

Diabetes Mellitus Patients on Chronic Care Follow-Up in Southern Hospitals about Diabetic Foot Ulcer Management and Related Factors

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Abstract

Diabetes patients who have diabetic foot ulcers (DFU) have full-thickness wounds below the ankle that penetrate the dermis. Due to the rising prevalence of diabetes mellitus (DM) worldwide and the lack of awareness and practise of diabetic foot self-care, there has been an increase in the incidence of diabetic foot ulcers. As a result, the study's objective was to evaluate patients with diabetes mellitus in southern Ethiopian hospitals' knowledge of and attitudes toward diabetic foot ulcers and related factors. The investigation was carried out using a multicenter cross-sectional design. At Bedele General Hospital and Mettu Karl Comprehensive Specialized Hospital, all diabetes patients who met the study's inclusion criteria and were receiving outpatient care between August 9, 2021, and September 5, 2021 G were questioned using a semi-structured questionnaire. A social science statistical analysis tool was used to analyse the data. Most of the study participants had positive attitudes, while more than half had weak knowledge. Knowledge was highly correlated with age and educational attainment. The following factors were found to be predictive of attitudes toward diabetic foot care: monthly income, educational attainment, prior knowledge, and prior foot ulcer history. Therefore, diabetic foot care education should be offered by healthcare professionals to prevent additional foot ulcer issues. In addition, patients with poor socioeconomic level who have developed diabetic foot ulcers should receive extra care.

Keywords: Ulcer; Diabetic Foot

Introduction

Diabetes mellitus (DM) is a broad category of metabolic illnesses brought on by elevated blood glucose levels. It can result from total or almost total insulin shortage, insulin resistance, or impaired insulin secretion, and is categorised as either Type-one or Type-two diabetes. DM is one of the four priority non-communicable diseases (NCDs) that the World Health Organization has identified for prevention and control [1]. The number of persons with diabetes globally was anticipated to reach 500 million in 2019 and to increase to 693 million by 2045. With an estimated 28 million cases by 2030 and 41.6 million by 2045, type 2 diabetes will be the major public health issue in Africa. The leading factor in early mortality and disability has been found to be diabetes. Significant long-term vascular and non-vascular consequences are linked to persistent hyperglycemia in diabetes. Microvascular (retinopathy, neuropathy, and nephropathy) and macrovascular problems are further separated into the vascular complications of diabetes mellitus [2].

The term diabetic foot ulcer (DFU) refers to a full-thickness wound in a diabetic patient's deep vascular and collagenous inner layer of skin below the ankle. Peripheral vascular diseases that reduce blood supply to tissue and may cause infection and gangrene, raising the risk of amputation, and peripheral neuropathy, which results in a loss of sensation in the feet, are two causes of diabetic foot problems [3]. The two main factors that contribute to morbidity and mortality in diabetic individuals are foot ulceration and supervening infection. One of the most expensive diabetes consequences to treat is diabetic foot issues, which are common in diabetic individuals. To speed up the healing of the diabetic foot ulcer, many treatment protocols have been used, including vascular intervention, anti-infection therapy, surgery, and postoperative wound care. Despite these, the reported healing rates for diabetic foot ulcers across many series were subpar. Foot ulcers are one of the most dreaded and prevalent diabetic complications in low- and middle-income nations [4]. According to estimates, 15% of all persons in Ethiopia have diabetes foot, which are the primary

source of sepsis, disability, morbidity, and mortality among diabetic patients. The most frequent consequence of the DFU is amputation of the lower extremities. Infections that could necessitate amputations were progressed in somewhat more than half of the cases. DFU is also strongly connected to a considerable decline in life quality. A good line of defence in preventing DF issues and amputation is having informed patients about proper foot care. In order to decrease the prevalence of foot ulcers and their sequelae, proper foot hygiene practises are crucial [5]. If the proper precautions are taken, it has been demonstrated that 49–85% of all diabetic foot issues can be avoided. In order to do this, a multidisciplinary diabetes care team must provide excellent foot care, and both patients with diabetes and medical personnel must receive the proper knowledge. Due to a lack of awareness and a negative attitude toward diabetic foot self-care, diabetic foot ulcers are more common today. Poor foot hygiene habits and a lack of high-quality DFU care may cause foot infections in Ethiopia, which can lead to limb amputations [6]. The level of the patient's knowledge and attitude must be understood by the healthcare provider before beginning diabetes education. On the treatment of diabetic foot ulcers in Ethiopia, there were few findings [7]. The purpose of the study was to evaluate individuals with diabetes mellitus' knowledge, attitudes, and practises related to self-care for diabetics as well as the determinants of these behaviours.

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Study Area [8]

A hospital-based multicenter cross-sectional study was conducted at BGH and MKCSH between August 9 and September 5, 2021 G.C. BGH is situated in Buno Bedele Zone, Bedele town, Southwest Oromia, Ethiopia, and is 486 kilometres from Finfinne, while MKCSH is situated in Mettu town, South West Oromia, Ethiopia, and is 600 kilometres away. One follow-up diabetes mellitus clinic is present at both hospitals. The work has been reported in accordance with the standards for the STROCSS, or strengthening of the reporting of cohort studies in surgery. All adult patients with type one or type two diabetes who attended the diabetic follow-up at BGH and MKCSH during the study period and were willing to participate in the study were included, whereas patients with DM who were unable to hear or speak, patients who developed diabetic ketoacidosis, newly diagnosed patients with DMx, and patients who had lower leg amputations were excluded [9]. The independent variables included socio-demographic factors like age, sex, marital status, level of education, average monthly income, occupation, residence, clinical characteristics like type of diabetes, duration of DM, presence of comorbidity, presence of diabetic complications, and prior history of information. The dependent variables were patients' knowledge and attitude toward diabetic foot ulcers.

Process and Administration of Data Collection

After studying many works of literature, the data collection tool was created. Following the pretest at the nearby Didessa hospital, the questions were altered. Face-to-face interviews were used for the data collection process. The data collection process involved two pharmacists and four nurses [10]. All data collectors received two days of training to ensure that they all shared a common understanding of the data collection procedure and tools. The lead researcher went over and verified that all of the questionnaires were filled out after each day of data collecting.

Analysis and Processing of Data

With the aid of the programme EPI-info 3.5.4, the data were entered into a computer. SPSS 24.0, a statistical programme for social sciences, was used for the analysis [11]. The frequency and percentage of the descriptive data were explained. The variable was examined using multivariable logistic regression, and variables with a P-value of less than or equal to 0.05 were deemed to have a statistically significant association.

Clinical Characteristics

150 (38.8%) of the 387 study participants had type two diabetes, and the majority of them, 239 (61.8%), had had it for less than 5 years. A total of 159 patients (41.1%) had no prior knowledge of diabetic foot care. The majority of the 193 responders (61.7%) also reported no history of foot issues. In terms of the examination of their feet, 208 patients (53.7%) in total had their feet inspected during the course of their follow-up. A total of 213 (53%) of the patients had concomitant conditions, and 134 (34.6%) of them had DM sequelae, the most frequent of which was retinopathy, which affected 56 (14.5%) individuals.

Diabetic Foot Self-Care

Three hundred fifty-seven (92.2%) patients with DM were aware of the effect of consistent medication use on lowering DM complications [12]. The majority of the patients, 216(55.8%), were substantiated since 220(56.8%) of the patients with DM were aware they might develop a

foot ulcer and the doctors had warned them during their routine follow-up to check for ulcers as they may not heal soon. 282 patients (73.9%) in total were aware that they should always wash their feet. 106 (27.4%) of the patients correctly identified the water temperature for washing their feet. A total of 180 patients (46.5%) had good understanding of diabetic foot care [13].

Discussion

One of the long-term effects of diabetes, diabetic foot ulcers can cause death and disability if they are not successfully treated and prevented. The patient should be well-versed in diabetic foot self-care in order to avoid this. A total of 180 (46.5) of the DM patients in our study demonstrated good knowledge of caring for their own diabetic feet. Compared to the studies conducted in China (70.38%) and Saudi Arabia (53.6%), this showed a lower degree of knowledge about the self-care of diabetic feet. There may be sufficient access to information through health education, print, and electronic media in both countries, which contributes to raising public knowledge of diabetes and its complications. The studies conducted in Pakistan (29.3%) were higher, although this was higher. The variation may result from various sample sizes and study settings. Comparing the knowledge level to the study conducted in Hawassa, southwest Ethiopia 38(27.3%), the level was likewise higher. In contrast to rural areas, urban areas facilitate familiarity with recent knowledge connected to diabetes mellitus, including diabetic foot ulcer treatment, and this may be the difference that can be seen in the fact that the majority of respondents were from urban areas. In comparison to rural areas, metropolitan areas also have more access to the mass media, which is crucial for discussions with medical experts to give information about diabetes mellitus.

Conclusion

More than half of the study participants lacked basic understanding, while almost two thirds of the patients possessed a positive outlook. Knowledge was highly correlated with age and educational attainment. The attitude toward foot care was correlated with monthly income, educational attainment, prior knowledge, and a history of foot ulcers. The hospital should think about establishing a specialised diabetic clinic where foot care education can be easily integrated into follow-up care to reduce further complications of foot ulcers. Patients who don't have formal education should also receive extra attention, as should patients who have diabetic foot ulcers, in order to lessen, postpone, or prevent the risk of limb amputation.

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Conflict of Interest

The author has no known conflicts of interested associated with this paper.

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