

Assessment of Diabetic Foot Self-Care Practice and Barriers Among Diabetic Patients Attending Yekatit 12 Hospital Medical Collage-2024

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Abstract

Background: Diabetes mellitus is a group of common metabolic disorders that share the phenotype of hyperglycemia. DFU is a set of symptoms secondary to current or previous diabetes, including skin chapping, ulceration, infection, or destruction of foot tissue. As a result, it's among patients' common and fatal complications, and WHO prioritizes controlling and preventing further diabetic foot infections.

Objective: To assess the diabetic foot self-care practice and barriers among diabetic patients attending Yekatit 12 Hospital Medical College.

Method: An institutional-based cross-sectional study was conducted in Yekatit 12 Hospital Medical College from August 2023 to February 2024. Systematic random sampling was used to select study participants. Data will be collected through a pre-tested structured questionnaire.

Result: In our study, the majority of the study participants were male, 62% and female 38%. Most study participants were people above 50, at 59%, and people below 30 were only 2.9%. In our study, 52% of participants have satisfactory foot self-care practice, 47% have poor self-care practice, and only 1% have good Foot self-care practice. This study's educational level, age, and income level were significantly associated with poor foot self-care practice, with p-values of 0.016, 0.044, and 0.036, respectively.

Conclusion and Recommendation: Health facilities and healthcare workers need to plan and prepare health education programs for older people and those at low economic levels to prevent diabetic foot ulcers early by performing self-care. We also recommend that the facility and the government pay attention to patients of advanced age by prioritizing them in the DFU prevention effort, as they are the most susceptible group in society. The government also needs to develop a plan to help people with low-income levels, as NCD and DM, in particular, have been shown to cause significant economic crises in families.

Keywords: Diabetes Mellitus, Diabetic Foot, Self-care Practice, and Barriers.

1. Introduction

1.1. Background

Diabetes mellitus is a group of common metabolic disorders that share the phenotype of hyperglycemia. DFU is a set of symptoms secondary to current or previous diabetes, including skin chapping, ulceration, infection, or destruction of foot tissue [1, 16]. Diabetic foot ulcers are among the most common complications of patients who have diabetes mellitus, which is not well controlled. It is usually the result of poor glycemic control, underlying neuropathy, peripheral vascular disease, or poor foot care. It is also one of the common causes of Osteomyelitis of the Foot and amputation of lower extremities [5].

The disease is typically chronic, and an inter-professional approach will have the best outcome. These ulcers are usually in the foot areas that encounter repetitive trauma and pressure sensations. [5].

Diabetic foot ulcers are responsible for more admissions than any other diabetic complication. Diabetes is estimated to affect 500 million people worldwide in 2019, with 693 million expected by 2045 [4]. Today, diabetes is the leading cause of non-traumatic amputations in the US. Overall, about 5% of patients with diabetes mellitus develop foot ulcers, and 1% end up with an amputation. Educating the patient about the complications and the need for proper medical care will reduce the risk of complications and good compliance [6]. In Ethiopia, the prevalence of diabetes was 2,652,129 in the age range of 18–99 years in 2017[3].

About 60% of people with diabetes will develop neuropathy, eventually leading to a foot ulcer. The annual incidence of diabetic foot ulcers worldwide is 9.1 to 26.1 million. [7] Around 15 to 25% of patients with diabetes mellitus will develop a diabetic foot ulcer during their lifetime. [8]. It can occur at any age but is most prevalent in patients with diabetes mellitus ages 45 and above.

In Ethiopia, of patients with diabetic foot ulcers, 35 (30.43 %) had undergone lower extremity amputations [9]. Despite this, in Ethiopia, diabetic patients did not adequately self-inspect and wash their feet at least daily, dry after washing and moisturize the dry skin, and walk barefoot [10]. Therefore, the study aimed to assess the diabetic foot self-care practice level at Yekatit 12 Hospital Medical College.

1.2. Statement of Problem

Diabetic foot ulcer (DFU) is one of the most severe and common complications of DM and can affect all aspects of an individual's life [11]. Diabetic foot infection remains the most common complication in diabetic patients requiring hospitalization, often leading to lower extremity amputation. They only heal 46% of ulcers. 10% of these recur, 15% of patients die, and 17% require amputation [12].

Despite the severity and magnitude of DFU, Diabetic patients did not adequately self-inspect and wash their feet at least daily, dry after washing, moisturize the dry skin, and walk barefoot

[10]. There is reported evidence that the further complications of foot ulcers can be reduced by appropriate education of diabetes mellitus patients regarding the care of their feet [17].

Therefore, the Lack of good quality health services and the poor foot-care practices of diabetes patients may result in different foot infections like gangrene and osteomyelitis, which result in limb amputation [15]. Despite this, no study has been conducted in our settings regarding diabetic Foot self-care practices. As a result, the study aimed to assess the diabetic foot self-care practice level and the barriers to those practices among patients attending Yekatit 12 Hospital Medical College because patient awareness and good foot care practice play a pivotal role in reducing the amputation of limbs.

1.3. Significance of the study

The DFU burden is high because of late diagnosis, poor patient awareness, poor foot self-care practice, and poor access to diabetes care. Therefore, prevention is critical, including educating diabetic patients regarding preventative strategies, including appropriate foot self-care, which has been inadequate in many countries, including Ethiopia.

Hence, this study is assumed to be significant in providing information given the patient's knowledge and practice of diabetic foot care. The findings of the study are hoped to assist DM patients, Clinician policymakers, and other concerned bodies in devising appropriate intervention strategies. Further, they may serve as insight for any researcher interested in a similar study.

2. Literature Review

2.1. Diabetic Foot Self-Care Practice

According to a study done at the University of Gondar Comprehensive Specialized Referral Hospital, the adherence of diabetic patients toward Foot self-care practice was poor. Of the study participants, 46.6% of them had poor adherence. Being male, having low educational status, living in a rural area, having diabetic-related complications, taking both injections and pills, not having previous information about foot care, and having low-income family support increases the odds of having poor foot self-care [18].

Another study on Diabetic Foot self-care practices and its predictors among chronic diabetic mellitus patients of southwestern Ethiopia hospitals found that of the study participants, only 39.8% had had good diabetic Foot self-care practice. Diabetic foot self-care practice was associated with education, previous information, and the knowledge level of diabetic foot care. [19] Another study done in south-east Ethiopia found that the prevalence of DFU was 11.2%. Only 50.3 patients demonstrated good foot self-care. Lack of regular exercise and foot care were significantly associated with DFU [20]. Another study done in Self-Care Practice and Associated Factors Among Patients with Type 2 Diabetes Mellitus at a Referral Hospital also revealed that only half of the type 2 diabetes patients who participated in this study reported good self-care practice. Different factors, including diabetes

education, were significantly associated with good diabetes self-care [21].

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Another study in the Gurage zone in southwest Ethiopia found that more than half of the participants had poor self-care practices. In the survey, Females, rural residence, duration of diabetes mellitus, Lack of social support, and Lack of health education were significantly associated with poor self-care practice [22].

Another study conducted in FelegeHiwot Referral Hospital, Bahir Dar, Northwest Ethiopia, found that 45% of participants had poor self-care practices. According to the study, the patient's educational state, income level, and knowledge were significantly associated with poor self-care practice [23]. Another survey of Foot self-care behavior in type 2 diabetes adults with and without comorbid heart failure showed that 54% of the study participants had poor self-care. Household income, the total number of daily medications, Marital status, social support, and body mass index predicted foot self-care behavior [24].

2.2. Diabetic Foot Self-Care Barrier

According to a study done in Embu County, Kenya, the Major barriers identified were impaired vision and knowledge deficit. This was backed by the health care provider's perception that health education had little effect on foot care practices.[25] Another study done in Tanta University Hospitals, Egypt, found that poor knowledge of patients and poor communication between patients and clinicians were barriers to good self-care practice [26] A study done on Diabetic foot disease in Ethiopian patients: A hospital-based study found that Lack of regular patient follow up and diabetes education on foot care, poor glycemic control, delay in patient presentation and surgical intervention as well as patients' refusal to undergo surgical interventions are the main barriers to good diabetic foot self-care [27]

Another study done in Hawassa Comprehensive Specialized Hospital, Sidamma found that knowledge and attitude level of patient is a determining factor for foot self-care practice, poor knowledge and poor attitude being the barrier for self-care practice [28] According to a study done on Patients' awareness and extent of self-reported foot care practices in diabetes population the main barrier to good diabetic foot self-care were having poor level of understanding about foot care and having no previous information about foot ulcer[29] Another study done on Assessment of Self-Reported Knowledge, Practice, and Barriers of Diabetic Foot Self-Care among Patients Attending FelegeHiwot Referral Hospital, Bahir Dar, Amhara Regional State found that Age, educational status, occupational status, place of resident and duration of diabetic therapy are significantly associated with self-care practice and were barrier to good self-care practice [30] Another study done in Tigray, Ethiopia: A qualitative Study found that Lacking education to cope with the disease, being emotionally disturbed, failing to adopt new life style, lacking social support, Perceived behavioral control and inadequacy of health care system are barriers to an excellent diabetic self-care [31]

According to a study done at Dessie Referral Hospital, Northeast Ethiopia, age, sex, and place of residency are significant predictors of diabetic self-care practice. Advanced age, being female, and living in a rural area were barriers to good diabetic foot self-care [32]

2.3. Conceptual Framework

The conceptual framework below was developed after reviewing related literature and documentation from different studies. It shows that socio-demographic characteristics like age, income level, and personal behavioral factors determine good diabetic Foot self-care practice.

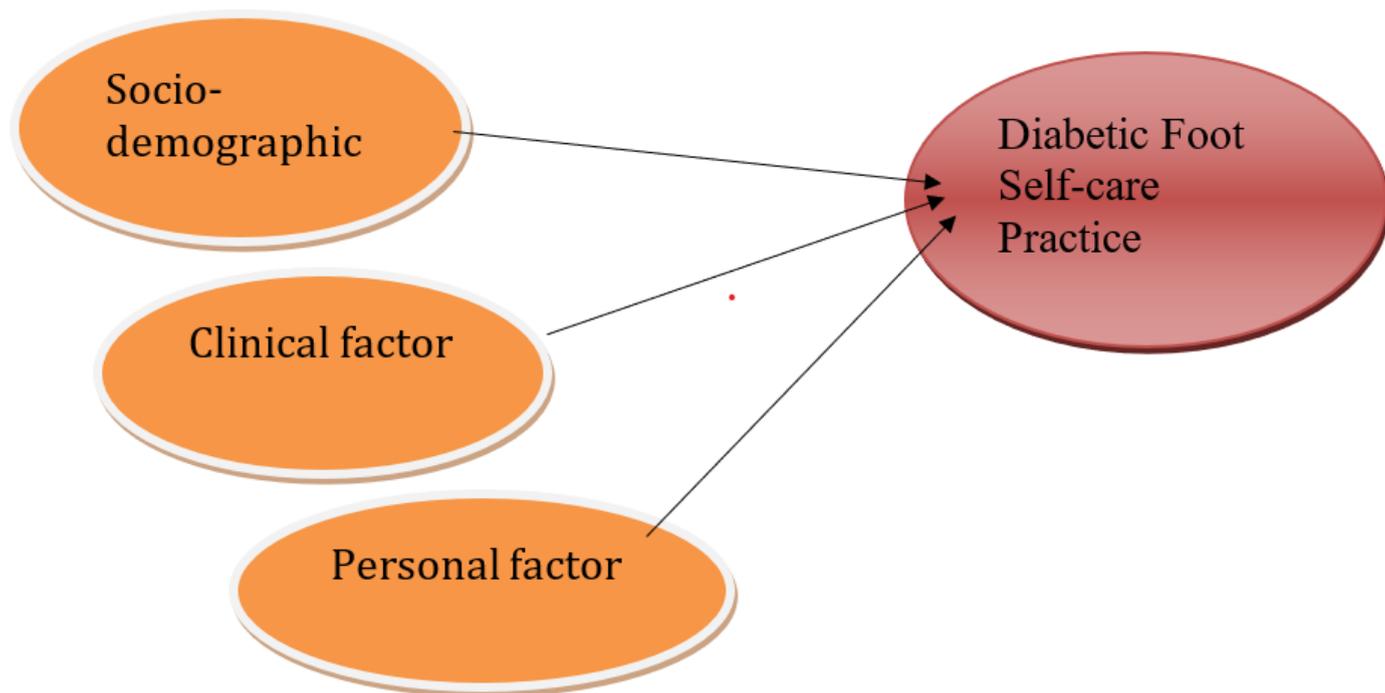


Figure 1: shows a conceptual framework for assessing diabetic Foot self-care practice and barriers among diabetic patients attending Yeast 12 Hospital Medical College.

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3. Objective

3.1. General Objective

➤ To assess practice and barriers of diabetic foot self-care among diabetic patients attending Yekatit 12 Hospital Medical College from August 2023- January 2024.

3.2. Specific Objective

- To assess the practice of diabetic self-care among diabetic patients in Yekatit 12 Hospital Medical College from August 2023 - January 2024.
- To identify barriers to diabetic self-care among diabetic patients Yekatit 12 Hospital Medical College from August 2023- January 2024

4. Method and material

4.1. Study area and period

The study was conducted at Yekatit 12 Hospital and Medical College Internal Medicine Department. Yekatit 12 Hospital was established in 1923G.C. Until the Ethiopian revolution of the 1970s, it was known as Haile Selassie I Hospital, named after Emperor Haile Selassie I.

In addition, Yekatit 12 Hospital Medical College maintains electronic medical record systems, which streamline the process of collecting data for this study. These records contain detailed information on patient demographics, medical history, patient investigation results, diagnosis, and disease progress over time. The hospital services over 5 million people in its five significant departments in the catchment area.

Addis Ababa was chosen as the study setting due to its diverse population, representing various socioeconomic backgrounds and cultural contexts. The city is known for its well-established healthcare infrastructure, making it a suitable location to access many emergency patients. An institutional-based cross-sectional study will be conducted in Yekatit 12 hospital medical colleges from August 2023 to January 2024.

4.2. Study Design

An institutional-based cross-sectional study was conducted among diabetic patients attending Yekatit 12 hospital medical colleges during the study period.

4.3. Population of the study

4.3.1. Source population

All Diabetic patients are attending Yekatit12 Hospital Medical College.

4.3.2. Study population

All DM patients attending Yekatit 12 Hospital Medical College who are in Endocrine Clinic Follow up during the study period from August 2023- January 2024.

4.4. Inclusion/exclusion criteria

4.4.1. Inclusion criteria

All DM patients who came during data collection time were included during working hours.

4.4.2 Exclusion criteria

Patients who have cognitive impairments, those who have hearing difficulty because of a Lack of a sign language

interpreter, very seriously ill clients because of the difficulty of getting reliable information, clients coming for the second time during the study period, and children who are under 18.

4.5 Sample size determination & sampling procedures

4.5.1 Sample size determination

The sample size is determined using the single population proportion formula based on the P value for good practice on diabetic foot self-care, taken from research conducted at Dessie Referral Hospital, P = 39 % OR 0.39 (Tuha et al.,2021).

$$n = \frac{(Z/a/2)^2 P (1-P)}{d^2}$$

Where: n = sample size.

P = prevalence of good practice.

d = margin of sampling error tolerated.

z = the standard normal value at a confidence interval of 95 %.

$$n = \frac{(1.96)^2 0.39(1-0.39)}{(0.05)^2}$$

n = 364.

Since the total number of diabetes patients who were attending follow-up at Yekatit 12 Hospital Medical College during the last year was <10 000, which was 540, the correction formula is used as

Follows;

$$nf = n/1+(n/N) \quad nf = 364/1+(364/540) = 217.$$

Where nf = final sample size.

n = total study population

N = source of population. By adding 10 % contingency, the total sample size was,

Consider a 10% non-response rate

$$\text{Contingency}=10\% \text{ of sample size} + \text{sample size} = 217+21= 238$$

4.5.2. Sampling Procedure

A systematic random sampling method was used to collect the study participants. The sampling interval was calculated by considering the patient flow of the last three months. From the hospital patient registration book, we found that 1500 patients attended the hospital in the previous three months. So, by dividing the number of patients for our sample size, we get the K-th interval, which is $k=1500/238= 6.41$, which will be rounded up to 6, so every fourth patient will be included in the study.

4.5. Variables of the study

Dependent variables

Diabetic Foot Self-care Practice

Independent Variables

Socio-demographic

- Age
- Gender
- Educational status
- Occupational status
- Economic status

Clinical factors

- History of foot ulcer

- History of Glycemic control
- Availability of nearby healthcare facility
- Type of medication

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4.6. Operational definitions

A **diabetic foot ulcer** is a set of symptoms secondary to current or previous diabetes, including skin chapping, ulceration, infection, or destruction of foot tissue [1, 16].

Diabetic foot care: Prevention of diabetic foot complications includes identifying the at-risk Foot, daily exam and inspection, patient/family/healthcare provider education, appropriate shoe gear, and proper and early treatment of pre-ulcerative lesions [9]. This self-care practice includes

- Healthy coping. Patients emotional well-being
- Healthy eating
- Being active
- Taking medicine
- Monitoring
- Problem-solving
- Lowering risks.

Good Foot self-care practice: participants scoring five or above on practice-related questions were considered good practice.

Satisfactory foot care practice: -: participants who scored between 3 and 5 on practice-related questions were considered to have a satisfactory foot care practice.

Poor Foot self-care practice: participants who scored below three on practice-related questions were considered to have poor practice.

4.8 Data collection procedures

4.8.1 Data collection instruments

Data was collected using a structured questionnaire to assess practice and barriers to diabetic foot self-care among diabetic patients. Foot self-care practice was assessed using a questionnaire adapted from a validated tool of the Nottingham Assessment of Functional Foot Care revised 2015 (NAFFC). The tool was valid and reliable for assessing diabetic foot care behavior. The tools were translated into English to determine the consistency of questions. In addition, pretests were done in 5% of the participants to check any difficulties in the content of the questionnaires and to make possible corrections.

4.8.2 Data quality assurance

Before data collection, the questionnaire was assessed for clarity, understandability, flow, labeling, and time required to interview one respondent. Data was collected by trained data collectors, five BSc nurses, and two Internship student supervisors. The investigators gave the training for one day before collecting the data for data collectors on how to use and administer the questionnaire, the ethical principles of confidentiality, data management, and how to identify study participants. The supervisors supervised the data collection process closely and communicated with the investigators. During data collection, the investigator checked the questionnaire for completeness daily. Incorrectly filled or

Personal factors

- Family support

missed questionnaire was sent back to the respective data collectors for correction by recollecting the data.

4.9 Data processing and analysis

The coded data was checked and cleaned by entering into Epi Info v7 and then exported into Statistical Package for the Social Sciences (SPSS) version 22 for analysis. Descriptive statistics, frequencies, mean, and standard deviations were performed to describe the study population's characteristics. Binary Logistic regression was fitted to identify factors associated with diabetic foot self-care. The bi-variable analysis was conducted to select candidate variables for the initial multivariable model. An initial multivariable logistic regression model included Those that show association with dependent variables at a p-value less than 0.25. Multivariable logistic regression analysis was done to control possible confounding variables. Assumptions of logistic regression were checked before the final multivariable analysis using a probability bi-variable graph and collinearity diagnostic. The final multivariable model goodness of fit was checked using classification table percentage, Hosmer-and Leme show, chi-square test, and log-likelihood chi-square test. Both crude and adjusted odds ratios with their corresponding 95% confidence interval were used to determine the strength of association. A p-value of less than 0.05 was used to declare the statistical significance of the finding.

4.10 Ethical consideration

Proposal approval was obtained from the Ethical Review Committee of the Yekatit 12 Hospital Public Health Department. Consent to the study participants was provided. All information collected from patients was kept confidential and used only for the intended purpose. If the participants are unwilling to respond, they can declare that they will discontinue participation during data collection at any time. Personal information, including names of patients, was not included in the questionnaire.

4.11 Dissemination of finding

The study finding was disseminated to the Department of Public Health Research Committee, Yekatit 12 Hospital Medical College Library, and, as per approval, responsible stakeholders. It was also further disseminated to the Ministry of Health and the Ethiopian diabetic association, as per the recommendation, and to the broader scientific community using different presentation methods.

5. Results

Response Rate

The response rate was 100 % (125 cases) as consecutive respondents were recruited until the sample size was reached and they did not have problems participating in the study.

5.1. Demographic Profile

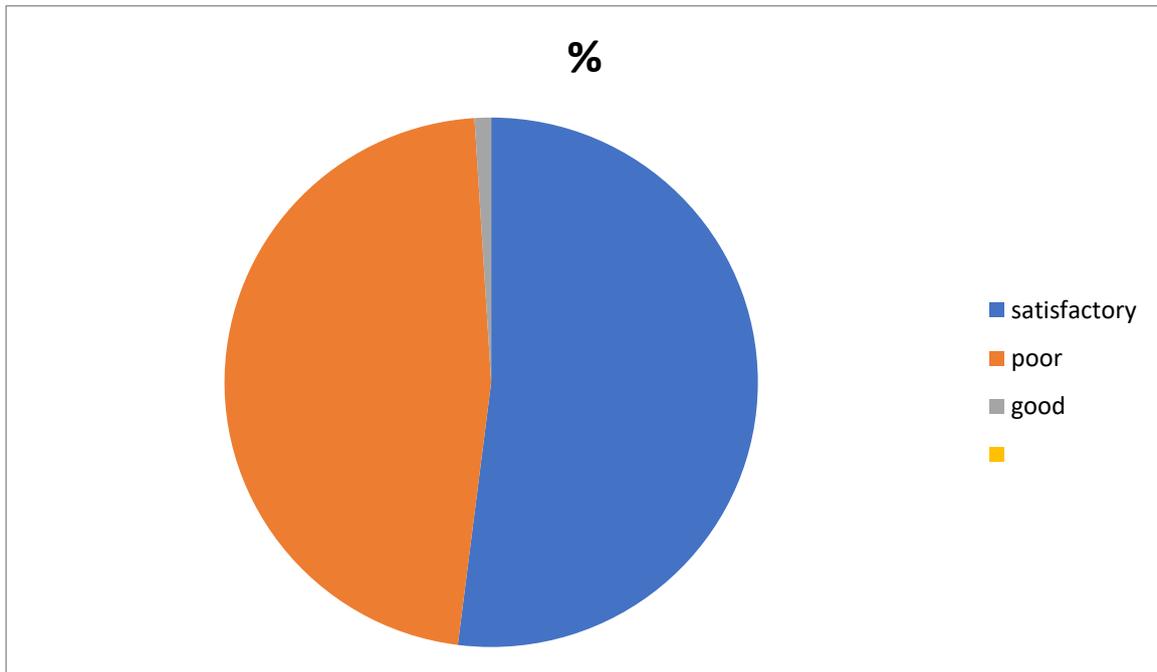
Table 1: Demographic distribution of respondents in Yekatit 12 hospital January 2024

| SN | Variables | | Frequency | Percentage (%) |
|----|--------------------|----------------------|-----------|----------------|
| 1 | Sex | Male | 148 | 62.18 |
| | | Female | 90 | 37.8 |
| | | Total | | |
| 2 | Age | <30 | 7 | 2.94 |
| | | 30-50 | 90 | 37.8 |
| | | >50 | 141 | 59.24 |
| | | Total | | |
| 3 | Residency | Urban | 230 | 96.6 |
| | | Rural | 8 | 3.36 |
| 4 | Marital status | Married | 190 | 79.8 |
| | | Single | 26 | 10.92 |
| | | Separated | 22 | 9.24 |
| | | Total | | |
| 5 | Religion | Orthodox | 93 | 39.07 |
| | | Muslim | 59 | 24.7 |
| | | Protestant | 84 | 35.29 |
| | | Catholic | 2 | 0.84 |
| | | Total | | |
| 6 | Educational status | Illiterate | 5 | 2.1 |
| | | Grade 1-8 | 90 | 37.8 |
| | | Grade 9-12 | 83 | 34.4 |
| | | Collage and above | 60 | 25.21 |
| | | Total | | |
| 7 | Occupation | Farmer | 8 | 3.3 |
| | | Merchant | 77 | 32.35 |
| | | NGO employee | 5 | 2.38 |
| | | Governmental workers | 115 | 48.3 |
| | | Daily laborer | 17 | 7.14 |
| | | Housewife | 16 | 6.72 |
| | | Total | | |
| 8 | Income level | <500 | 12 | 5.04 |
| | | 500-100 | 8 | 3.36 |
| | | >1000 | 219 | 92.01 |

Of the study participants, the majority of them were male (62.18%), and only 37% were female. 59% of the study participants were above the age of 50, and only 2% of the study participants were below the age of 30. 96% of the study participants were urban residents. 79% were married, and the rest were single or separated. Orthodox Christians were the majority (39%), and Catholics were the list. Most study participants were educated; 34% had attended 9-12 grade, and only 2.1% were illiterate.

5.2. Foot Self-Care Practice

Foot self-care practice was listed, and petite people were asked how many of those activities they performed and for how many days in the week they performed them. Respondents who performed for 0-3 days are categorized as having poor self-care practice, patients who performed for 3-5 days are classified as satisfactory, and patients who performed for more than five days are categorized as having good self-care practice.

Figure 2: diabetic foot self-care practice among respondents in Yekatit 12 hospital.

The above figure shows that 52% of the study participants had satisfactory foot self-care practice, 47% had poor self-care practice, and only 1% had good Foot self-care practice.

5.3. Distribution of patient responses to questions related to Foot self-care practice

Table 2: Distribution of patients' responses to questions related to the practice of diabetic foot self-care in Yekatit 12 Hospital January 2024

| No | Foot care questions | | Frequency | % |
|----|--|----------|-----------|--------|
| 1 | How many days in a week do you check (inspect) your feet? | Never | 88 | 36.97 |
| | | 1-3 days | 124 | 52.10 |
| | | 3-5 days | 14 | 5.88 |
| | | ≥ 5 days | 12 | 5.04 |
| 2 | How many days do you check the water temperature in your hand? | Never | 112 | 47.05 |
| | | 1-3 days | 83 | 34.87 |
| | | 3-5 days | 31 | 13.025 |
| | | ≥ 5 days | 12 | 5.04 |
| 3 | Do you wash your feet? | Never | 0 | 0 |
| | | 1-3 days | 12 | 5.04 |
| | | 3-5 days | 60 | 25.21 |
| | | ≥ 5 days | 166 | 70.1 |
| 4 | Did you soak your feet? | Never | 143 | 60.08 |
| | | 1-3 days | 69 | 28.99 |
| | | 3-5 days | 16 | 7.14 |
| | | ≥ 5 days | 10 | 4.2 |
| 5 | How many days do you check that your feet are dry after washing? | Never | 100 | 42.01 |
| | | 1-3 days | 102 | 42.85 |
| | | 3-5 days | 36 | 15.12 |
| | | ≥ 5 days | 0 | 0 |
| 6 | Do you dry between your toes? | Never | 90 | 37.8 |
| | | 1-3 days | 102 | 42.85 |
| | | 3-5 days | 39 | 16.38 |
| | | ≥ 5 days | 7 | 2.94 |
| 7 | | Never | 48 | 20.1 |

| | | | | |
|----|---|----------|-----|-------|
| | How many of the last seven days have you applied lotion to the dry skin of your feet? | 1-3 days | 71 | 29.83 |
| | | 3-5 days | 107 | 44.95 |
| | | ≥ 5 days | 12 | 5.04 |
| 8 | How many of the last seven days have you been walking barefoot? | Never | 226 | 94.95 |
| | | 1-3 days | 7 | 2.9 |
| | | 3-5 days | 5 | 2.1 |
| | | ≥ 5 days | 0 | 0 |
| 9 | On how many of the last seven days did you inspect the inside of your shoes? | Never | 31 | 13.02 |
| | | 1-3 days | 93 | 39.07 |
| | | 3-5 days | 114 | 47.8 |
| 10 | How many of the last seven days have you avoided open-toe or open-heel shoes? | Never | 0 | 0 |
| | | 1-3 days | 72 | 30.25 |
| | | 3-5 days | 158 | 66.38 |
| | | ≥ 5 days | 7 | 2.9 |

For practice questions mentioned in the table above, the % of respondents, 36.9%, don't check their feet in a week; only 5% do it more than five days a week. For checking the temperature of the water, 47.5% never check the temperature of the water in

a week, and 34% check it FOR 1-3 days a week. 42% of respondents didn't dry their feet after washing. Also, 20.1% of respondents didn't apply lotions to the dry skin of their feet. For walking barefoot Foot, 94% of respondents never walk barefoot.

5.3. Association of Selected Socio-Demographic Characteristics with Foot Care Practice among Respondents of YEKATIT 12 HOSPITAL January 2024

Table 3: Association of Selected Socio-Demographic Characteristics with Foot Care Practice among Respondents of YEKATIT 12 HOSPITAL January 2024

| no | Variable | | Practice | | | Total | Chi-square | p-value |
|----|----------------|-------------------|---------------|-----------------------|---------------|-------|------------|---------|
| | | | poor practice | Satisfactory practice | Good practice | | | |
| 1 | SEX | Male | 65 | 77 | 6 | 148 | 0.085 | 0.25 |
| | | Female | 33 | 52 | 5 | | | |
| | | Total | 98 | 129 | 11 | | | |
| 2 | Age | <30 | 2 | 5 | 0 | 7 | 35.76 | 0.044 |
| | | 30-50 | 39 | 42 | 9 | | | |
| | | >50 | 81 | 60 | 0 | | | |
| 3 | Marital status | Single | 12 | 13 | 1 | 26 | 2.89 | 0.97 |
| | | Married | 85 | 92 | 13 | | | |
| | | Divorced | 11 | 11 | 0 | | | |
| | | Total | 108 | 116 | 14 | | | |
| 4 | Income level | <500 | 12 | 0 | 0 | 12 | 48.03 | 0.036 |
| | | 500-1000 | 8 | 0 | 0 | | | |
| | | >1000 | 100 | 102 | 6 | | | |
| 5 | Education | Illiterate | 5 | 0 | 0 | 5 | 27.99 | 0.016 |
| | | Grade1-9 | 50 | 38 | 2 | | | |
| | | Grade9- 12 | 20 | 54 | 9 | | | |
| | | Collage and above | 5 | 40 | 15 | | | |
| | | Total | 80 | 132 | 26 | | | |
| 6 | Occupation | Farmer | 2 | 6 | 0 | 8 | 9.32 | 0.66 |
| | | Merchant | 32 | 40 | 3 | | | |
| | | Employee | 41 | 67 | 7 | | | |
| | | Other | 0 | 3 | 2 | | | |
| | | Total | | | | | | |

The above table shows that age, income level, and educational level are significantly associated with foot self-care practice with p-values of 0.04, 0.03, and 0.01 consecutively. Other variables like occupation, sex, religion, and marital status were not significantly associated.

6. Discussion

In our study, most participants were male, 62%, and female, 38%. Even though separate research may be needed, this shows a difference in healthy skiing behavior among males and

females. Most study participants were people above 50, at 59%, and people below 30 were only 2.9 %. This shows that diabetic foot ulcers are more common among people of advanced age. This aligns with several studies in the literature review, suggesting advanced age is a determinant factor for diabetic foot ulcers. Of the study participants, 37% have attended 1-8 grade, 25 % have college and above educational level, and 2.1% are illiterate. The majority of the study participants were government workers.

In this study, educational level, age, and income level were significantly associated with poor foot self-care practice, with p-values of 0.016, 0.044, and 0.036 consecutively. This aligns with studies done in Bahirdar and Dese referral hospital, which

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In our study, 52% of the study participants have satisfactory foot self-care practice, 47% have poor self-care practice, and only 1% have good Foot self-care practice; this finding is in line with studies done in Gondar and Felegehiwot, which found that there is a tiny margin of difference between the number of patients practice.

On-foot self-care practice: 70% of the study participants wash their feet for more than five days a week, but on the other side, 60% of the study participants don't soak their feet. This finding aligns with the studies done in Jimma, gender, and Bahir dar. Contrary to other studies, most of the study participants, 94%, have never walked barefoot. This may be due to the study participant's urban residency and lifestyle. 52% of the study participants only inspect their shoes 1-3 days a week, and 36% only inspect their boots after wearing them. 20% of the study participants never apply lotion to their dry feet, and only 44% use lotion 3-5 days a week. 42% of the study participants never inspect their feet if they are dry, 42% inspect their feet for 1-3 days a week, and only 15% inspect their feet for 3-5 days. These findings align with studies done in Kenya, Sidama Hawasa, Tigray, and the Amhara region, which were discussed in a literature review.

7. Conclusion and Recommendation

In conclusion, this study found that advanced age, low monthly income, and low educational level are the determining factors for poor foot care practice among DM patients. Being highly educated and having a monthly income of more than 1000 birr positively contributed to good self-care practice. Even though the patient washed their leg, there needs to be more knowledge among DM patients inspecting their feet to see if they are dry and the importance of applying lotion on dry skin. Also, there is a vast knowledge gap on the importance of inspecting shoes before wearing them. A need for more health education in the hospital and any health facility nearby creates these gaps. The health facilities and the health care workers need to plan and prepare health education programs for older people and those at low economic levels on how to prevent diabetic foot ulcers early by performing self-care. We also recommend that the facility and the government pay attention to patients of advanced age by prioritizing them in DFU prevention efforts, as they are the most susceptible group in society. The government also needs to develop a plan to help people with low-income levels, as NCD and DM, in particular, have been shown to cause significant economic crises in families.

We also recommend that other researchers investigate in depth the barriers to self-care practice, focusing on the patient's behavioral and social aspects.

Abbreviation and Acronyms

ADA.....American Diabetes Association
DM.....Diabetes Mellitus
IDF.....International Diabetes Federation

found Lack of education and advanced age to be significantly associated with Foot self-care practice.

LEA.....Lower Extremity Amputation
WHO.....World Health Organization
DFU.....Diabetic Foot Ulcer
SPSS.....Statistical Package for the Social Sciences
NAFFC.....Nottingham Assessment of Functional Foot

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