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**Original Research Article**

# Study to assess diabetic foot care awareness in a selected community

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## ABSTRACT

**Background:** As burden of diabetes is increasing in India, so are the foot problems associated with it. Diabetic foot conditions leading to amputation are just tip of the iceberg. Patients do not present early with the complaints, hence resulting in complications. Awareness of foot care is essential in diabetes management. This prompted us to know how much is the foot care awareness among diabetic patients.
**Methods:** This cross-sectional study was done in 120 diabetic patients selected by purposive non probability sampling method from OPD in a teaching hospital. All the patients were given a pretested questionnaire related to foot care. Total 10 questions were given each scoring one point. Patients scoring above 5 were considered good score and less than 5 were considered poor score. History of foot ulcers and present foot ailments was also taken along with these for correlation with awareness. Data was analysed by descriptive and inferential statistics.
**Results:** Among the 120 patients, 92 (76.6%) had good knowledge and 28 (23.3%) had poor knowledge of foot care. Among the 92 patients who had good knowledge, 35 (38%) followed foot care precautions, 57 (61.9%) did not follow. Of the 57 patients 8 (14%) had foot ulcers presently. Among 28 patients with poor knowledge of foot care, 10 (35.7%) had present history of foot ulcers.
**Conclusions:** Education in diabetic foot care and insisting on practising them on daily basis is essential to lower the incidence of grave diabetic foot conditions which may result in amputation. Prevention of foot problems by self-precautions in patients would definitely lower the complications and the financial burden.

**Keywords:** Diabetic foot, Foot care, Foot ulcer, Knowledge

## INTRODUCTION

India is estimated to have 61.3 million diabetics, which is projected to cross 100 million by the year 2030.[1] Furthermore, amputations due to diabetic foot ulcer are characterized by loss of productivity, which adds to the economic burden of diabetes.[2] The prevalence of diabetic foot ulcer among outpatient and inpatient diabetics in a rural Indian study was found to be 10.4%.[3]

Approximately 15% of individuals with diabetes have had an ulcer on the foot or ankle. Diabetes is estimated to be the primary causative factor in 45% of all lower extremity amputations, with 60% of non-traumatic amputations being the result of long-term complications of diabetes. This percentage increases the longer one has had diabetes.[4,5] The common component causes of diabetic foot ulcer formation are trauma, neuropathy and deformity.[6]

Furthermore, the practice of diabetic foot care including daily foot examination and use of appropriate footwear is considered important in its early detection and prevention of complications. People with poor knowledge and practice regarding diabetic foot care are known to have a higher incidence of diabetic foot ulcers.[7]

Education and awareness of diabetic foot care pathway and the existing foot care measures that are intended to control them are paramount in foot ulcer prevention strategies. Hence, this study was done to assess the awareness among people with diabetes.

## METHODS

This was a cross-sectional study done in diabetes patients attending regular OPD in Sri Muthukumaran Medical College and Hospital from September 2020 to October 2020 after obtaining ethical committee approval. There were 120 diabetic patients between the 40-80 years enrolled in the study by purposive non-probability sampling method.

### *Inclusion criteria*

Patients with diabetes with or without foot ulcers.

### *Exclusion criteria*

Diabetic patients who were extremely ill with nephropathy or cardiac complications.

All the patients were given a structured questionnaire after taking consent. The questionnaire had 10 questions related to foot care which are crucial in prevention of foot problems. Each question had to be answered simply as yes or no. All yes answers were given a score of 1. At the end total score was analysed as good knowledge of diabetic foot care if it was 5 or more and poor knowledge if the score was below 5.

The patients' demography, history and duration of diabetes, past history of foot ulcer, recurrent foot ulcer and present history of foot ulcer were also included while analysing the results. The data was analysed by descriptive and inferential statistics.

## RESULTS

This study was a cross sectional study conducted in the OPD of a tertiary care centre. Among the 120 patients, 54 were male and 66 female (Figure 1).

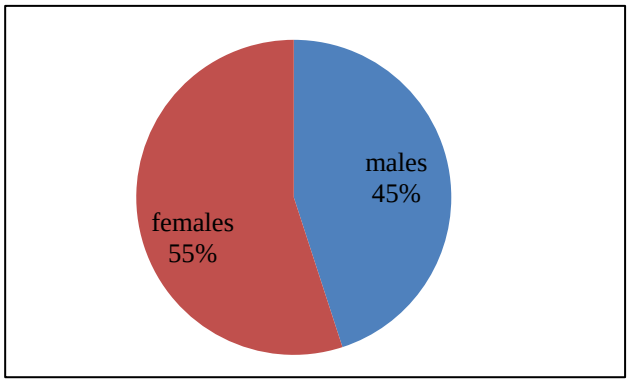


**Figure 1: Gender distribution.**

92 (76.6%) had good knowledge and 28 (23.3%) had poor knowledge of foot care. So 76.6% of people were aware of the foot care needed to be taken on regular basis, in terms of inspection of the feet, moisturizing the feet, avoiding bare foot walk, keeping the feet dry and avoiding self-treatment for corns (Figure 2).

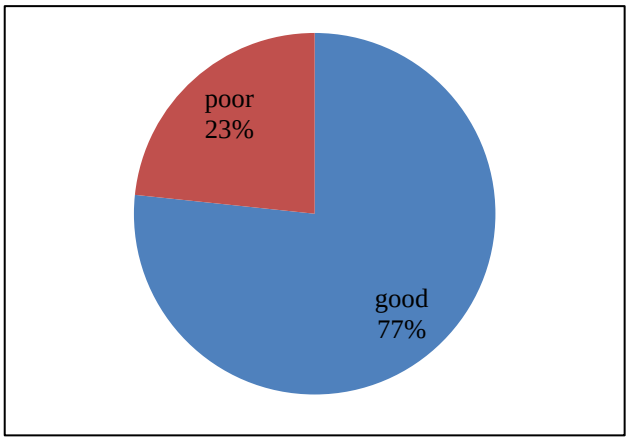


**Figure 2: Knowledge of foot care.**

Among the 92 (77%) patients who had good knowledge, 35 (29.1%) followed foot care precautions, 57 (47.5%) did not follow. Inference is even though 77% of the patients were very much aware of foot problems, a large number of them were not implementing it on their foot (Figure 3).

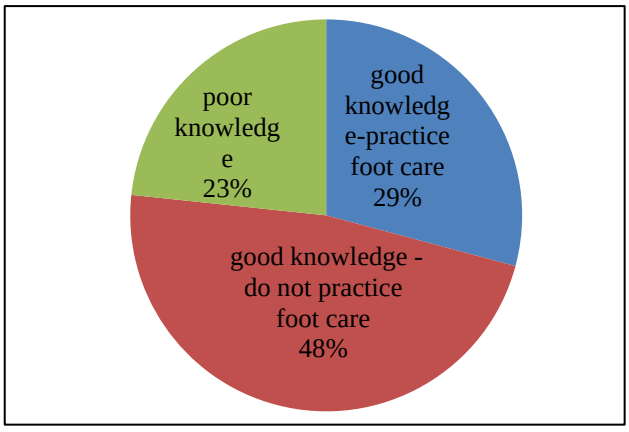


**Figure 3: Practice of foot care.**

Of 35 patients who followed foot care practices, 9 people started following foot care after previous foot ulcer or operated foot. 10 of 35 were following without any foot problems. So people tend to be more careful once they experience a foot problem and then start to follow the precautions. None of them had foot ulcer presently.

Of the 57 patients who were aware of foot care practice but not practicing the same, 8(9%) had foot ulcers presently. Remaining 49 had no ulcer presently (Figure 4).

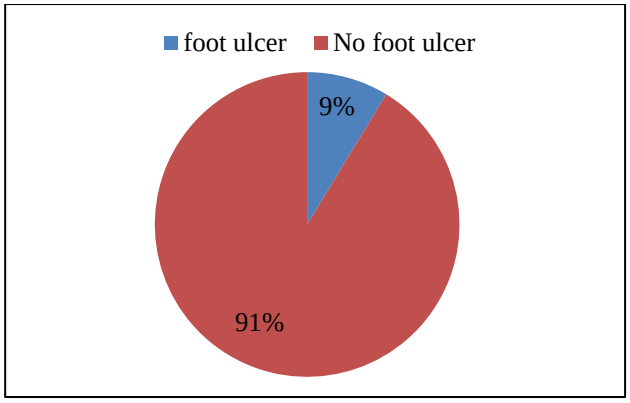


**Figure 4: Present history of foot ulcer in patients with good knowledge.**

Among 28 patients with poor knowledge of foot care, 10 (35.7%) had present history of foot ulcers (Figure 5).

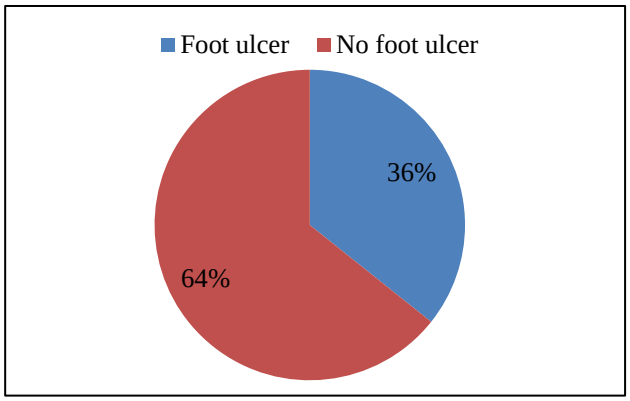


**Figure 4: Patients with poor foot knowledge.**

Hence the percentage of people with foot ulcers in the group who were aware of foot care knowledge was only 9% compared to 36% in patients with poor knowledge of foot care. This percentage can even be further reduced by educating all the patients about foot care as early as they are diagnosed with diabetes.

## DISCUSSION

Present study was a cross sectional study in patients with diabetes in a tertiary care hospital. Among the enrolled 120 patients, 55% were females and 45% were males. 77% of patients had good knowledge of foot practice whereas 23% of patients had poor knowledge. Among those 77% with good knowledge, 29% followed foot care precautions but 48% did not follow. This finding was comparable with other related studies, which also reported the same pattern of scoring for knowledge and practice of foot care; the score of practice was always poorer than the score of knowledge.[8-10]

Among the patients with good knowledge 9% had present history of foot ulcer, whereas among the patients with poor knowledge, 36% had foot ulcer. Diabetic sensory neuropathy which leads to loss of touch, heat and cold sensation is the commonest cause of foot problems. Patients do not realise the damage or injury and this further is aggravated by poor healing due to reduced blood supply.

Hence, to follow foot care must be an essential day to day activity in diabetic patients. They must inspect the feet for cuts, blisters, redness, swelling or nail problems. They must never use hot water but wash their feet in luke warm water. One should be gentle while washing the feet and dry them between toes. Use of moisturiser prevents itching of the dry skin but should not be used between the toes. They must cut their nails carefully straight across and not too short. They should never do self-surgery for corns and calluses. They must wear clean and dry socks. They must shake out their shoes and feel for any foreign body inside before wearing them. They should never walk bare foot. Most important of all they must get their foot regularly examined by foot and ankle surgeon to prevent foot complications.

Keeping the interdigital space dry by applying talcum and avoiding application of lotion was also important to prevent fungal infections as part of foot care hygiene.[11]

Limitation of the study was that we did not go into details of deformity of the legs, and the data was compiled on patient's history not through previous case records. Robust data with more variables can be attempted in future.

## CONCLUSION

In conclusion, we should stress more on foot care when counselling a patient with diabetes. Foot care education modules must be developed and mass education must begin for the same through media and hand outs and no more people with diabetes should lose their leg due to diabetic non healing foot ulcers due to non awareness of the same.

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