Original Article

Self-care practices among diabetics attending rural health centre in Nalgonda District of Telangana

***Pratyush R Kabra[1], Nagaraj K[2], Prasad VG.[3], Varun Malhotra[4], Sunil Pal Singh C[5]**

[1]Associate Professor, [2]Professor and Head, [3]Professor, [4]Associate Professor, Department of Community Medicine, Kamineni Institute of Medical Sciences, Narketpally, Nalgonda, Telangana State, [5]Assistant Professor, Department of Community Medicine, Kamineni Academy of Medical Sciences and Research center, Hyderabad, Telangana.

ABSTRACT

Background: Diabetes is a chronic non-communicable disease that requires active participation of the patient in its management to achieve satisfactory glycemic control, and prevent or delay acute and chronic complications.

Objective: The study aims to quantify the self-care practices being adopted by diabetics in rural Nalgonda to identify thrust areas for patient-educational activities.

Methodology: A cross-sectional study was conducted in Rural Health Training Centre (RHTC) in Cherlapally village of Nalgonda district. A structured questionnaire was used for data collection from known diabetics.

Results: A total of 70 diabetics (46 females, 24 males) were included in the study. The mean age of the study participants was 59.6 years and average duration of diabetes was 9.4 years. The study revealed that, although the patients adherence with treatment and periodic monitoring of blood glycemic levels were satisfactory, there were unacceptable gaps in other self-care practices i.e. diet control, exercise, avoidance of tobacco, foot care and preparedness for acute complications of diabetes.

Conclusion: The study found that prevalence of good self care practices related to diabetes was satisfactory in respect to regular treatment and blood sugar monitoring. However, there is considerable scope for improvement in other areas

Key Words: Diabetes mellitus, Nalgonda, Self-care practices

Introduction:

Diabetes mellitus (DM) is a chronic progressive endocrine disorder characterized by hyperglycemia, either due to absolute insulin deficiency (type 1 DM), or relative deficiency or insulin resistance or both (type 2 DM). Globally, the prevalence of DM is rising and projected to reach 366 million in 2030.[1] DM virtually affects every system of the body mainly due to metabolic disturbances, especially if diabetes control is suboptimal.[2] Diabetes is associated with micro- and macro-vascular complications leading to cardiovascular diseases, nephropathy, retinopathy and neuropathy, which cause disabilities, and may lead to premature mortality.[3]

***Corresponding author :**
Dr Pratyush R Kabra,
Assistant Professor,
Department of Community Medicine,
Kamineni Institute of Medical Sciences, Narketpally,
Nalgonda District, Telangana State – 508254
kabrapratyush@gmail.com

One of the challenges for healthcare providers today is addressing the continued needs of patients with chronic illnesses including diabetes. Regular follow-up of diabetic patients is of great significance in preventing, delaying and early diagnosing complications associated with the disease. Studies have reported that optimal glycemic control prevent and delay the progression of diabetes associated complications. The management of DM is not only limited to adequate glycemic control, but also involves education and counseling of the patients, as well as proactive actions to prevent complications, limit disability and facilitate rehabilitation.

Self-care is integral to secondary prevention in diabetics, and dictates that diabetics shoulder responsibility for their own care through learnt-

behaviour that is supported and empowered by healthcare providers.[4] Essential self-care in diabetes includes healthy eating, being physically active, monitoring of blood sugar, regular medications, good-problem solving skills, healthy coping skills and risk-reduction behavior.[5] Studies in India and abroad have revealed that these practices are associated with better glycemic control, decrease prevalence of acute and chronic complications and improved quality of life.[6-10] Considerable significance of self-care in diabetes management demands that this aspect is studied in different socio-demographic groups. The present study was conducted to assess the self-care practices among diabetics residing in rural Nalgonda.

Materials and methods

Study design and period: A cross-sectional study was conducted during April-June 2015

Study Setting: All diabetic patients attending Rural Health And Training Centre (RHTC) of department of Community medicine, Kamineni Institute of Medical Sciences, Narketpally.

Inclusion Criteria: Type 2 diabetic patients, who had been taking anti-diabetic medications for at least one month prior, and were willing to participate.

Exclusion Criteria: Patients who were too ill to participate, pregnant, newly diagnosed (less than 1 month), or yet to be placed on medications were excluded.

Study Instruments: A pre-designed and pretested structured questionnaire in local language (Telugu) was used for data collection. The questionnaire consisted of the following sections a) Socio demographic information, b) Diabetes specific information c) Knowledge regarding diabetes d) Self care practices followed by the patients. Socio-demographic information included patient's age, gender, and educational status and socioeconomic status. Diabetes specific information captured the duration of the disease, glycemic control, type and source of treatment. Knowledge of the respondents was evaluated by questions related to the nature of the disease, method of detection of diabetes, importance of diet, exercise and drug compliance in controlling the disease etc. Self-care practices were assessed by patient's behavior regarding testing blood sugar, adopting healthy diet, exercise, compliance to the drugs and regular self-inspection of feet.

Ethical Considerations: Approval of Institutional Ethics Committee and informed consent from individual participants were obtained.

Data Analysis: Data validation was done and formats were physically verified to eliminate errors during data entry. Data were coded into Microsoft Excel, and analyzed using Statistical Package for the Social Sciences version 19.0. Statistics like mean and proportion were calculated to summarize self-care practices among the study participants.

Results

A total of 70 diabetics were included in the study. The mean age of study population was 59.6 years, with a male: female ratio of 1:1.92. Majority (95.7%) of the subjects were Hindus, 23 (32.9%) were literate, 33 (47.1%) were gainfully employed and 48.6% belonged to middle socio-economic class. (Table 1)

Table 1: Socio Demographic Profile of Study Population (N=70)

Variables		Number	%
Age (Years)	40-50	15	21.4
	50-60	23	32.9
	>60	32	45.7
Sex	Male	24	34.3
	Female	46	65.7
Religion	Hindu	64	95.7
	Muslim	01	1.5
	Christian	02	2.9
Socio-economic Status	Upper	04	5.7
	Middle	34	48.6
	Lower	32	45.7
Education	Literate	23	32.9
	Illiterate	47	67.1
Occupation	Employed	33	47.1
	Unemployed	37	52.9

Table 2: Distribution of Study Subjects according to Duration of Diabetes (N=70)

Duration (in Years)	Number	%
Less than 1	19	27.1
1 - 2	14	20.0
2 - 3	09	12.9
4 - 5	12	17.1
More than 5	16	22.9
Total	70	100

The average duration of diabetes was 9.4 years with almost one-forth (27.1%) diagnosed during previous one year (Table 2). The source of treatment as shown in fig.1, highlights that 72.8% of the patients were receiving health care from government or medical college facilities including RHTC, while only 4.3% were being managed by Registered Medical Practitioners (RMP).

Table 3 highlights the self-care practices and relevant life-style modifications being observed by the study subjects. The study showed that 57 out of 70 (81.4%) were on regular treatment, and 78.5% were getting their blood sugar tested at least once in three months. The study revealed that 40% of

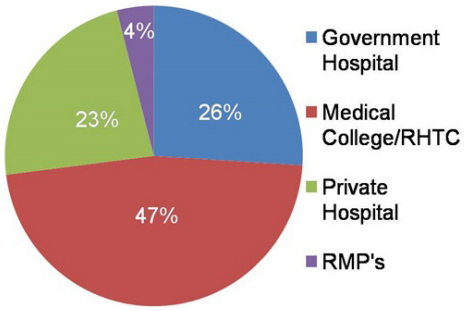

Fig. 1: Source of Treatment of the study Population (N=70)

study participants were using tobacco, and self-care practices regarding regular exercise, dietary control, foot-care and self-care precaution for acute emergencies of DM were unsatisfactory.

Discussion

This cross sectional study carried out in a primary health care setting focused on self-care practices by diabetics. The study finding that 81.4% of the population was on regular treatment and 78.5% were getting their blood sugar estimation done at least once in a quarter indicates positive trends in management of DM in rural Nalgonda. These

Table 3: Self Care Practice regarding Diabetes among the study population (N=70)

Characteristics	Grouping	Number	%
Regularity of treatment	Regular	57	81.4
	Irregular	13	18.6
Periodicity of blood sugar estimation	Once a month	26	37.1
	1 – 3 months	29	41.4
	3 – 6 months	09	12.9
	> 6 months	06	08.6
Dietary practices	Regular frequent meals	55	78.6
	Avoidance of high glycemic index food-items	30	42.9
	Increase consumption of fruits and vegetables	15	21.4
Foot care practices	Improved foot-hygiene	55	78.6
Exercise	Self-examination of feet, at least once a week	45	64.3
Non-consumption of tobacco	Use of special footwear	15	21.4
	Moderate exercises at least 150 minutes per week	12	17.14
	Non smoker and non-consumption of smokeless tobacco	42	60
Precautions for acute complications	Carry ID Card	08	11.4
	Aware of symptoms of Hypoglycemia	38	54.3
	Carrying sugar-items for self-management of hypoglycemia	05	7.14

findings of the study are in agreement with the studies done by Raithatha et al11 in Anand district of Gujarat, Gopichandran et al[12] in Vellore and Suguna et al[13] in rural Bangalore.

Dietary management of diabetes is challenging, especially in lower social strata due to ignorance and economic reasons. This study also showed that less than half (42.9%) diabetics were avoiding food items that have high glycemic index, and only 21.4% had increased their consumption of vegetable and fruits, post-diagnosis. A study by Rajasekharan et al[14] in a tertiary care settings in Mangalore (Karnataka) reported that 45.9% diabetics had a healthy eating plan, whereas only 26.2% consumed fruits and vegetables on all days in a week; findings similar to our study.

Diabetic foot is one of the most common complications of the disease, more so among rural populace who is often exposed to injuries, and uses footwear that are less protective. The study finding of sub-optimal self-care practices in foot care reflects ineffectiveness of healthcare providers to bring healthy behavior modifications among our clients. The study also observed that there was lack of self-care practices in the areas of regular exercise, non-use of tobacco, and preparedness for any acute complications of DM.

Conclusion

The study found that prevalence of good self care practices related to diabetes was satisfactory in respect to regular treatment and blood sugar monitoring. However, there is considerable scope for improvement in other areas i.e. diet management, exercise, foot-care, avoidance of tobacco products in all forms, and preparedness for acute emergencies of diabetes. The adoption of self-care practices by diabetics is a reflection of comprehensiveness.

References

1. World health organization. Definition, diagnosis and classification of diabetes mellitus and its complications. Geneva: World health organization; 1999.
2. Mehta P, Godbole V, Gosai F, Brahmbhatt K. Knowledge Of Diabetes and Self Care Practices In Chronic Diabetic Patients Attending A Tertiary Care Teaching Hospital In India. NJIRM 2014; Vol. 5(2). 91-97.
3. Shrivastava S R , Shrivastava P S, Ramasamy J. Role of self-care in management of diabetes mellitus. J Diabetes Metab Disord. 2013; 12: 14. Published online 2013 Mar 5. doi: 10.1186/2251-6581-12-14
4. K. Park. Park's Textbook of preventive and social Medicine. 23rd edition. Jabalpur (M.P.) India. M/s Banarsidas Bhanot; 2015.
5. American Association of Diabetes Educators. AADE7 Self-Care Behaviors. DiabetesEduc 2008;34:445–9.
6. Povey RC, Clark-Carter D. Diabetes and healthy eating: A systematic review of theliterature. Diabetes Educ 2007;33:931–59.
7. Boulé NG, Haddad E, Kenny GP, Wells GA, Sigal RJ. Effects of exercise on glycemic control and body mass in type 2 diabetes mellitus: A meta-analysis of controlled clinical trials. JAMA 2001;286:1218–27
8. American Diabetes Association. Standards of Medical Care in Diabetes—2009. Diabetes Care 2009;32 Suppl 1:S13–S61.
9. Odegard PS, Capoccia K. Medication taking and diabetes: A systematic review of the literature. Diabetes Educ 2007;33:1014–29.
10. Deakin T, McShane CE, Cade JE, Williams RD. Group based training for selfmanagement strategies in people with type 2 diabetes mellitus. Cochrane Database Syst Rev 2005;(2):CD003417.
11. Raithatha S J, Sing U S Dinesh Kumar. Self-care practices among diabetic patients in Anand Distict of Gujarat. Family Medicine. Vol 2014 cited on http://dx.doi.org/10.1155/2014/743791.
12. Gopichandran V, Lyndon S, Angel M K, Manayalil B P, Blessy K R, Alex R G, Kumaran V, Balraj V. Diabetes self-care activities: A community-based survey in urban southern India. The National Medical Journal Of India 2012; Vol.25(1),14-17.
13. Suguna A, Magal A S, Ignat Stany A, Sulekha T, Prethesh K. Evaluation of self-care practices among diabetic patients in a rural area of Bangalore Dist. India. Int.J.Curr. Res.Aca.Rev.2015;3(6):415-422.
14. Rajasekharan. D, Kulkarni V, Unnikrishnan B, Kumar N, Holla R, Thapar R. Self-care activities among patients with diabetes attending a tertiary care hospital in Mangalore Karnataka, India. Ann Med Health Sci Rec.2015;5:59-64.