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RESEARCH ARTICLE

Knowledge, Attitude and Practice of Diabetic Patients about Their Foot Care in Rural Thrissur, Kerala

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Abstract

INTRODUCTION

Kerala is the diabetic capital of India with a prevalence of diabetes as high as 20%. Diabetic foot is one of the most significant and devastating complication of diabetes. Good knowledge and practice regarding foot care will reduce the risk of diabetic foot complication.

OBJECTIVE

To assess the knowledge, attitude and practices among the diabetic patients regarding their foot care and the factors associated with it.

METHODS

A community based cross sectional study was conducted in 2019 August. 101 known cases of diabetes mellitus from Thrikkur Panchayath, Thrissur were included in the study. Knowledge, attitude and practice regarding foot care were assessed using self-administered, pre- tested, structured questionnaire. The level of knowledge and practice, whether good, satisfactory or poor, was determined based on the median score of each category. Data were analysed using SPSS 23.

RESULTS

The mean age of respondents was 62 ± 14.15 years. 29% of diabetic patients had good knowledge, 44% had satisfactory knowledge and 27% had poor knowledge regarding their foot care. 34% had good practice, 31% had satisfactory practice and 35% had poor practice of their foot care. Education (P=0.01) had shown significant statistical association with knowledge of diabetic foot care. Gender (P=0.01), occupation (P=0.01) and education (P=0.01) had shown significant statistical association with practice of diabetic foot care.

CONCLUSION

More than half of the diabetic patients have knowledge about their foot care**.** But it is not that much reflecting in their foot care practices. So practice regarding diabetic foot care should be strengthened through Information Education and Communication and Behaviour Change Communication activities.

Keywords: Diabetes Mellitus, Diabetic foot, Foot care

1 | INTRODUCTION:

Diabetes Mellitus is a chronic metabolic disease characterised by elevated levels of blood glucose (or blood sugar), which leads over time to serious damage to heart, blood vessels, eyes, kidneys and nerves[1]. The most common is type 2 diabetes, usually in adults, which occurs when the body becomes resistant to insulin or doesn't make enough insulin. In the past three decades the prevalence of type 2 diabetes has risen dramatically in countries of all income levels[1].Diabetes mellitus (DM) is a major systemic disease affecting 422 million people in the world[2].India is having most number of patients of DM in the world with the prevalence rate of 8.9% in adult population[3]. Kerala is the diabetes capital of India with a prevalence of diabetes as high as 20% – double the national average of 8%[4]. Diabetic foot is one of the most significant and devastating complications of diabetes mellitus.In India, the prevalence of diabetic foot ulcers in the clinic population is 3.6%[5].

Diabetic foot is defined as a foot affected by ulceration that is associated with neuropathy and/or peripheral arterial disease of the lower limb in a patient with diabetes[6]. It is characterized by a triad of neuropathy, angiopathy and trauma that will make the patients of DM more vulnerable to diabetic foot ulcer. All patients with diabetes are potentially at risk from diabetic foot. It is estimated that 15% of the patients suffering from DM will suffer from diabetic foot ulcer (DFU) in their lifetime[7]. Due to the lack of proper and aggressive treatment of DFU it may further progress to necrosis and gangrene and finally end up in limb amputation. Foot complications increase the risk for amputation in diabetics by 12.3 folds as compared to the normal population[8]. 3 Limb amputation is also associated with many socioeconomic consequences for patients like, loss of productive hours at inpatient department, permanent loss of income, decreased social acceptance etc. And also, following primary limb amputation, contralateral limb amputation after two years will be observed in nearly 9% of the patients and mortality is 14% in India[9].

Diabetic foot has great burden on the health system, as it is the commonest reason for hospitalization of diabetic patients (about 30% of admissions) and absorb some 20% of the total healthcare costs of the disease more than all other diabetic complications[10,11]. Most of the diabetic foot related problems are preventable if appropriate measures are taken.In India, the prevalence of diabetic foot ulcers in the clinic population is 3.6%.[9] The practice of foot care measures such as daily foot washing and drying, daily foot examination, proper nail care, and footwear are important with regard to prevention and early detection of the expected complications. Patients with poor knowledge and practices about diabetic foot care have a higher incidence of diabetic foot complications[12]. If the patient have adequate knowledge, they will be able to practice in order to prevent diabetic foot ulcer and further complications. So the study aims to assess the level of knowledge, attitude and practice of diabetic patients about their foot care and the factors associated with it.

2 | METHODS:

A community based cross sectional study was conducted at rural area of Thrikkur Panchayat, Thrissur, Kerala between the period August 2019 to October 2019. A total of 101 diabetic patients participated in the study. Sample size was calculated using, $n= 4pq/d^2$, where n= 96, considering the poor practice of diabetic foot care according to Pinakin et al[13]. After obtaining consent from the patient, a pre tested, pre designed structured questionnaire was given to them. The questionnaire consists of 23 questions on foot care Knowledge, Attitude and Practice. Score of 1 was given for correct response. The level of Knowledge, Attitude and Practice whether good, satisfactory or poor was determined based on the median score of each category. The quantitative vari-

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ables were expressed as mean, median and standard deviation. Categorical variables were expressed as proportion. Kruskal Wallis test was used to find association between variables after checking for normality. SPSS23 was used for data analysis.

RESULTS

A total of 101 diabetic patients were included in this study. Among the respondents, 57% (n= 58) were females & 43% (n= 43)were males. The mean age of the diabetic patients was 62.63 ± 14.1 yrs. Out of 101 patients, 43 (42.57%) patients belonged to the age group 51-65 years, 36 (35.64%) patients were from the age group 66-80 years, 14 (13.86%) patients belonged to the age group 36-50 years and 8 (7.93%) patients were 80 years and above age group. Majority of participants, n=44 (43.56%) had diabetes for 1-10years. 35 (34.65 %) participants had diabetes for 11-20 years, 17 (16.83%) patients had diabetes for 21-30 years and 5 (4.96%) were suffering from DM for 31-40 years. Most of the patients 39.61% (n= 40) are skilled workers, 38 (37.6%) diabetic patients are unemployed, 14 (13.86%) are doing clerical works and 9 (8.9%) are professionals. Most of the diabetic patients, n= 58(57.42%) had high school education, 20 (19.81%) patients had pre degree education, 12(11.88%) had middle school education, 8(7.92%) were graduates and 3(2.97%) had only primary education.Table 1

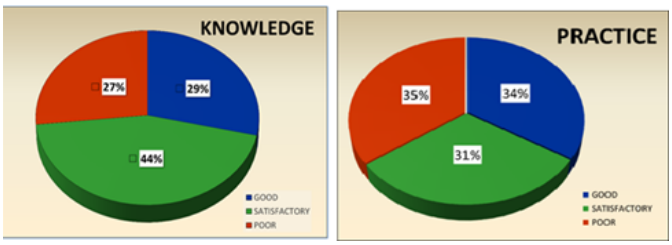

FIGURE 1: Fig 1: Distributionof the respondents according to the level of knowledge and practice (n=101)

29% had good knowledge, 44% had satisfactory knowledge and 27% had poor knowledge about diabetic foot care. 34% had good practice, 31% had satisfactory practice and 35% had poor practice for their foot care.Table 2

Education of the diabetic patients had significant association with knowledge of their foot care (p=0.01). Higher education patients had high median score for foot care; those with pre degree education and graduates had high median score than rest of the patients. Gender and occupation showed no significant association with knowledge of foot care. Gender (p=0.01), Occupation (p=0.01) and Education (p=0.01) showed significant statistical association with practice of diabetic foot care. Males had high median score for practice of foot care than females. Professionals had high median score for practice than rest of the patients. Graduates had high median score for practice than those with other levels of education.

3 | DISCUSSION:

The present study was conducted to assess the knowledge, attitude and practice of diabetic patients about their foot care. A total of 101 diabetic patients participated in the study. Regarding knowledge, 29% of diabetic patients had good knowledge, 44% had satisfactory knowledge and 27% had poor knowledge about their foot care. Similar findings were seen in the study of Seema et al[14] at Lahore which showed, 29.3% of diabetic patients had good knowledge, 40% had satisfactory knowledge and 30.7% had poor knowledge about their foot care. In another study of Pinakin et al[13], conducted at Gujarat showed 23% of diabetic patients had good knowledge, 50% had satisfactory knowledge and 27% had poor knowledge about foot care. Another study conducted at Iraq[15] showed 32.8% diabetic patients had good knowledge, 28.8% had satisfactory knowledge and 38.4% has poor knowledge.

In the present study, knowledge of diabetic patients about their foot care was significantly associated with education of the patient (p=0.01). Similar association can be seen in the study conducted at Lahore[14] where the knowledge increases with increase in education level. Another study conducted in India[12] also showed a significant association between knowledge of foot care and education of the patient. But in the study conducted at Malaysia[16], there was no association of education of diabetic patient with knowledge of foot care. And in the present study, gender and occupation of diabetic patients had showed no significant association with knowledge

TABLE 1: Socio-demographicvariables of diabetic patients (n=101)

	VARIABLE	FREQUENCY (%)
GENDER	Male	43(42.6)
	Female	58 (57.4)
AGE	36 – 50 years	14(13.86)
	51 – 65 years	43(42.57)
	66 – 80 years	36(35.64)
	> 80 years	8(7.93)
DURATION OF DIABETES MELLITUS	1 - 10 years	44(43.56)
	11 – 20 years	35(34.65)
	21 – 30 years	17(16.83)
	31 – 40 years	5(4.96)
OCCUPATION	Unemployed	38(37.62)
	Skilled	40(39.61)
	Clerical / shop	14(13.86)
	Professional	9(8.91)
EDUCATION	Primary school	3(2.97)
	Middle school	12(11.88)
	High school	58(57.42)
	Pre degree	20(19.81)
	Graduate	8(7.92)

TABLE 2: Relationship of knowledge and practices about foot care with Gender, Occupation and Educational status(N=101)

VARIABLE	CATEGORY	MEDIAN SCORE (IQR) KNOWLEDGE		MEDIAN SCORE (IQR) PRACTICE	
GENDER	Male	5 (1.75)	P = 0.11	4 (3.0)	**P = 0.01**
	Female	4 (2.0)		3(2.25)	
OCCUPATION	Unemployed	6(3.25)	P = 0.13	3(2.0)	**P =0.01**
	Skilled	7(4.0)		3(2.0)	
	Clerk/shop	7(2.0)		5(1.75)	
	Professional	7(1.0)		7(2.0)	
EDUCATION	Primary school	5 (0)	**P = 0.01**	3.5 (0)	**P =0.01**
	Middle school	5(2.75)		4 (2.0)	
	High school	6.5(4.0)		3 (3.0)	
	Pre degree	7(1.75)		4.5(3.75)	
	Graduate	7(1.0)		7(2.75)	

about their foot care.

Regarding the practice of foot care, 34% of diabetic patients had good practice, 31% had satisfactory practice and 35% had poor practice about their foot care. In the above mentioned study conducted at Gujarat showed majority of diabetic patients (51%) had poor practice, 33% had satisfactory practice and only 16% had good practice about their foot care.

In the study of Seema et al, only 14% of diabetic patients had good practice, 54% had satisfactory practice and 32% had poor practice of foot care. In the study conducted at Iraq showed 21.6% of diabetic patients had good practice, 40.0% had satisfactory practice and 38.4% had poor practice of foot care.

In our study, practice of diabetic foot care is significantly associated with gender (p= 0.01), occupation

(p= 0.01) and education (p= 0.01) of the diabetic patients. In the present study, males had high median score for practice of foot care than females. Professionals had high median score for practice than rest of the patients. Graduates had high median score for practice than those with other levels of education. Similar significant association of education with diabetic foot care practices was seen in the study of Seema et al[14] where practice level increases with increase in educational status. But in the study conducted at Malaysia[16] there was no association of education of diabetic patients with the practice of foot care.

4 | CONCLUSION:

In the present study it is shown that, more than half of the diabetic patients have knowledge about their foot care**.** But it is not that much reflecting in their foot car practices. Knowledge has shown significant statistical association with education of diabetic patients. Practice has shown significant statistical association with gender, occupation and education of diabetic patients. Our findings show the importance of increasing awareness about proper foot care practice among diabetic patients to reduce incidence of complications. So practice regarding diabetic foot care should be strengthened through Information Education and Communication and Behaviour Change Communication activities.

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