



ORIGINAL RESEARCH PAPER

Diabetology

ASSESSMENT OF RISK FACTORS FOR FOOT COMPLICATIONS IN TYPE 2 DIABETES MELLITUS FOR GIVING FOOT CARE EDUCATION TO PATIENTS

KEY WORDS: Diabetes foot complications, foot ulcer, risk factors, patient education

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ABSTRACT

Diabetes foot complications constitute an increasing public health problem. One of the key complications of diabetes includes diabetic foot 1-3. In addition to causing pain and morbidity, foot lesions in diabetic patients also have substantial economic consequences, besides the direct cost of foot complications, there are also indirect costs relating to loss of productivity and health related quality of life. This study aims to assess the risk factors for development of diabetic foot complications. Early Detection will help to reduce the mortality and morbidity. Educating the patients about foot care practices will lead to prevention of development of foot ulcer thereby reducing the economic burden associated with the complication⁴.

INTRODUCTION

Diabetes foot complications constitute an increasing public health problem. One of the key microvascular complications of diabetes includes diabetic foot. In addition to causing pain and morbidity, foot lesions in diabetic patients also have substantial economic consequences, besides the direct cost of foot complications, there are also indirect costs relating to loss of productivity and health related quality of life. The lifetime risk of a person with diabetes developing a foot ulcer could be as high as 25%, whereas the annual incidence of foot ulcers is ~2%. It is believed that every 30 seconds a lower limb is lost somewhere in the world as a consequence of diabetes. Syndrome of diabetic foot is due to Peripheral neuropathy, Peripheral vascular disease and Tissue Infections. Risk factors for development of foot ulcers in diabetes are as follows Past foot ulcer, Peripheral neuropathy, Foot deformity, Peripheral Vascular disease, Visual impairment, Diabetic nephropathy (especially patient on dialysis), Poor glycemic control, Cigarette smoking. Patient should have good knowledge of foot care practice to prevent development of foot ulcer. The purpose of this study is to know the clinical profile of diabetic foot and assess the risk factors for development of diabetic foot complications so as to detect it early and reduce the mortality and morbidity by educating the patients about foot care practices thereby reducing the economic burden associated with the complication.



Sources: Diabetes OPD, DY Patil Hospital, Navi Mumbai
Figure 1: VPT (Vibration Perception Threshold)

Table 1: Awareness Of Foot Education

Awareness Of Foot Education	Number Of Cases	Percentage
YES	4	20.0

NO	16	80.0
TOTAL	20	100.0

CASE STUDY

A non-interventional observational study was conducted on 20 IPD/OPD patients of Type 2 diabetes mellitus at a tertiary care center, Dr D. Y. Patil Hospital, Nerul, Navi Mumbai. The study was done by filling a questionnaire about awareness of risk factors for diabetic foot, socio-demographic data, clinical local foot examination and Vibration Perception Threshold Testing for all type 2 diabetic patients.

RESULTS

The largest percentage of the studied patients were females age less than 65 years old (60%) followed by males age less than 65 years (40%), presented with chief complaints of Neuropathic positive symptoms - Burning pain (70%) and Neuropathic negative symptoms – Numbness (50%), Tingling sensation (30%), Education status up to level of basic and secondary (60%), higher secondary (15%), graduation (20%), postgraduation (5%), non-workers (50%). The largest percentage had the following risk factors for diabetic foot: poor footwear (95%), poor glycemic control (95%), obesity (65%), sedentary lifestyle (65%), hypertension (40%), dyslipidemia (20%), insulin treatment (10%) and higher value of HbA1C >10 (40%), 7-8(30%), 9-10(15%), <7(10%), 8-9(5%). Higher value of HbA1c, more was the impairment of VPT – mild (30%), moderate (10%), severe (25%) indicating higher diabetic foot risk. Out of all patients, 80% of the individuals had no awareness of diabetic foot education, only 20% had awareness about diabetic foot complications.

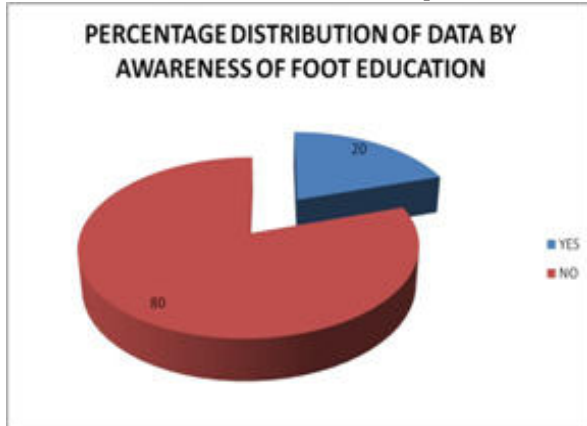


Figure 2: Awareness of Foot Education

CONCLUSIONS

Most of the patients did not have any awareness of high risk associated with diabetic foot. It was significantly associated with low education status, occupation, prolonged duration of disease, sedentary lifestyle, poor footwear, insulin treatment. Patients who were not aware about risk factors related to diabetic foot and its complications were counselled. Those patients with higher risk of diabetic foot complication and impaired VPT were also referred to a podiatrist. Improving foot care knowledge and practice will be the foundation of curbing diabetic foot disease and subsequent amputation. Findings from this study can be used in implementing health education programs on foot care for diabetic patients to improve their knowledge and practice.

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