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Original Research Article

A study on self-care practices and dietary barriers among type 2 diabetes patients attending outpatient department in Karnataka Institute of Medical Sciences, Hubballi

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ABSTRACT

Background: Diabetes is a chronic, progressive disease characterized by elevated levels of blood glucose and is recognized as an important cause of premature mortality and morbidity. Self-care practice in diabetes patient is a critical factor to achieve glycaemic control thus in preventing or delaying its complications.
Methods: A cross sectional study was conducted among 140 type 2 diabetic patients attending the outpatient department in Karnataka Institute of Medical Sciences, Hubballi during the period of June-July 2018. Diabetic patients diagnosed more than 3 months were included. Data was collected by interview method using pre-designed, pre-tested and semi-structured questionnaire which consists of information on socio-demographic data, diabetic profile, self-care practices and dietary barriers. Statistical analysis was done using SSPS package.
Results: This study showed that 67.9% of study participants were consuming diabetic diet, 17.1% practice exercise for more than 3 days a week, 93.6% were taking medication regularly, 15% practised foot care for >3times a week and 89.3% monitored their blood glucose regularly. The main barriers for dietary practices were lack of knowledge (24%) and lack of motivation (18%). Compliance to diabetic diet was more among the urban population compared to rural (p=0.025).
Conclusions: Study concludes that the practice of self-care activities was poor in almost all aspects except for blood sugar monitoring and adherence to medication which necessitates the need to create awareness regarding self-care practices and its importance among diabetic patients.

Keywords: Diabetes, Self-care practices, Dietary barriers

INTRODUCTION

Diabetes is a chronic, progressive disease characterized by elevated levels of blood glucose and is an important cause of premature mortality and morbidity.[1] Diabetes caused 1.5 million deaths contributing about 4% of NCD deaths worldwide in 2012.[2] Globally, 422 million adults were living with diabetes in 2014. According to the International Diabetes Federation diabetes afflicts an estimated 69 million people in India, the second highest burden in the world after China.[3]

Diabetes, if not well controlled may cause micro and macro vascular complications like heart attack, stroke, blindness, kidney failure, lower limb amputation, vision loss, nerve damage and several other long-term consequences that impact significantly on quality of life.[4] Studies have shown lower limb amputation rates are 10 to 20 times higher among people with diabetes.[5]

Self-care practice in diabetic patient is a critical factor to achieve glycaemic control thus in preventing or delaying its complications.[6] Self-care in diabetes is an evolutionary process of development of knowledge or awareness by

learning to survive with the complex nature of diabetes in a social context.[7-8] The various self-care practices in diabetic patients include regular physical activity, appropriate dietary practices, compliance with the treatment regimen, monitoring of blood sugar and regular foot-care.[6] Diet barriers often lead to undesirable diet management, which attributes mostly to poor glycaemic control. Consistent evidence showed that patients with poorly controlled diabetes perceived more diet barriers compared with subjects with good glycaemic control.[9]

As 95% of the disease management is usually carried out by the affected individual or their families nevertheless, poor adherence to self-care practices in diabetes persists as a major public health challenge globally.[1,10] In developing countries like India, where the resources are limited, and treatment costs of diabetes are constantly increasing, the practice of self-care component among patients with diabetes may result in better economic and therapeutic outcomes.[11]

Considering all above facts and importance of self-care practices in diabetes management, the objectives of the present study are to assess the self-care practices and to identify the barriers for healthy dietary practices among type 2 diabetic patients.

METHODS

This is a cross sectional study conducted during the period of June to July 2018 to assess the self-care practices and to identify the barriers for healthy dietary practices among type 2 diabetes mellitus patients attending outpatient department of Karnataka Institute of Medical Sciences, Hubballi.

A sample size of 140 was calculated by taking the compliance to diabetic diet as 72% based on previous study, absolute precision as 8% and non-response rate as 10%.[12] Approval was obtained from the institutional ethical committee. Patients of type 2 diabetes mellitus diagnosed more than 3 months were included. Study participants were selected by convenient sampling. After obtaining the informed verbal consent data was collected using a predesigned, pretested and semi structured questionnaire by interviewing study participants in their own vernacular language. The questionnaire consists of information regarding socio-demographic data, diabetic profile, self-care practices and barriers for healthy dietary practices.

The data was entered in Microsoft excel worksheet and analysed using SPSS version 21. Statistical test like the chi-square test was used and $p<0.05$ was considered as statistically significant.

RESULTS

The mean age is 55.4±10.96 years. Out of 140 study participants, 78 (55.7%) were females, 113 (80.7%) were Hindus, 91 (65%) were from urban area, 35 (25%) were illiterates and 76 (54.3%) were unemployed/retired as shown in Table 1. 5.7% of study participants were smokers and alcoholics and 8.6% were tobacco chewers.

Table 1: Socio-demographic characteristics of study participants (n=140).

Si no.	Socio-demographic variables		Frequency	%
1.	Age (years)	<35	7	5
		35-45	19	13.6
		46-55	47	33.6
		56-65	42	30.0
		>65	25	17.9
2.	Gender	Male	62	44.3
		Female	78	55.7
3.	Religion	Hindu	113	80.7
		Muslim	24	17.2
		Christian	3	2.1
4.	Residence	Urban	91	65
		Rural	49	35
5.	Type of family	Nuclear	85	60.7
		Joint	31	22.2
		Three generation	24	17.1
6.	Literacy	Literates	105	75
		Illiterates	35	25
7.	Occupation	Employed	64	45.7
		Unemployed /retired	76	54.3

Table 2 shows diabetic profile of study participants. 43.6% of study subjects had diabetes for 2-8 years, 75.7% were on oral hypoglycaemic treatment and blood glucose level was high in 60.7% patients in their last blood glucose examination. 24.3% had history of diabetic related eye complication, 2.9% has kidney complications, 4.3% had foot ulcer and 3.6% had stroke. Hypertension (74%), obesity (12%), COPD (9%), asthma (3%) are the other co-morbidities present in the study participants.

Table 3 depicts the practice of self-care activities in study participants. 67.9% patients were consuming diabetic diet, 17.1% were practicing exercise for more than 3 days a week for at least 30 minutes, adherence to medication was seen in 93.6% of study participants. 15% of study participants practice foot care with respect to washing feet, drying in between toes, examining foot and checking inside surface of shoes for >3times a week, and 89.3% were undergoing regular blood glucose examination. 17.9% and 33.6% carry biscuits/sweet and identity card when they go out.

Figure 1 shows that majority (24.4%) of patients reported that lack of knowledge about diabetic diet as barrier for healthy dietary practice followed by lack of motivation (18.08%). 6.3% reported that family is not supportive in

following diabetic diet and 51.4% told that they cannot follow diabetic diet in social gathering.

Study shows that there was statistically significant association between the residence and religion with compliance to diabetic diet (Table 4).

Table 2: Diabetic profile of study participants.

Variables		Frequency (%)
Duration of diabetes (in years)	<2	28 (20)
	2-8	61 (43.6)
	>8	51 (36.4)
Type of treatment	Oral hypoglycemics	106 (75.7)
	Insulin	8 (5.7)
	Oral hypoglycemic and insulin	23 (16.4)
	Only diet control	3 (2.1)
Blood glucose level in their last examination	Normal	48 (34.3)
	High	85 (60.7)
	Low	7 (5)

Table 3: Diabetic related self-care practices among study participants.

Self-care practice component		Frequency (n=140)	(%)
Consuming diabetic diet	Yes	95	67.9
	No	45	32.1
Practice of exercise	>3 days a week for 30 minutes	24	17.1
	<3 days a week for 30 minutes	28	20.0
	No exercise	88	62.9
Compliance to medication	Good	131	93.6
	Poor	6	4.3
	Not on any medication	3	2.1
Practice of foot care (week)	>3times	21	15
	<3times	15	10.7
	No	104	74.3
Blood glucose testing for once in 3 months	Yes	125	89.3
	No	15	10.7

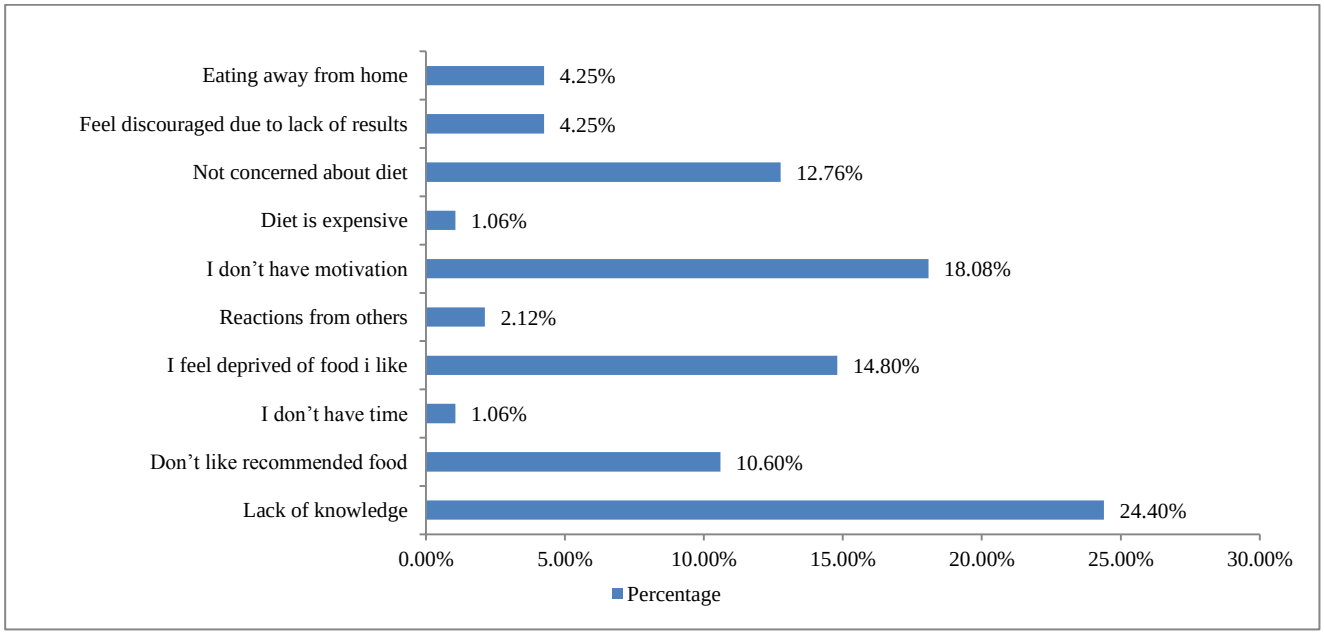

Figure 1: Self-reported barriers for healthy dietary practices among study participants.

Table 4: Practice of diabetic diet according to socio-demographic characteristics of study participants (n=140).

Socio-demographic factors		Consuming diabetic diet		Chi square test
		Yes	No	
Age (in years)	<45	20	6	χ2=1.275 p=0.528
	46-65	58	31	
	>65	17	8	
Gender	Male	38	24	χ2=2.200 p=0.138
	Female	57	21	
Religion	Hindu	81	32	χ2=3.929 p=0.047
	Muslim and Christian	14	13	
Education	Literate	74	31	χ2=1.321 p=0.25
	Illiterate	21	14	
Occupation	Employed	46	18	χ2=0.873 p=0.35
	Unemployed	49	27	
Residence	Urban	68	23	χ2=5.623 p=0.018
	Rural	27	22	

DISCUSSION

The present study was conducted to assess the practice of diabetes self-care activities among patients attending outpatient department in Karnataka Institute of Medical Sciences, Hubballi.

The present study found that 67.9% of patients were following diabetic diet which is similar to Arulmozhi et al (67.3%) in Puducherry and better than Rajasekharan et al (45.9%) in Mangalore.[13,14] About 17.1% of the diabetics were involved in physical exercise for at least 30 minutes, for more than 3 days in a week. Similar findings were reported in Arulmozhi et al (22.7%) and Dinesh et al study, where as in Rajasekharan et al exercise practice was higher (43.4%).[13-15] Compliance to diabetic medication was good (93.6%) in the present study compared to that reported by Dinesh et al study (48%).[15]

Regular blood sugar monitoring was done by 89.3% of patients which is quite satisfactory compared to that reported by Rajasekharan et al and Dinesh et al study as 76.6% and 65.25% respectively.[14,15] 15% checked their feet regularly where as it is around 16.7% and 2% in Arulmozhi et al and Dinesh et al study respectively.[13,15]

The main barriers identified in the present study were lack of knowledge about diabetic diet (24.4%), lack of motivation (18.08%) and feeling of deprivation (14.8%) where as in Cheng et al study feeling of deprivation and eating away from home were recognised barriers and in Ghimire study lack of knowledge and healthy diets are expensive and unaffordable are the main barriers.[9,16] The present study also found that compliance to diabetic diet was good among urban population compared to rural population which emphasizes the need to create awareness among diabetic diet specially focusing on rural population.

CONCLUSION

The practice of self-care activities was poor in almost all aspects except for adherence to medication and blood sugar monitoring. The main dietary barriers identified were lack of knowledge and lack of motivation. Study findings emphasize the need to create awareness and to encourage diabetic patients to practice self-care activities which is essential in diabetes management to prevent complications thus in improving their quality of life.

Limitations

The study findings cannot be generalised as this is a hospital based study. Self-care practices were assessed by interview method, thus responses may be biased.

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