ORIGINAL ARTICLE

Awareness of Foot Care among Diabetic Patients Presenting at Services Hospital, Lahore

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ABSTRACT

Background: Diabetes is a chronic disease with a number of complications. Diabetic foot being one of them can lead to loss of limb and life. It may also lead to physical, psychological and economical loss not just for patient but family also.

Aim: To evaluate the awareness and practice of foot care among diabetic patients presenting to us at a tertiary care center of Lahore.

Methods: We performed a prospective study over a 6 month period from Oct 2018 to March 2019. A 100 consenting diabetic patients were included in our study. We recorded the patients' socio-demographic characteristics, the time since onset of diabetes, the medical history and the educational level. A total of 15 questions were asked from the patients and their response to the questions was recorded. All data was recorded and stratification for variables was done using SPSS version 22.

Results: A total of 100 patients were included in our study. 47 were female and 53 were male. The mean age of the patients was 52.06 +/- 13.49 years. 51 patients were educated while 49 patients were illiterate. (Educated being considered at least 5 years of education). Out of 100 patients , 54 patients had good practice regarding the diabetic foot whereas 46 had poor diabetic foot care practice. When stratification for variables was done it was found that age of the patient and direct education by health care provider were the most significant factors which influenced the awareness of the patients regarding the diabetic foot.

Conclusion: It appears that the awareness of the diabetic patients regarding the potentially life and limb saving knowledge regarding care of the feet remains wanting. Evidence that the direct education from health care provider is significant in increasing awareness should encourage all medical personnel involved in the management of diabetic patients to educate their patients in this regard.

Keywords: Diabetes, diabetic foot, foot care practice, awareness

INTRODUCTION

Diabetes includes a group of diseases. These diseases of metabolic origin share a common characteristic of having elevated blood glucose levels as a result of problems in secretion, action or both of insulin. The severity of disease depends on type and duration of diabetes. Patients with type 2 diabetes are usually asymptomatic, especially during early stage of disease. The symptoms such as polyuria, polydipsia, polyphagia, weight loss, and blurred vision may appear gradually. Failure to treat these conditions may lead to chronic disease. Uncontrolled diabetes leads to the formation of generalized atherosclerosis which effects the heart, brain, limbs and kidneys. Type 1 diabetes usually presents with early symptoms and mostly in younger age group. It may lead to early stupor, coma and death if untreated[1].

The global prevalence of diabetes in adults (20-79 years old) according to a report published in 2017 by the IDF was 8.8% (425 million people out of 7.5 billion), half of them remain unaware of their disease.[2] According to WHO statistics, 9.8% of the population of Pakistan suffers from diabetes of which 10% are male and 9.7% females[3].

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Diabetes leads to diabetic foot formation. This is due to the combination of neuropathy and peripheral arterial disease. This leads to the increased risk of foot ulcers, which if not adequately managed may lead to diabetic foot[4]. It occurs in nearly 6% of diabetic patients and includes spectrum of conditions such as infection, ulceration, or gangrene[5]. Diabetic foot disease poses a major challenge for the healthcare system in any society, with enormous physically, psychological and economic consequences for the people and their families living with diabetes. It affects both quality of life and quality of care[6]. Diabetic foot can severely affect quality of life and may lead to limb amputation or death[7]. It has been documented that good foot care and screening to assess the risk for foot complications can lead to reduction in diabetic foot complications[8,9].

Previously researchers have evaluated the awareness of diabetic patients regarding diabetic foot, however, extensive literature regarding local population is lacking in this regard. We carried out this study to evaluate the awareness and practice of diabetic foot care among diabetic patients presenting to our setup.

METHODS

We performed a prospective study over a 6 month period from Oct 2018 to March 2019. We identified all diabetic patients hospitalized in our ward.

The inclusion criteria were as follows; the provision of consent by the patient, age 18 or over and the diagnosis of diabetes being established. A 100 consenting diabetic patients were included in our study. We recorded the patients' socio-demographic characteristics, the time since onset of diabetes, the medical history and the educational level. A total of 15 questions were asked from the patients and their response to the questions was recorded. The practice of foot care was considered good if they answered at least 7 or more questions positively (out of 15). All data was recorded and stratification for variables was done using SPSS version 22. We analyzed various factors which can influence the level of knowledge regarding the risks of diabetic foot. Quantitative variables were expressed as mean ± standard deviation (SD). Qualitative variables were expressed as the percentage and the frequency. We used a Chi-squared test to compare percentages and a Student's *t* test to compare means. A *P*-value <0.05 was considered to be statistically significant.

RESULTS

A total of 100 patients were included in our study. 47 were female and 53 were male. The mean age of the patients was 52.06 +/- 13.49 years. 51 patients were educated while 49 patients were illiterate. (Educated being considered at least 5 years of education). Out of 100 patients, 54 patients had good practice regarding the diabetic foot whereas 46 had poor diabetic foot care practice. When stratification for variables was done it was found that age of the patient and direct education by health care provider were the most significant factors which influenced the awareness of the patients regarding the diabetic foot.

Figure 1: Practice of foot care (n= 100)

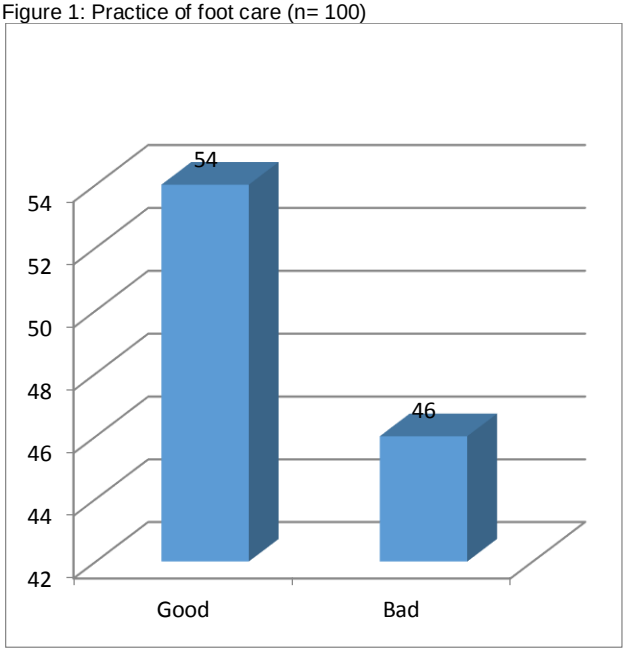

Table 1: Breakdown of responses to questionnaire

QN	Description	Answer	
		YES	NO
1	Do you wash feet daily?	75	25
2	Do you use warm water to wash?	59	41
3	Do you check the water temperature before using it?	54	46
4	Do you dry your feet after wash?	40	60
5	Do you use talcum powder in inter-digital space?	40	60
6	Do you use lotion/oil to keep feet soft?	44	56
7	Do you change socks daily?	36	64
8	Do you trim nails regularly?	42	58
9	Do you check your feet daily yourself?	41	59
10	Do you ask some attendant to check your feet?	43	57
11	Do you wear comfortable shoes?	62	38
12	Do you check shoes before wearing them?	49	51
13	Do you walk bare footed?	23	77
14	Do you know warning signs for which consultation should be sought?	38	62
15	Do you know how to avoid ulcers?	36	64

Table 2: Stratification of variables

Variable	Practice of foot care		P value
	Bad	good	
Gender			
Male	22	25	1.000
Female	24	29	
Education status			
Literate	19	32	0.1080
Illiterate	27	22	
Direct education by health care provider regarding diabetic foot			
Educated	27	16	0.0046
Uneducated	19	38	
By duration of disease			
Less than 5 years	14	20	0.5306
More than 5 years	32	34	
By age of patient			
Less than 45	9	24	0.0105
More than 45	37	30	

DISCUSSION

We included 100 diabetic patients in our study. On the basis of our study we found that only 54 % of diabetic patients had good knowledge and practice of foot care. The mean age of the patients was 52.06 +/- 13.49 years.

In our study 47 patients were female and 53 patients were male. It has been reported that men in Eastern, Middle and Southern Africa had a significantly higher prevalence of impaired fasting glycaemia and a lower prevalence of impaired glucose tolerance. Although the overall prevalence of diabetes mellitus did not significantly differ by sex[10]. However our sample size is too small to confirm these findings in our population. But it is important to consider it since it has been reported that diabetic men are more likely to have diabetic foot complication. Furthermore considering our conservative society where men are the breadwinners in the majority of the households, an amputation leads to suffering not just of the individual rather the whole household[11]. However we found no statistically significant difference in the practice of foot care in these two groups.

The percentage of patients who had good practice of diabetic foot care is variable in different studies. It has been report from 29. 3 to 87.8%[12 ,13].

In order to prevent the complications of diabetic foot and allow early detection of such complications the practice of foot care measures such as daily foot washing and drying, daily foot examination, proper nail care, and footwear are important. It has been reported that the incidence of diabetic foot complications is higher in patients with poor knowledge and practices about diabetic foot care[14].

Although a number of studies have shown that the education level of the patient is related with the awareness regarding the diabetes and diabetic foot care, our study failed to show any statistically significant relation between the two. [15-17] However a recently carried out study of 157 patients showed no association[18].

When stratification for variables was done we found that the age of the patient and direct education by health care personal were the statistically significant variables. This finding is in agreement with previous studies done in UK by Lincoln, South Africa by Ralineba et al., Sri Lanka by Jeewanta, India by Saurabh and Bangladesh by Saleh et al[19-21].

Our finding that the duration of the disease does not strangely effect the knowledge is in line with the findings of other researchers. However age of the patient did have a significant effect with the younger patient (<45 years) being more aware of the foot care was also demonstrated by other studies[20,21].

CONCLUSION

In view of the data collected by our study it appears that the awareness of the diabetic patients regarding the potentially life and limb saving knowledge regarding care of the feet remains wanting. Education level and gender not being related to this. Evidence that the direct education from health care provider is significant in increasing awareness should encourage all medical personnel involved in the management of diabetic patients to educate their patients in this regard.

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