Committee of Ziauddin University, Karachi, Pakistan, provided ethical approval (023-716-001-DPM). The participation was voluntary, and informed written consent was obtained before the enrollment of all the participants. Confidentiality of patients' information was maintained throughout the study, in accordance with established ethical guidelines. Patients were recruited from tertiary hospitals to provide a representative sample of urban patients attending foot care services in Karachi, Pakistan. A self-administered structured questionnaire was used as the data-collection tool. The questionnaire was created based on previously published tools that evaluate the level of knowledge and practice of diabetic foot care and was then tailored to local standards. A pilot study was conducted on 30 participants who met the inclusion criteria to evaluate the clarity, validity, and suitability of the questionnaire. The internal consistency was then assessed using Cronbach's alpha, which was 0.80, indicating good reliability of the instrument. The questionnaire had a variety of sections that dealt with factors related to diabetes and foot care. Practices in terms of foot care were identified as the primary outcome measure and were reported on an ordinal scale which comprised three categories: 'Poor', 'Moderate', and 'Good'. The levels of knowledge about diabetes and foot care were also classified as 'Poor', 'Moderate', and 'Good' depending on the scores acquired from the questionnaire.

The sample size was calculated based on a reported prevalence of T2DM of 30.8% from the International Diabetes Federation Atlas.[2] Using the standard formula,

$$n = \frac{Z^2 \cdot p(1-p)}{d^2}$$

where $Z = 1.96$ for 95% confidence interval (CI), $p = 0.308$ estimated prevalence, and $d = 0.05$ margin of error, the minimum required sample size was determined to be 328 participants. Participants were selected using systematic sampling, where every second patient who was eligible and presented to the foot care outpatient departments was approached and included in the study, after qualitative screening, the process commenced until the target sample size was achieved.

The sample consisted of 32 patients from Civil Hospital, 67 from Jinnah Hospital, 114 from Ziauddin Clifton, 59 from Ziauddin Keamari, and 56 patients from Ziauddin North. Informed consent was obtained before data collection by first informing eligible participants about the objectives, procedures, potential benefits of the study, and the voluntary nature of participation. Subsequently, information on age, gender, marital status, occupation, monthly income, duration of diabetes, history of diabetic complications, family history of diabetes, and received formal or community-based foot care education was collected. Individuals aged 20-79 years with a confirmed diagnosis of T2DM for more than six months, residing in Karachi, and willing to provide informed consent were included in the study. Patients were excluded if they had been diagnosed with T2DM less than 6 months prior to the study, had other types of diabetes, such as Type I or gestational diabetes, suffered from life-threatening medical conditions (e.g., end-organ failure, severe cardiovascular disorders, septicemia), were cognitively impaired, or were at high risk of amputation.

All statistical analyses were performed using R software (version 4.3.1).[18] Continuous variables were summarized using means and standard deviations (SDs), while categorical variables were presented as frequencies and percentages. The primary outcome, foot care practice level, was treated as an ordinal variable.

A Random Forest model[19] was employed to assess variable selection for foot care related outcomes. The selected variables were assessed to identify predictors of foot care practices employing an ordinal logistic regression model.[20] Predictors included were age, gender, monthly income, duration of diabetes, history of diabetic complications, received formal foot care education or community-based foot care education, diabetes knowledge level, and foot care knowledge level. (See figure 1) Regression coefficients were exponentiated to obtain odds ratios (OR) with 95% CI, and p-values were derived from the Wald z-test to assess statistical significance.

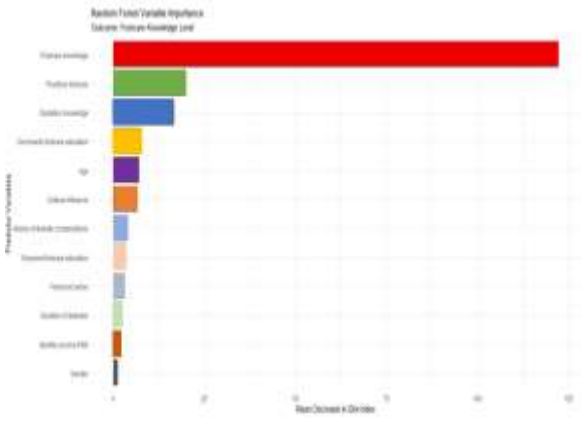

Figure 1. Random forest variable importance for predictors of Foot care knowledge level

The proportional odds assumption was also assessed using the Brant test[21], with $p < 0.05$ for potential violation. Residual deviance and Akaike Information Criterion (AIC) are employed to assess model fit. For visualization, ggplot2 is used.

RESULTS

A total of 328 participants with T2DM were included in the study. The descriptive characteristics of patients under study were are as follows: the mean ± SD age of patients was 49 ± 15 years. Of the total participants, 171 were female (52%), and 157 were male (48%). The majority of patients were married (n = 302, 92%), and reported a monthly income below 100,000 PKR (n = 174, 53%). Duration of diabetes varied across participants: 85 (26%) were diagnosed for more than 6 months up to 1 year, 126 (38%) were diagnosed for 1–5 years, 61 (19%) for 6–10 years, and 56 (17%) for more than 10 years. Approximately half of the participants reported a history of diabetic complications (n = 154, 47%), and 207 (63%) reported a family history of diabetes.

Table 1. History of Diabetic Complications and Family History of Diabetes in Study Participants

Characteristic	N (%) or mean ± SD
Diabetic Complications History	
Yes	154 (47%)
No	142 (43%)
Maybe	32 (9.8%)
Diabetes Family History	
Yes	207 (63%)
No	70 (21%)
Maybe	51 (16%)

Among participants, 180 (55%) had received formal foot care education, and 184 (56%) reported exposure to community-based foot care education. Figure 2 illustrates the association between community foot care education and foot care practice levels. Participants exposed to community education had a higher proportion of Moderate and Good foot care practices compared to those without such exposure, suggesting the effectiveness of community educational programs in promoting preventive foot care behaviors.

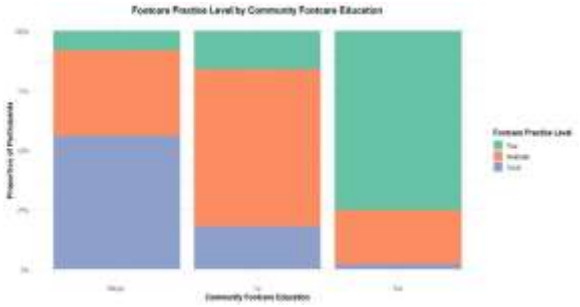

Figure 2. Graphical presentation of association between Community foot care education and Foot care practice levels

The mean ± SD diabetes knowledge score was 9.5 ± 4.1, with 52% of patients classified as Poor, 36% as Moderate, and 12% as Good. The mean foot care knowledge score was 10.1 ± 3.7, with 38% classified as 'Poor', 48% as 'Moderate', and 14% as 'Good'. The mean foot care practice score was 11.9 ± 5.3, with 48% categorized as 'Poor', 37% as 'Moderate', and 15% as 'Good'. Figure 3 demonstrates the relationship between the level of diabetes knowledge and foot care practices. Participants who had a higher level of diabetes knowledge tended to have a better foot care practice though a considerable proportion of 'Good knowledge' participants still exhibited 'Moderate' foot care practices. Overall, the figure shows a positive trend, but the association is not absolute.

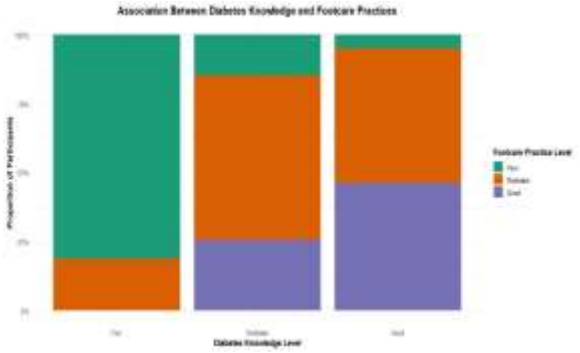

Figure 3. Graphical presentation of association between Diabetes knowledge levels and Foot care practices

An ordinal logistic regression model was fitted to identify predictors of higher foot care practice levels among patients with T2DM (Table 2). Age was positively associated with foot care practices, each further year of age increases the odds of higher foot care practice by 3% (OR = 1.03, 95% CI: 1.01–1.05, p = 0.006) which indicates that older patients were more likely to engage in preventive routines, mainly due to diabetes-related complications. Gender, duration of diabetes, and history of diabetic complications were not statistically significant predictors ($p > 0.05$), which suggests that behavioral practices are primarily influenced by

knowledge and education, not from clinical or demographic factors.

Table 2. Ordinal logistic regression analysis of factors associated with Foot care practices among patients with T2DM

Variable		OR	95% CI	p-value
Age		1.03	1.01–1.05	0.006
Gender* male		1.39	0.76–2.53	0.283
Monthly income** PKR 100,000–250,000		0.43	0.20–0.93	0.031
Monthly income** PKR >250,000		0.63	0.26–1.53	0.304
Duration*** 1–5 years		1.04	0.50–2.15	0.923
Duration*** 6–10 years		0.73	0.32–1.67	0.459
Duration*** >10 years		0.7	0.28–1.81	0.465
History of diabetic complications (Yes vs No)		1.89	0.56–6.41	0.309
Received formal foot care education (Yes vs No)		3.73	1.24–11.13	0.019
Community foot care education (Yes vs No)		2.9	1.29–6.50	0.01
Diabetes knowledge level	Linear (L)	4.51	2.09–9.74	<0.001
	Quadratic (Q)	0.49	0.30–0.80	0.004
Foot care knowledge level	Linear (L)	7.54	3.47–16.39	<0.001
	Quadratic (Q)	1.02	0.63–1.65	0.941
Threshold: Poor → Moderate		0.22	0.04–1.10	0.065
Threshold: Moderate → Good		13.81	2.76–68.99	0.001

**Gender reference Female*
***Monthly income reference = <100,000*
****Duration reference = >6 months–1 year*

Monthly income established a non-linear association with foot care practices. The participants in the middle-income group (PKR 100,000–250,000) exhibited significantly lower odds of higher foot care practices as compared to those earning less than PKR 100,000 (OR = 0.43, 95% CI: 0.20–0.93, p = 0.031), and the higher-income group (>PKR 250,000) was not significant (OR = 0.63, 95% CI: 0.26–1.53, p = 0.304). Within the Pakistani context, the connection between better access to the healthcare and health information is mostly related to higher income and education level. Nevertheless, occupational pressures, dependency on private healthcare without structured education or reduced access to preventive consultation might contribute to the lower observed practices in the middle-income group. The results here indicate that income is not always likely to result in improved preventive practices without targeted education and reinforcement.

Educational exposure appeared as one of the strongest predictors of foot care practices. Getting formal foot care education increased the odds of better foot care practices by nearly fourfold (OR = 3.73, 95% CI: 1.24–11.13, p = 0.019), and exposure to community-based education increased the odds almost threefold (OR = 2.90, 95% CI: 1.29–6.50, p = 0.01). These results are consistent with available literature.

Results demonstrated that diabetes and foot care knowledge levels are significant predictors for foot care practices. Diabetes knowledge demonstrated a non-linear association, which is the most important point to ponder for further research. The linear component of diabetes knowledge was strongly increasing the odds of better practices (OR = 4.51, 95% CI: 2.09–9.74, p < 0.001) and the quadratic term of it indicated a slight curvilinear effect (OR = 0.49, 95% CI: 0.30–0.80, p = 0.004). Foot care knowledge exhibited a significant positive linear effect (OR = 7.54, 95% CI: 3.47–16.39, p < 0.001) with no significant quadratic effect (OR = 1.02, 95% CI: 0.63–1.65, p = 0.941), it highlighted that knowledge is a key predictor of preventive behaviors.

Thresholds for the cumulative logit model directed that probability from 'Poor' to 'Moderate' foot care practices (OR = 0.22, 95% CI: 0.04–1.10, p = 0.065) was marginal, whereas probability from 'Moderate' to 'Good' practices was high (OR = 13.81, 95% CI: 2.76–68.99, p = 0.001). Based on these results, the effect of sparse data in some categories, particularly in 'Good' foot care practices, cannot be negligible. Brant test was employed to check the proportional odds assumption, which suggested potential violation for community foot care education (p = 0.01). with these limitations the model still demonstrated adequate overall fit (residual deviance = 359.81; AIC = 397.81), that supported the identified predictors.

DISCUSSION

This study provides predictors for T2DM patients in an urban Pakistani population. The results show that knowledge-based variables and educational exposure form the strongest determinants that influence preventive foot care practices. Although it is evident that diabetic foot care is a significant area of prevention, most patients fail to adopt preventative diabetic foot care behaviors. Hence, based on available literature it is suggested that foot care education needs to be intensified in a structured and formal manner and healthcare providers such as nurses must pay equal attention to the foot care and other facets of diabetes management.[22] The average age of patients was 49 years with an almost equal gender distribution. The statistics suggest that people belonging to the middle-aged group constitute a common population with T2DM. Prior research indicates that, age was a strong positive predictor of increased foot care practices, where older patients demonstrate better foot care practices due to the long term consequences of diabetes and accompanying foot problems.[23] In another study, most respondents were aware of the importance of regular foot examinations to prevent long-term diabetes-related complications (>87%), yet their knowledge regarding the prevention of foot complications and the performance of daily preventive foot care was limited (73%).[24] This is consistent with our results, where more than half of the patients exhibited poor knowledge about diabetes and almost half exhibited poor foot care habits, indicating there is a significant deficit in patient awareness. According to a survey conducted in Pakistan, 72% of participants came close to having sufficient knowledge about diabetes. However, they continue to score poorly on the self-care practices covering diet (25%), foot care (43.9%), diabetes monitoring (9.5%) and exercise (61.7%).[25] The proportion of patients with poor knowledge of diabetes was more than half and almost half indicated poor foot care practices in the present study. These findings indicate the substantial gaps in patient awareness. Clinical and demographic factors, including gender, duration of diabetes, and history of complications were insignificant in the adjusted model. These results illustrate that cognitive and educational elements form a stronger influence over

behavioral practices compared to duration of the disease or clinical experience. Available literature supports this claim, which suggests that knowledge and self-efficacy were stronger predictors of preventive behavior than biomedical characteristics.[26] This makes it important to ensure that the policies related to diabetes management are not based on the clinical treatment alone but patient-centered education and empowerment. An interesting finding of this research is that there is a significant influence of both formal and community-based education programs in advancing preventive behaviors. In other studies, it has been noted that there is increased foot care compliance after targeted educational interventions that emphasize the significance of education in diabetic foot prevention measures.[16] These correlations between community education and a higher percentage of moderate and good practices show the possibilities of population-level awareness campaigns in low-income countries. Knowledge has emerged as a significant factor in foot care practices.[8, 27] Diabetes knowledge has shown a strong positive linear effect on foot care practices and an average curvilinear pattern that suggests that increasing knowledge has substantially improved behavior. It is well noted that this effect may plateau at higher levels, for which further analysis is required as it may reflect weakening outcomes of knowledge without continuous behavioral support. The foot care-specific knowledge indicated a positive linear relationship with preventive practices and this indicates the need of targeted educational programs on self-care behaviors.[28, 29] Ordinal logistic regression analysis indicated the increasing tendency toward the transition between moderate and good foot care practices in comparison with the transition between poor and moderate ones. These findings imply that the enhanced focus is a precondition to improve the behavior of patients to the minimum of moderate levels of practice. The strengths of the study include multicenter design, a relatively large sample size, and a thorough evaluation of demographic, educational, and knowledge-based variables. The improved reliability and interpretability of the findings are due to the application of advanced statistical methods such as variable selection methods and ordinal regression modeling. In addition, the study also provides useful preliminary data on foot care knowledge and behaviors amongst patients with T2DM in Pakistan. Some potential limitations will include the fact that the study is cross-sectional which restricts the ability to make causal inference and the lack of a validated index to measure knowledge and practices. This therefore means that limited data on some outcome categories can impact the accuracy of the estimates. However, the research provides comprehensive information about the behavioral predictors of diabetic foot care in Pakistan.

Based on these findings, the Department of Podiatric Medicine at Ziauddin University has embarked on awareness campaigns whereby it is going to educate patients on the best foot care practices with more emphasis on preventive measures and the need to follow up regularly.

CONCLUSION

The educational exposure and knowledge of the disease are the most significant predictors of preventive foot care practices in T2DM patients. The interventions with focus on organizing clinical education and community-based awareness campaigns are expected to produce notable improvements in the self-care behavior. Future longitudinal studies are suggested to examine causal relationship and to derive composite measures that include knowledge, education, and behavioral variables to have a better indication of long-term outcomes in foot health.

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Conflict of Interest

None to declare.

Funding Source

None to declare.

Author's Contribution

All authors (SH, HT, RK, FAA, and SW) contributed to the conception and design of the study. Data collection was carried out by SH, HT, RK, FAA. Data analysis, and interpretation was performed by SH and HT. Manuscript drafting and critical revision were undertaken by all authors. All authors approved the final manuscript.

REFERENCES

1.Hossain MJ A-MM, Islam MR. Diabetes mellitus, the fastest growing global public health concern: Early detection should be focused. Health Sci Rep. 2024;7(3).

2.(IDF) IDF. IDF Diabetes Atlas, 10th edn. Brussels, Belgium; 2021.

3.Letta S, Goshu AT, Sertsu A, Nigussie K, Negash A, Yadeta TA, et al. Diabetes knowledge and foot care practices among type 2 diabetes patients attending the chronic ambulatory care unit of a public health hospital in eastern Ethiopia: a cross-sectional study. BMJ Open. 2023;13(11):e070023.

4.Cacciatore S MS, Nuñez MV, Massaro C, Spadafora L, Bernardi M, Perone F, Sabouret P, Biondi-Zoccai G, Banach M, Calvani R, Tosato M, Marzetti E, Landi F. Urban health inequities and healthy longevity: traditional and emerging risk factors across the cities and policy implications. Aging Clin Exp Res. 2025;37(1):143.

5.Dina MA AA, Karamat A, Bilal M, Basit MS. Diabetes mellitus in Pakistan: prevalence and preventive management strategies - a comprehensive literature review. Cardiovasc Diabetol Endocrinol Rep. 2025;11(1):24.

6.Hasan SU SM. Epidemiology of diabetes mellitus in Pakistan: a systematic review protocol. BMJ Open. 2024;12(14).

7.Taimur H AI, Khan H, Shirayama Y, Okamoto M, Aung MN, Shabbir S, Yuasa M. A scoping review of type 2 diabetes mellitus in Pakistan investigating the status of glycemic control, awareness, treatment adherence, complications and cost. Front Endocrinol (Lausanne). 2024;22(15).

8.Alrashed FA, Iqbal M, Al-Regaiey KA, Ansari AA, Alderaa AA, Alhammad SA, et al. Evaluating diabetic foot care knowledge and practices at education level. Medicine (Baltimore). 2024;103(34):e39449.

9.Wang X YC, Xu B, Yu Z. Diabetic foot ulcers: Classification, risk factors and management. World J Diabetes. 2022;13(12).

10.Shaki O, Gupta GK, Rai SK, Gupta TP, Kumar RV, Upreti V, et al. Awareness regarding foot self-care practices among diabetic patients in Northeast part of India. Can primary care physician make a difference? A hospital based cross-sectional study. J Family Med Prim Care. 2022;11(5):1834-41.

11.Manoharan EV HD, Al-Arqan H. Addressing Balance Issues in Diabetic Foot Ulcer Patients: Offloading, Mobility, and Fall Prevention. Cureus. 2025;17(9).
12.Sharma S, Rai, M., Mahantesh, L. et al. Offloading in diabetic foot ulcers: a comprehensive review with focus on the Indian context 2025 [
13.Canada D. Amputation prevention: Position statement 2021 [Available from: https://www.diabetes.ca/advocacy-policies/our-policy-positions/amputation-prevention.
14.Ang CS, Goh KFI, Lodh N, Qin VM, Liew H, Sidhu HRS, et al. Foot care behaviours and associated factors among patients with type 2 diabetes: A cross-sectional study. J Glob Health. 2024;14:04145.
15.Fatima Asim SSRAASAHSM. Knowledge and Self-Care Practices on Diabetic Foot among Diabetic Patients in Public Hospitals of Lahore, Pakistan - A Descriptive Study. Pakistan Journal of Medical & Health Sciences. 2023;17(05):421.
16.Qasim M, Rashid MU, Islam H, Amjad D, Ehsan SB. Knowledge, attitude, and practice of diabetic patients regarding foot care: Experience from a single tertiary care outpatient clinic. Foot (Edinb). 2021;49:101843.
17.Lee MH, Li PY, Li B, Shakespeare A, Samarasinghe Y, Feridooni T, et al. Lower socioeconomic status is associated with higher rates of critical limb ischemia presentation and post-revascularization amputation. J Vasc Surg. 2022;75(3):1121-2.
18.Team RC. R: A language and environment for statistical computing. Vienna, Austria: R Foundation for Statistical Computing; 2024.
19.Breiman L. Random Forests. Machine Learning. 2001;45(1):5–32.
20.Harrell FE. Ordinal Logistic Regression. Springer Series in Statistics. New York, NY: Springer; 2001. p. 331–43.
21.Brant R. Assessing proportionality in the proportional odds model for ordinal logistic regression. Biometrics. 1990;46:1171–8.
22.Woo MWJ CJ. Factors influencing foot care behaviour among patients with diabetes: An integrative literature review. Nurs Open. 2023;10(7):4216-43.
23.Wong YT MS. Health Promotion Models for Improving Footcare in Older Adults: A Scoping Review. Gerontology. 2024;70(8):785-800.
24.Ernersson Å, Mufunda E, Hjelm K. Audit of essential knowledge of diabetes in patients with diabetes in Zimbabwe. Pan Afr Med J. 2023;45:103.
25.Khowaja MA, Rozi S, Sawani S, Ahmed A. Factors associated with Diabetes Empowerment among patients with type 2 diabetes, at OPD setting, Karachi, Pakistan. Sci Rep. 2023;13(1):7165.
26.Kirkman MS, Briscoe, V. J., Clark, N., et al. Diabetes in older adults: A consensus report. Diabetes Care. 2012;35(12):2650–64.
27.Saverio S, Mohammadnezhad M, Raikanikoda F. Healthcare workers' perspectives on diabetic foot complications among type 2 diabetes mellitus patients in Fiji. PLoS One. 2024;19(9):e0307972.
28.Fatima T, Miyan Z, Naeem N, Riaz M, Basit A. Foot Practices in Patients with Type 2 Diabetes: Where do We Stand? Journal of Diabetology. 2020;11(1):8-12.
29.Jyotsana NJ. Self-care practices and influencing factors among type 2 diabetes mellitus patients: A hospital-based cross-sectional study. Clinical Epidemiology and Global Health. 2024;30.