



Foot Care for Patients with Diabetes

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Abstract

Diabetes mellitus is a chronic debilitating condition characterized by elevated blood sugar levels and is associated with significant morbidity and mortality and increased health care costs. Diabetic foot ulcers and lower limb amputations are a common, complex, costly, and debilitating complication of diabetes. It is estimated that 15% of patients with diabetes have lower extremity ulcers. The aim of this study was to evaluate the knowledge, practice and barriers to foot care self-care in diabetic patients receiving treatment at the Felege Hiwot Referral Hospital. A cross-sectional, baseline-based study was performed in 313 diabetic patients using convenience sampling technique. In addition, descriptive statistics and binary and multivariate logistic regression were used to evaluate predictors of foot care knowledge and practice for patients with diabetes. Outcome. The majority of respondents are male. The mean age was 39.1 ± 16 . The mean knowledge score was 7.5 ± 2.02 , of which 56.2% and 43.8% had good and poor knowledge of foot care. The average practice score is 25.2 ± 6.466 , of which 53.0% have good practice, the rest 47.0% have poor foot care practice. Of the 162 respondents who encountered a barrier, 56.8% said "poor communication between the patient and the healthcare provider", 50.6% said "I don't know what to do" and 44.4% answered "Inconvenience at work" is a barrier to foot care. Knowledge and practice on foot care for diabetic patients is low. Poor communication between the patient and nurse/physician, lack of adequate knowledge and inconvenience at work are often barriers to foot care. Policymakers should launch a statewide interventional podiatry education program in the region. The research hospital should consider establishing a specialist diabetes clinic, where podiatry education can easily be combined with follow-up care.

Keywords: Healthcare; Diabetes; Foot ulcer

Introduction

Diabetic foot ulcer is a full-thickness wound that penetrates the dermis deep into the blood vessels and collagen layer of the skin below the ankle in a diabetic patient. If a leg ulcer is left untreated and does not heal, it can become infected. DFU has been found to affect 10-15% of diabetics. It occurs due to many risk factors, including long duration of diabetes, poor metabolic control, foot deformities, advanced age, peripheral vascular disease, and poor knowledge of the disease. It is estimated that about 5% of diabetics have a history of foot ulcers, while the lifetime risk of developing this complication for diabetics is 15%. The majority of foot ulcers will heal, while 10-15% will remain active and 5-24% will eventually lead to amputation within 6-18 months of initial evaluation [1]. As for complications, more than 60% of non-traumatic lower limb amputations in the United States occur in people with diabetes, where the rate is 6 to 10 times higher than in people without diabetes. . After the first LEA, up to 50% of patients require amputation within 3-5 years. Furthermore, the 5-year mortality rate after LEA is approximately 50%, with a significantly higher risk for diabetics than for patients without diabetes. A review of the epidemiology of diabetic foot problems in Africa highlights not only the prevalence of neuropathy but also the increasing frequency of peripheral vascular disease, which may be due to increasing urbanization and additional factors such as unsafe sanitation, poverty, frequent coexisting HIV infection, walking barefoot. , low income and cultural practices are also considered risk factors for diabetic foot ulcers. In addition to the direct costs of foot complications, there are indirect costs related to reduce productivity, personal costs for patients and families, and reduced health-related quality of life. The lifetime risk of a person with diabetes developing a foot ulcer is up to 25%, and it is believed that every 30 seconds a lower limb is lost somewhere in the world to diabetes. Understanding the causes of foot disease in diabetics will allow early identification of high-risk patients. It is estimated that up to 50% of amputations in diabetic patients can be avoided with effective education. A potentially avoidable initial event was identified in 86% of cases, usually a minor

trauma causing skin damage. Improper footwear is the most common cause of injury, which demonstrates the importance of regular foot examinations in diabetics [2-4]. A study in Siri Lanka reported that more than 50% of the study sample had knowledge of the principles of diabetic foot care, but substandard practice. Of all the principles of foot care for diabetics, only 65.5% performed regular foot monitoring. Practice other foot care principles less than 50%. Finally, this study reveals that the diabetic foot problem is mainly concentrated in the elderly and the importance of regular check-ups of diabetic patients. A study of veterans found that more than 50% of respondents said they "know enough" in just three of these categories: 'check your feet regularly', 'keep your feet clean' and 'always wear shoes'.

Diabetes is becoming one of the major chronic health problems in Ethiopia. A study conducted at Tikur Anbessa Specialist General Hospital concluded that lack of regular patient follow-up and diabetes education about foot care, poor glycemic control, delay in presentation Patient presentation and surgical intervention as well as patient refusal to undergo surgical procedures has been reported. Factors contributing to the high mortality observed from diabetes. In general, the adverse effects of DFU include high financial burden, leg amputation, physical disability, low quality of life and high mortality, and long-term DFU treatment is difficult; sores often recur even after they have healed; All of the above underline that prevention of DFU is absolutely necessary [5]. In addition to the lack of surveys conducted in the study area, even

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in the country as a whole, the surveyors found that the communities in the study area were barefoot. According to previous studies conducted elsewhere in Ethiopia, foot care verification is a key aspect of diabetes care that is overlooked by most treating physicians.

Sample Size

The study was carried out at the Felege Hiwot Referral Hospital in Bahir Dar, the capital of the Amhara Regional State, 565 km from Addis Ababa in northwestern Ethiopia. It is a tertiary healthcare hospital serving the people of Bahir Dar city and remote areas of northwestern Ethiopia. The total population the hospital serves is approximately 12 million people. Sample size was determined using a single population-proportional sample size estimation method with the assumption that the prevalence of foot care knowledge was 50% to obtain a representative sample size. Maximum, as no similar studies were found in the area with 95% confidence intervals. Finally, we calculated 313 patients using the population adjusted formula [6]. Knowledge test adapted from a previously conducted similar study and education in diabetic foot care recommended by the American College of Foot and Ankle Surgeons. On the other hand, the Diabetic Foot Self Care Practice Questionnaire adopted from the Nottingham Podiatry Function Assessment tool was validated. Responses to the questions were recorded on a scale according to the frequency of the behavior. Pre-test was performed on 10% of the total sample size and adjustments were made based on the outcomes. Although the NAFFC included 29 independent questions, this study used only 16 items. This is because the participants in the study area had different socioeconomic status and the rest of the questions were not suitable to accurately measure the intended behavior and were discarded after the test. On the other hand, the barrier of individual foot care questions is adjusted from previous qualitative and quantitative studies [7-9]. Finally, the entire tool was translated into Amharic for the convenience of study participants and data collectors and re-translated into English by another person to verify equivalence in terms of terms.

Participants' clinical and residential information

As for the frequency of foot washing, almost half of the respondents washed their feet more than once a day, then once a day, accounting for 44.1%. Regarding the habit of drying feet after washing, among the respondents, 59.1% and 69.3% have never had the habit of drying their feet and between the toes. Regarding the use of foot moisturizer, the majority of 72.5% never used the cream and 14.4% used it once a week. The majority of study participants had never used a cream to moisten the space between their toes, but 11.2% used it once a week. Manicures are another form of foot care, with a majority of 66.5% having their nails trimmed about once a month, followed by 21.1% having their nails trimmed less than once a month. The study also showed that the majority of 44.1% wore sandals most of the day and only 14.7% of the participants never wore sandals. On the other hand, 55% of patients do not practice wearing shoes without socks, but there are also patients who regularly wear shoes without socks, accounting for 21.7% of the total number of study participants [10]. In addition, the majority of respondents 75.4% changed their socks less often, that is, less than 4 times a week, followed by 4 to 6 times a week, accounting for 21.4%.

Discussion

Diabetic foot ulcer is one of the chronic complications of diabetes that will lead to disability and death if not effectively prevented and controlled. In this study, out of 313 study subjects, the majority of 28.1% of respondents were between 18 and 25 years old. This may be because patients with type 1 diabetes are younger and have more symptoms that

insist on seeing a doctor than patients with type 2 diabetes are older and asymptomatic, leading to poor care-seeking behavior. Regarding occupational status, 39.9% of the study participants were farmers. This finding is a wake-up call for policymakers and researchers, as it is known that, in Ethiopia, most farmers reside in rural areas and are believed to face diseases. This therefore offers a clue to the prospect that the prevalence of chronic diseases is increasing in rural communities. The outcomes of the knowledge survey on the principles of self-care for diabetic feet showed an average knowledge score of. This score is higher than the study done in Nigeria with a score of $5.8\% \pm 3.3$ but almost comparable to the study done in Siri Lanka of 8.3. The difference may be due to the fact that the majority of respondents are members of the Ethiopian Diabetes Association, where they meet periodically and keep up to date with recent diabetes information, including foot care. . Once again, the media is currently preparing discussions with medical professionals to provide information regarding diabetes. Another finding of the two main behavioral risk factors for foot ulcers when walking barefoot indoors and outdoors showed that the majority had never been barefoot. Although the majority of study participants had never been barefoot, 15.3% of study participants regularly walked barefoot indoors while 9.6% regularly walked barefoot outdoors, outside the house. In fact, it is one of the convincing evidences that the investigator chooses the study area. Although the majority of respondents is generally knowledgeable and has good practice scores, the percentage of respondents walking barefoot is not significant because this is a high-risk behavior for diabetic foot ulcers. . When this percentage is compared with South Africa, it is consistent that the majority of 75% have never been barefoot and 25% reported walking barefoot. Likewise, it is compatible with Saudi Arabia where 18% go barefoot.

Conclusion

The investigators made the following recommendations. This study shows an alarming increase in the prevalence of diabetes in rural areas. Therefore, instead of focusing only on infectious diseases, this shows that policy makers need to pay special attention to controlling the spread of DM in the study area. To emphasize foot care education, policymakers should re-initiate a program to develop professional diabetes educators and possibly foot and ankle surgeons to support support efforts to control the disease and minimize complications. In addition, hospital management should establish a clinic specializing in DM so that monitoring and education services can be well integrated. Diabetic foot care education should be integrated into the hospital's routine health education program and preferably accompanied by leaflets. It is essential to consider patient age, education, employment status, duration of diabetes treatment, and other factors while considering individual foot care education. Also, because the risks outweigh the benefits of going barefoot, patients should look for another convenient type of footwear instead of skipping it during labor.

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