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Prevalence of Diabetic foot ulcer in Hospitalized Type II Diabetic Patients at Aliabad Teaching Hospital

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ABSTRACT

Objective: Prevalence of diabetic foot in patients with diabetes admitted to the internal service of Ali Abad Teaching Hospital.

Methods and Material: The research was conducted through a descriptive method in the form of a cross-sectional study, which included all patients who have been admitted for diabetes at Ali Abad Teaching Hospital for one year. In this study, all diabetic patients are included, and is determined whether the diabetic foot is one of the common complications in patients with diabetes.

Results: In this study, the prevalence of diabetic foot in diabetic patients in Aliabad Teaching Hospital was 7.4 percent, and from a gender perspective, the most cases (57.15 percent) occurred in female patients between the ages of 50-59 years, and the remaining cases (42.85 percent) occurred in male patients.

Conclusion: Diabetic foot is a relatively common complication of diabetes mellitus with a high economic and psychological burden, and the prevalence of diabetic foot intensifies with age.

Keywords: Diabetic foot, diabetes mellitus, foot infection, diabetic neuropathy, and peripheral arterial diseases

Introduction

Diabetic foot is an infective, ulcerative, and destructive condition of the foot tissue in patients with diabetes or whose diabetes was recently diagnosed [1]. Diabetic foot, which is a complication of diabetes, is the main cause of disability in these patients. Diabetic foot is caused by the interaction of various factors, such as neuropathy, peripheral vascular disease, and delayed wound healing in diabetics. The number of diabetics who have been diagnosed with diabetic foot disease is 61,000. The proportion of diabetic foot patients who undergo amputations annually is 0.2%. The number of diabetic patients who may have undergone lower extremity amputations is 6000. The National Health Institute of England spends 650 million pounds a year on diabetic foot care [2].

Literature review

In research conducted by Daba Abdisa and her colleagues at Jimma Medical Center in Ethiopia in 2019 and published in 2020, the prevalence of diabetic foot was shown to be 11.6% [3]

In a study conducted by Faris G. Bakri and his colleagues in Jordan with the participation of one thousand diabetic patients, the prevalence of diabetic foot was 4.6%, which was found and has been published in Volume 46(2) of the JmedJ journal [4].

In a study conducted by S. Lavterbach and his colleagues with 34,198 diabetic patients in the UK on September 29, 2013, the prevalence of diabetic foot was 7.6% in DM1 patients and 8.5% in DM2 patients. This research was found and has been published in the Journal of Wound Care, Volume No. 19 [5].

In a descriptive study conducted by Maxime Tindong and colleagues with the participation of 203 diabetics and published in the International Journal of Lower Extremity Wound in 2018, this study was conducted in Cameroon and at the Southwest Regional Hospital, and the prevalence of diabetic foot was found to be 11.8 percent [6].

In a descriptive study conducted by Ahmad O. Almobarak and colleagues in Khartoum, Sudan, and published in the Annals of Translational Medicine, the prevalence of diabetic foot was found to be 18.1%, and they found that the risk of diabetic foot increased with the duration of diabetes for more than ten years [7].

In a descriptive study conducted by Mustafa Madmoli and colleagues at Khatam al-Anbia Hospital in Shuster, Iran, with the participation of 1,693 diabetic patients from 2015 to 2018 and published in the International Journal of Ayurvedic Medicine in 2019, the percentage of diabetic deaths was 9.5 percent [8].

In a descriptive study conducted by Javed Ali Mohammad Akhtar and colleagues at Mahira Sedra Hospital with the participation of 500 diabetic patients between 2004 and 2005 in India and published in The British Journal of Diabetes and Vascular Disease on May 23, 2011, the prevalence of diabetic foot was eleven percent [9].

In a descriptive study conducted by A. Alhubail and colleagues at Dasman Diabetes Institute between 2011 and 2017 with the participation of 513 diabetic patients in the country of Kuwait and published in the journal PLOS ONE on December 30, 2020, the prevalence of diabetic foot was 6.4 percent [10].

In a descriptive study conducted by Khalid Al-Rubean and colleagues from 2000 to 2012 in Saudi Arabia with the participation of 62,681 diabetic patients and published in the journal PLOS ONE on May 6, 2015, the prevalence of the disease was found to be 3.3% [11].

In research conducted by Amanullah Khan in Pakistan with the participation of 250 diabetic patients in eight cities of this country between 2010 and 2011 and

presented on February 27, 2014, the prevalence of diabetic foot was found to be 13.9 percent [12].

In a study conducted by S Chandrashekar and Surajmuraledhar at KR Hospital in Mysuru, India, in 2017 with the participation of 249 diabetic patients, the prevalence of DF was found to be twelve percent. which was published in the International Surgery Journal [13].

A descriptive study conducted by Saldyyusuf et al. at the seminary hospital of Eastern Indonesia with the participation of 249 diabetic patients was published in the Open Journal of Nursing vol. 6, no. 1, in January 2016. The prevalence of diabetic foot was found to be twelve percent [14].

In a descriptive study conducted by Mauro Rigato and colleagues in nineteen African countries with the participation of 56173 diabetic patients and published in Elsevier in Vol. 142, August 2018, pages 63-73, the prevalence of the disease was found to be 13% [15].

Objective

Determining the prevalence of diabetic foot among diabetic patients admitted to the internal service of Aliabad Hospital**.**

Questions

- Is diabetic foot a common complication of diabetic patients hospitalized at Ali Abad Hospital or not?
- At what age is the prevalence of diabetic foot ulcers high?
- In which gender is the diabetic foot more common in diabetes patients?

Methods

This research has been done using the descriptive cross-sectional method. By obtaining official permission from the honorable head of the Aliabad Teaching Hospital, the files of diabetic patients who were admitted to the internal service during 2018 were taken from the hospital archive, and after collecting the desired information, they were again submitted to the hospital archive. In this research, all the patients admitted to the diabetes ward in the internal service of Aliabad Teaching Hospital in 2018 are included. All the patients who were admitted to the diabetes ward are included in this research, and the patients who have incomplete files are excluded.

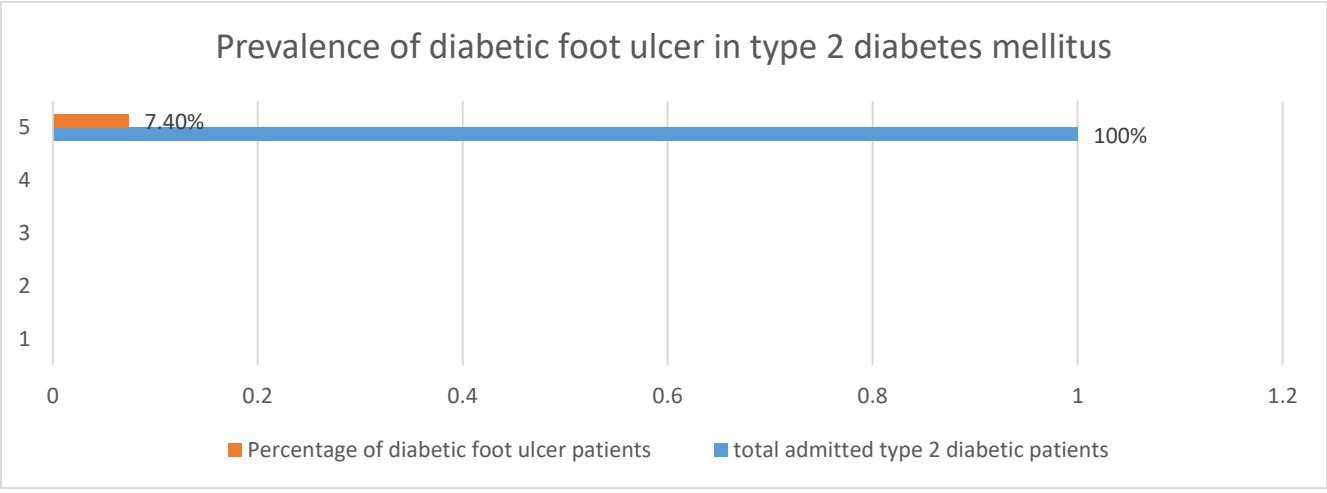
Information and lab examinations have been used from the files of diabetic patients as materials. The information obtained from the files, such as age, sex, and co-morbidities, was collected, and this information was organized by SPSS and Excel software. The obtained results have been used in discussion, the deficiencies have been clarified, and the necessary suggestions have been made in order to improve them.

Inclusion criteria: All patients with diabetes who were admitted to the hospital in 2018.

Exclusion criteria: patients whose files were not completed correctly and those who were younger than fourtee

Results

This descriptive cross-sectional research has been carried out for one year in the internal service of Aliabad Hospital with the participation of inpatients with diabetes. A total of 189 patients with diabetes were hospitalized, including 14 patients with diabetic foot, and the prevalence of diabetic foot among diabetic patients in Aliabad hospital was 7.4 percent. Most of its occurrences have been seen in the age group of 50 to 59 years and among females



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Chart 1 This chart shows the total percentage of diabetic patients and the percentage of patients who developed diabetic feet. Diabetic foot patients make up 7.4 percent of the total number of diabetic patients.

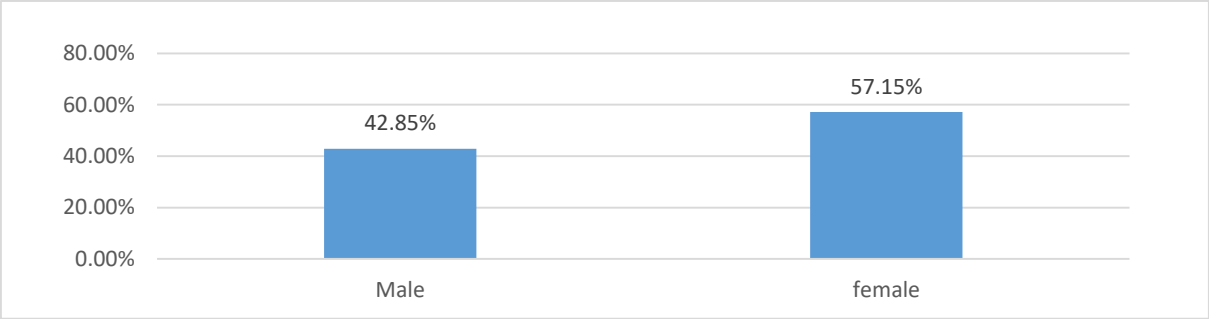


Chart 2: This chart shows the total percentage of diabetic foot patients according to gender; 57.15 percent were women, and the remaining 42.85 percent were men.

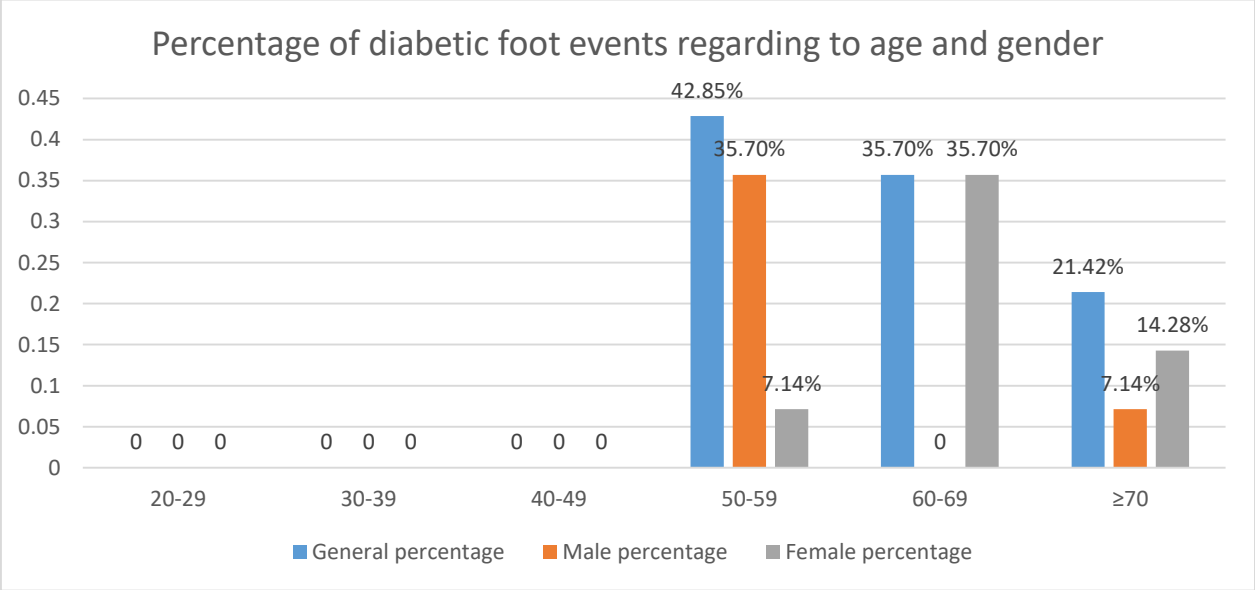


Chart 3: This chart shows the percentage of diabetic foot occurrences according to gender and age categories. In the age ranges of 20-29 years, 30-39 years, and 49-40 years, there

were no cases of diabetic foot. While in the age range of 50-59, the most incidence (42.85 percent) has been found, among them 35.7 percent in men and 7.14 percent in women. In the age range of 69-60 percent, 35.70 percent of its occurrences have been found in women, while no cases have been found in men in this age category. In the age group over 70 years, the percentage of its occurrences was 21.42%, including 7.14% in men and 14.28% in women.

Discussion

In the research conducted in Kuwait, it shows that the prevalence of diabetic foot cases in men is twice that of women (66.9% in men and 33.1% in women), but in this research, the number of cases in men is higher than women (57% in men and 43% in women) [10]. The reason for this in our country may be due to the low level of literacy among women, the lack of financial independence for women to receive medical services on time, and the lack of timely access to doctors and health centers.

In a descriptive study conducted by Al-Arbayan and his colleagues in Saudi Arabia in 2015, the incidence of the disease increased with age (such that in the age categories of 25-44 years, 45-64 years, and more than or equal to 65 years), the incidence of the disease was 7, 2%, 40.8%, and 52%, respectively, which is consistent with the findings of the research conducted by us [11].

In a study conducted in Cameroon, the prevalence of diabetic foot was 11.8 percent [6], which according to our research shows high figures, which may be due to poor economic conditions, climatic differences, and different living conditions.

In a study conducted in Khartoum, Sudan, the incidence of diabetic foot was found to be 18.1 percent [7], which may be due to a poor economic state.

In research conducted in Shuster city, Iran, in Khatam al-Anbia hospital, the incidence of diabetic foot was found to be 9.5 percent [8], which is due to religious differences, especially not washing the feet.

In research conducted in India, the incidence of diabetic foot is 12 percent, which is due to religious, climatic, cultural, and social differences [13].

Conclusion

Diabetic foot ulcer prevalence has increased with age; and among those who had less access to health centers or who referred to health centers later for any reason, the combination of diabetes complications, especially diabetic foot, was more common, but among those who had a high level of knowledge and used self-monitoring devices, the incidence of disease has been lower**.**

Recommendation:

- Public awareness through social media, government offices, and public places in relation to diabetes and diabetic neuropathies.
- In patients with diabetic foot ulcers, regular consultations should be done with orthopedic specialists in order to prevent the progressive loss and amputation of limbs that occur in the end stages.
- Increasing the level of knowledge of the patient and the patient's support in relation to the disease will control and prevent the progression of the disease.

Reference

1. Bus, S.A., et al., *Standards for the development and methodology of the 2019 International Working Group on the Diabetic Foot guidelines.* Diabetes Metab Res Rev, 2020. **36 Suppl 1**: p. e3267.
2. Danmusa, U.M., et al., *Prevalence and healthcare costs associated with the management of diabetic foot ulcer in patients attending Ahmadu Bello University Teaching Hospital, Nigeria.* Int J Health Sci (Qassim), 2016. **10**(2): p. 219-28.
3. Abdissa, D., et al., *Prevalence of Diabetic Foot Ulcer and Associated Factors among Adult Diabetic Patients on Follow-Up Clinic at Jimma Medical Center, Southwest Ethiopia, 2019: An Institutional-Based Cross-Sectional Study*. J Diabetes Res, 2020. **2020**: p. 4106383.
4. Bakri, F.G., et al., *Prevalence of diabetic foot ulcer and its associated risk factors among diabetic patients in Jordan.* 2012. **46**(2): p. 118-125.
5. Lauterbach, S., K. Kostev, and T. Kohlmann, *Prevalence of diabetic foot syndrome and its risk factors in the UK.* J Wound Care, 2010. **19**(8): p. 333-7.
6. Tindong, M., et al., *Prevalence, Clinical Presentation, and Factors Associated With Diabetic Foot Ulcer in Two Regional Hospitals in Cameroon.* Int J Low Extrem Wounds, 2018. **17**(1): p. 42-47.
7. Almobarak, A.O., et al., *Prevalence of diabetic foot ulceration and associated risk factors: an old and still major public health problem in Khartoum, Sudan?* Ann Transl Med, 2017. **5**(17): p. 340.
8. Madmoli, M., et al., *Drugs abuse and increase in referral to hospital to prevent recurrence of diabetic foot ulcer infection.* 2019. **10**(1): p. 89-94.
9. Akther, J.M., et al., *Evaluation of the diabetic foot according to Wagner's classification in a rural teaching hospital.* 2011. **11**(2): p. 74-79.
10. Alhubail, A., et al., *Microbiological profile of diabetic foot ulcers in Kuwait.* PLoS One, 2020. **15**(12): p. e0244306.
11. Al-Rubeaan, K., et al., *Diabetic foot complications and their risk factors from a large retrospective cohort study*. PLoS One, 2015. **10**(5): p. e0124446.
12. Khan, D.A., *Prevalence of Diabetic Foot Syndrome/Disease Amongst Type 2 Diabetic Population in Pakistan.* 2014.
13. Chandrashekar, S. and S.J.I.S.J. Muralidhar, *A study on the prevalence of risk factors and presence of diabetic foot ulcers in T2DM patients in KR Hospital, Mysuru*. 2017. **4**(9): p. 2983-2986.
14. Yusuf, S., et al., *Prevalence and risk factor of diabetic foot ulcers in a regional hospital, eastern Indonesia.* 2016. **6**(1): p. 1-10.
15. Rigato, M., et al., *Characteristics, prevalence, and outcomes of diabetic foot ulcers in Africa. A systemic review and meta-analysis.* Diabetes Res Clin Pract, 2018. **142**: p. 63-73.

1. Campbell M. Natural History of persistent ductus arteriosus. *Br Heart J*. 1968; 30:4-13.
2. Huggon IC, Qureshi SA. Is the prevention of infective endarteritis a valid reason for the closure of the patent arterial duct? *Eur Heart J*. 1997; 18:364-6.