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A study to assess the high risk of diabetic foot among diabetic patients living in selected area at Nellore, A.P.

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Abstract

Background: Diabetic foot complications are the most common cause of non-traumatic lower extremity amputations in the industrialized world. The risk of lower extremity amputation is 15 to 46 times higher in diabetics than in persons who do not have diabetes mellitus. Furthermore, foot complications are the most frequent reason for hospitalization in patients with diabetes, accounting for up to 25% of all diabetic admissions in the United States and Great Britain.

Aim: The aim of the study was to assess the high risk of diabetic foot among diabetic patients.

Objectives:

1. To determine the high risk of diabetic foot among diabetic clients.
2. To find out the association between demographic variables and high risk of diabetic foot among diabetic clients.

Methodology: 100 patients with diabetes living Manubolu Village at Nellore were selected by using random sampling method.

Results: Regarding the high risk of diabetic foot among diabetes mellitus patients, 22(22%) had low risk, 73(73%) had moderate risk and 5(5%) had high risk of diabetic foot.

Keywords: High risk, diabetic foot, diabetic patients

Introduction

Diabetes mellitus is a chronic multisystem disease related to abnormal insulin production, impaired insulin utilization or both. Diabetic ulcers are the most common foot injuries leading to lower extremity amputation. One of the most neglected areas is diabetic foot care in our country. Patients suffering from “diabetic foot” only five decades back, lost hope of survival [1].

Diabetics are prone to foot ulcerations due to both neurologic and vascular complications. Peripheral neuropathy can cause altered (or) complete loss of sensation in the foot and / or leg. Similar to the feeling of a “fat lip” after a dentist’s anesthetic injection the diabetic with advanced neuropathy loses all sharp-dull discrimination. Any cuts or trauma to the foot can go completely unnoticed for days or weeks in a patient with neuropathy. It’s not uncommon to have a patient with neuropathy tell you that the ulcer “just appeared” when in fact, the ulcer has been present for quite some time. There is no known cure for neuropathy, but strict glucose control has been shown to slow the progression of the neuropathy [2].

It is widely felt that development of “foot ulceration not only disturb the life of a patient but also the quality of existence”. Family physicians have an integral role in ensuring that patients with diabetes service early and optimal care or skin ulcers. Unfortunately, several studies have found that primary care physicians infrequently perform foot examinations in diabetic patients during routine office visits. The feet of hospitalized diabetics may also be inadequately evaluated [3].

Careful inspection of the diabetic foot on a regular basis is one of the easiest, least expensive and most effective measures for preventing foot complications. Appropriate care of the diabetic foot requires recognition of the most common risk factors for limb loss. Many of these risk factors can be identified based on specific aspects of the history and a brief but systematic examination of the foot [4].

Need for the Study

Diabetic foot complications are the most common cause of non-traumatic lower extremity amputations in the industrialized world. The risk of lower extremity amputation is 15 to 46 times higher in diabetics than in persons who do not have diabetes mellitus. Furthermore, foot complications are the most frequent reason for hospitalization in patients with diabetes,

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accounting for up to 25% of all diabetic admissions in the United States and Great Britain. The vast majority of diabetic foot complications resulting in amputation begin with the formation of skin ulcers. Early detection and appropriate treatment of these ulcers may present up to 85% of amputations. Indeed, one of the disease prevention objectives outlined in the “Healthy people 2000” project of the U.S Department of Health and Human Services is a 40% reduction in the amputation rate for diabetic patients [5].

The results of cross-sectional community surveys in the UK showed that 5.3% (type 2) and 7.4% (type 1 and 2 combined) of people with diabetes had a history of active or previous foot ulcer. An annual incidence of 2.2% was found in a large community in the UK, and up to 7.2% in patients with neuropathy. The incidence of major amputation was between 0.5 and 5.0 per 1,000 people with diabetes [6].

Patients with foot ulcers, 67.0% were neuropathic, 26.3% were neuro ischemic 1.0% were ischemic, and 5.7% had no identified underlying factors. Peripheral neuropathy is a common complication of diabetes, affecting >30% of the diabetic population. Foot ulcers will occur in 5-10% of the diabetic population upto 3% will have a lower-limb amputation. 15% of the diabetic patients develop ulcers, 15% of ulcers develop osteomyelitis and 15% of ulcers result in amputation [7].

Chaowei (2017) conducted a cross sectional hospital based study in urban China on prevalence of chronic complications of type 2 diabetes mellitus among OPD patients total of 1524 with type 2 diabetes mellitus. The findings revealed that the prevalence of cardiovascular and cerebrovascular conditions, neuropathy, nephropathy, ocular lesions and foot disease were 30.1%, 6.8%, 17.8%, 10.7%, 14.8% and 0.8% respectively and the study concluded that chronic complications are highly prevalent among type 2 diabetic out patients, the glycemic control of diabetic patients with chronic complications are poor.⁸

Statement of Problem

A study to assess the high risk of diabetic foot among diabetic patients living in selected area at Nellore, A.P.

Objectives

- To determine the high risk of diabetic foot among diabetic clients.
- To find out the association between demographic variables and high risk of diabetic foot among diabetic clients.

Delimitations

- Patients with diabetes and living Manubolu Village at Nellore.
- Sample size of 100

Methodology

Research approach

A quantitative approach was adopted to determine the research study.

Research Design

The present study was conducted by using descriptive research design

Setting of the Study

The setting of the study was Manubolu Village at Nellore.

Population

Target population

The target population for this present study includes all patients with diabetes.

Accessible Population

The accessible population for the present study includes patients with diabetes living Manubolu Village at Nellore, and who fulfilled the inclusion criteria.

Sample

The sample for the present study was patients with diabetes living Manubolu Village at Nellore.

Sample Size

The sample for the present selected from 100 patients with diabetes.

Sampling Technique

Probability random sampling technique was adopted for this study.

Criteria for Sampling Selection

Inclusion criteria

- Patients with diabetes available at the time of data collection.
- who are willing to participate
- A sample size of 100 only

Exclusion criteria

- Those who have other systemic diseases.
- Persons those who are not willing to participate in the study.

Description of The tool

Part-I: It deals with socio demographic variables: Age, sex, education, occupation, income, religion, family history and duration of diabetes.

Part-II: An observational checklist to assess the dermatological signs, musculoskeletal signs, neurological and vascular signs. There were 25 questions and the total score was 25.

Score Interpretations

S.no	Score	Criteria
1.	0-8	Low risk
2.	9-16	Moderate risk
3.	17-24	High risk

Data Analysis and discussion

Table 1: Frequency and Percentage distribution of level of risk of diabetic foot among diabetic patients. (N=100)

Level of risk	Frequency(F)	Percentage (%)
Low risk	22	22
Moderate risk	73	73
High risk	5	5
Total	100	100%

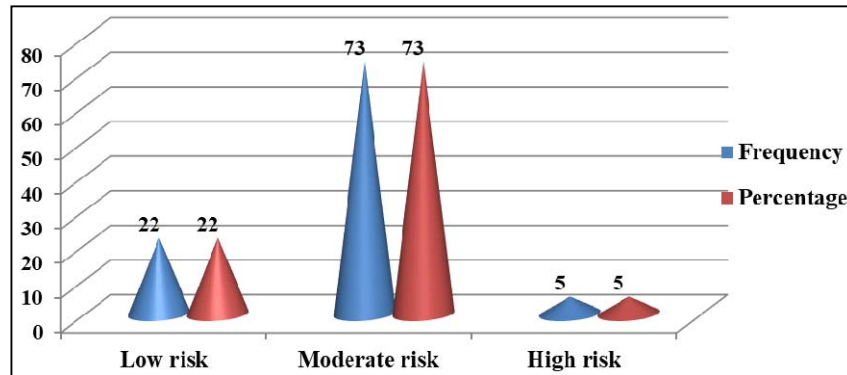


Fig 1: Percentage distribution based on level of risk among diabetic patients.

Table 2: Mean and Standard Deviation of level of risk among diabetic patients. (N=100)

Level of risk	Mean	SD
Diabetic patients	11.27	3.479

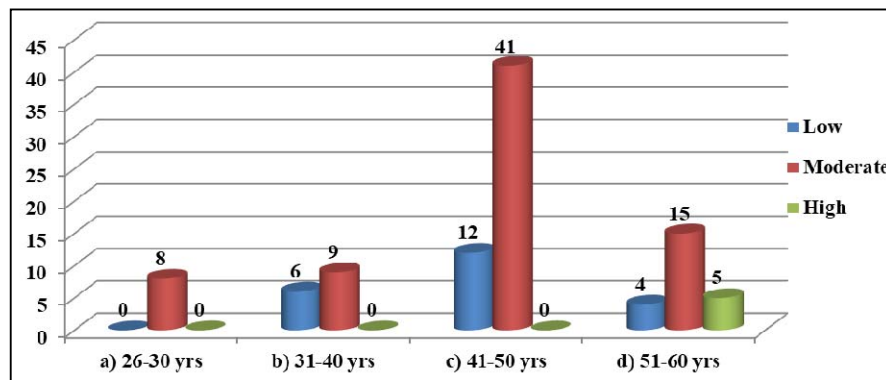


Fig 2: Association between age and high risk of diabetic foot among diabetic clients.

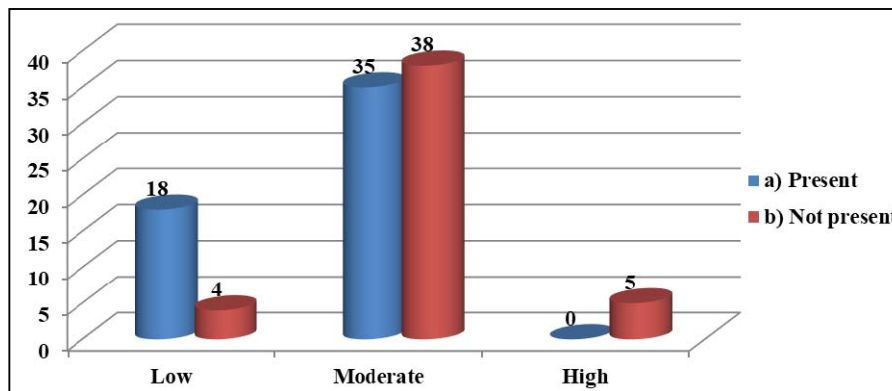


Fig 3: Association between family history of diabetes mellitus and high risk of diabetic foot among diabetic clients.

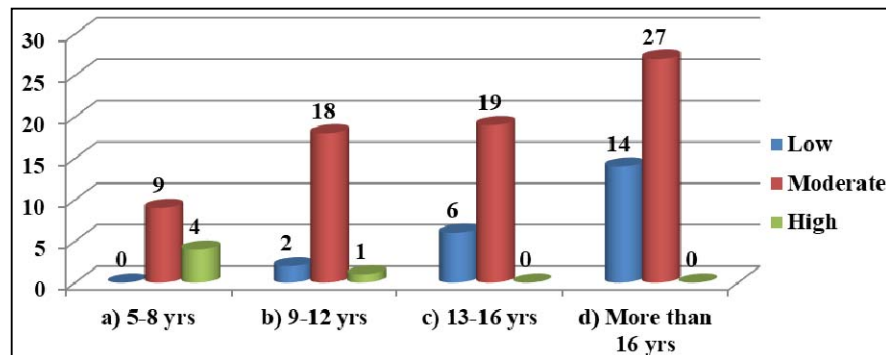


Fig 4: Association between duration of diabetes and high risk of diabetic foot among diabetic clients.

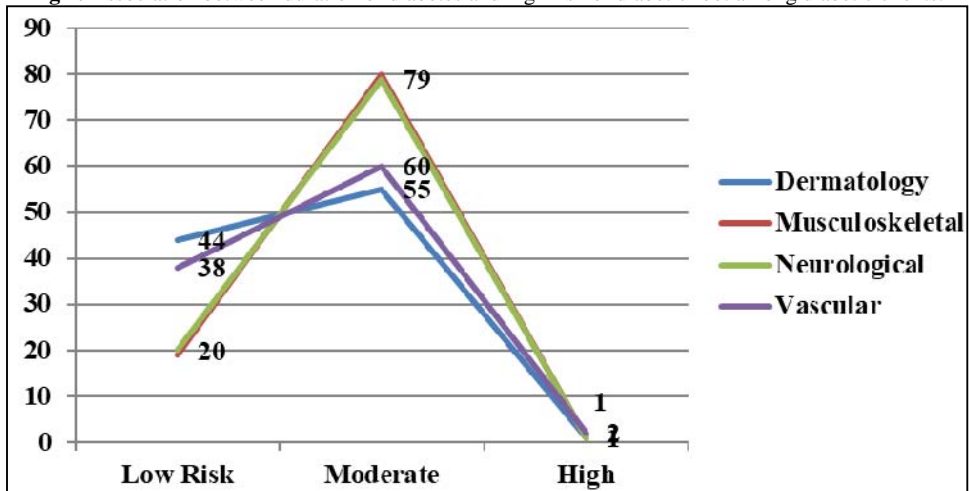


Fig 5: System wise analysis of risk rate of diabetic foot among diabetic clients.

Major findings of the study

- Regarding the high risk of diabetic foot among diabetes mellitus patients, 22(22%) had low risk, 73(73%) had moderate risk and 5(5%) had high risk of diabetic foot.
- The mean risk score of diabetic patient’s was 11.27 and standard deviation was 3.479.
- Regarding association between level of risk score and demographic variables, age, family history of diabetes and duration of diabetes had significant association at $P < 0.05$ level.

Conclusion

The study concluded that majority of diabetic patient’s (73%) had moderate risk for developing diabetic foot.

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