

Self-Health Care Practices Among Type 2 Diabetes Patients Attending Diabetes Clinic in India: A Descriptive Cross-Sectional Study

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Research Article

Abstract: The prevalence of diabetes in adults worldwide is expected to rise to 5.4% by 2025. The best person to manage a disease that is affected so markedly by daily fluctuations in diet, exercise and infections are the patients themselves. As such there is need to investigate the practice among the people with Diabetes so the present descriptive cross-sectional study was carried out to assess the practice regarding self health care among all diabetics patients served by Govt. Medical College and Hospital, Nagpur. All the patients of type -2 Diabetes Mellitus attending Diabetes Clinic in a first fortnight of June were enrolled in the study. Total 952 patients attended the Diabetes clinic during this period. Knowledge and practice of self-health care was asked to each study subject with predesigned and pretested proforma. Out of 927 study subjects, maximum were in the age group of 61-70 years. Only 406 (43.8%) study subjects were aware about and only 357 (38.5%) study subjects were taking small and frequent meals. 106 (11.4%) study subjects were knowing about food items to be restricted. 407(43.9%) study subjects were aware about the effects of exercise. 558 (60.2%) study subjects were not doing any type of exercise. Patients should be educated about various aspects of self health care so that they can effectively participate in prevention of development of complications.

Key words: Type -2 Diabetes Mellitus, self-health care, meals, exercise.

Introduction:

The prevalence of diabetes in adults worldwide was estimated to be 4% in 1995 and it is expected to rise to 5.4% by 2025. It is expected that by 2025, 75% of all diabetic patients will be residing in developing countries.¹ In India, in early 70's, the prevalence was 2.3% in urban and 1.5% in rural areas.² Prevalence of disease has now increased from 2.3 to 11.6% in urban and 1.5% to 4% in rural areas. It is expected that by 2025, the prevalence would increase upto 17.4%.³ There were 31.7 million people with diabetes in India in 2000 and it is estimated to increase to 79.4 million with India ranking as the first country with greatest number of people with diabetes. Studies have shown that many complications of Diabetes can be prevented or delayed through effective management. In addition, to maintain the health and quality of life of an individual with diabetes, effective patient care and proper education is important. This includes lifestyle measures such as healthy diet, physical activity,

avoidance of overweight, obesity, and not smoking. This preventive care need not involve costly treatment or medication. Diabetes education plays a key role in empowering people with knowledge and skills to manage their own condition effectively. In order to delay or prevent complications, people with diabetes may have to modify their life style. Thus, care of diabetic individual requires a multidisciplinary team; central to the success of team are the patient's participation, input and enthusiasm, all of which are essential for optimal diabetes management. In addition, the best person to manage a disease that is affected so markedly by daily fluctuations in diet, exercise and infections are the patients themselves.⁴ As such there is need to investigate the knowledge and practice among the people with Diabetes to aid future development of programs and techniques for effective health education. Thus, the present study was carried out as a first step to study some complications among the patients. Secondary aim was to assess their knowledge and practice regarding self health care and to study their lipid profile, in the population served by Govt. Medical College and Hospital, Nagpur to know the complications and to help reduce gaps in knowledge and barriers regarding the self-health care. This would have a great potential to help people with diabetes to acquire the knowledge and skills to manage their own condition, which will allow them to lead healthy and productive life.

Materials and Methods:

The study was conducted at Diabetes Clinic, Govt. Medical College and Hospital, Nagpur. Diabetes Clinic is run biweekly on Tuesday and Thursday and patients are called up every fortnight for providing special care, medicines and follow-up. All the patients of type -2 Diabetes Mellitus attending Diabetes Clinic in a first fortnight of June were enrolled in the study. Total 952 patients attended the Diabetes clinic during this period. Critically ill patients, patients with Gestational Diabetes mellitus and Secondary Diabetes mellitus

were not included in study. Total 927 patients were enrolled in the study.

After obtaining consent socio-demographic information was obtained in a predesigned and pretested proforma. Detailed history of all the patients regarding the duration of Diabetes, mode of diagnosis was asked. Detailed history regarding personal habits like smoking, alcoholism, tobacco-chewing was noted. Information about family history of Diabetes was recorded. Knowledge and practice of self-health care was asked to each study subject. Their knowledge about diet like number to meals per day and about food items to be avoided, to be restricted, to be taken in ample quantity was asked. Their knowledge and practice about high fibre, low fat and low calorie food was noted. They were asked about benefits of exercise, similarly their actual practice of exercise was noted. They were asked about whether they take extra-care of their feet- like foot inspection etc. Their knowledge about complications of Diabetes mellitus like hypertension, Ischaemic Heart Disease, nephropathy, foot-ulcer, retinopathy was asked and noted.

After the complete clinical work-up, study subjects were given education about self-health care in Diabetes mellitus. They were educated about high fiber and low fat diet, they were explained about importance of regular exercise and foot-care. They were also explained about complications due to diabetes mellitus and importance of follow-up examinations. All this information was told verbally to the patients and leaflet was given to them for detailed information.

Results

Study revealed that the maximum respondents were in the age group of the 61-70. There were 557 males and 370 females. Most of the respondents had primary level of education 391(42.3), 257(27.7%) were having secondary level of education, 182 (19.6%) were illiterate, 30(3.2%) were graduate and above(Table I). 168(18.1%) study subjects had a family history of diabetes in sibling followed by 72 (7.8%) study subjects with a family history of diabetes in their off spring. 132(14.2%) study subjects were not knowing about history of diabetes in their family. (Table II). Diabetes was detected since < 1 year in 127 (13.7%) respondents while in 716 (65.7%) study subjects it was detected since 1-15 years. Only 22 (2.4%) study subjects has diabetes since >25 years. (Table III). Females were excluded from the analysis of alcohol intake and smoking as no female had history of alcohol intake and smoking. Out of 557 male study subjects, 239 (43%) were never drinkers, 212 (38.0%) were ex-drinkers while 106 (19.03%) study subjects were current drinkers. Out of 557 male study subjects 230 (41.3%) study

subjects were smoking in past while only 57 (10.2%) were current smokers. (Table IV). Only 406 (43.8%) study subjects were aware about small and frequent meals per day and only 357 (38.5%) study subjects were adopting correct practice.(Table V)

361 (38.9%) study subjects were aware about avoidance of food items like sugar, honey, jaggery, sweet, soft drinks, potato, egg yolk, alcohol etc. while only 347 (37.4%) were avoiding such food items. 106 (11.4%) study subjects were knowing about food items to be restricted like non-vegetarian, pickles, mangoes, bananas etc. and only 67(7.2%) were restricting those food items. 342(36.9%) study subjects were knowing about intake of green leafy vegetables, salad, pumpkin, guava etc while 252 (27.1%) were taking such food. 558 (60.2%) participants were not doing any exercise. 200 (21.6%) study subjects had knowledge about extra care of feet and only 72(7.8%) were taking extra care of their feet. 234(25.35%) study subjects answered correctly about not to walk barefooted. 354 (38.9%) study subjects were aware of effects of exercise as weight control while 212 (22.8%) as reducing stress. 558 (60.2%) study subjects were not doing any type of exercise.

Discussion:

It was seen in our study that only 361 (38.9%) study subjects were aware about certain food items to be avoided. Kaur K. et al (1998)⁵ observed that 80% diabetics knew that sweets should be avoided. 39.8% study subjects were doing exercise. Our findings are similar to study carried out by Ramana Gopalan et al (1994)⁶ were 50% of the study subjects were doing some form of exercise. Study carried out by Tham KY et al (2004)⁷ also observed that only 40% study subjects were doing exercise. Our findings are in agreement with Tham KY et al (2004)⁷. This shows that very few study subjects were doing exercise and thus stresses the need to educate them about regular exercise. We observed that 727 (78.4%) study subjects were not aware about various aspects of foot care. Vishwanathan V. et al (1999)⁸ observed similar findings in their study. They have divided foot care into three aspects and subjects have given scores. 62.7% study subjects obtained low score. Vishwanathan V. et al (2005)⁹ observed that 65% of the study subjects does not follow any foot care procedure. We observed that less number of study subjects were aware about various aspects of foot care as compared with these studies. As stated by World Health Organisation (1994)¹⁰, in developing countries, lack of proper foot wear, and inadequate hygiene with poorly controlled diabetes is major cause of lower limb amputation. Education of the patient has to be centered on appropriate skills aimed at preventing the foot

lesions. We observed that 66 (7.1%) and 102 (11%) study subjects had feet and eye examination in last one year. Jitender Nagpal and Abhishek Bhatia (2006)¹¹ also found similar follow-up examinations in their study. They observed that 16.2% study subjects had eye examination in last year and 3.1% of subjects had foot examination in last year.

Conclusion:

Study subjects have very poor knowledge in all the aspects of self-health care and were not aware about

various complications of diabetes. Patients should be screened routinely for various complications with periodic follow-up examinations. They should be made more aware about the complications of diabetes, so that they could seek medical advice as early as possible. Patients should be educated about various aspects of self health care so that they can effectively participate in prevention of development of complications.

Table 1: Socio-demographic characteristics of the respondents

Age (years)	Study Subjects					
	Male		Female		Total	
	No.	%	No.	%	No.	%
31-40	54	9.7	23	6.2	77	8.3
41-50	102	18.3	67	18.1	169	18.2
51-60	139	25	156	42.2	295	31.8
61-70	237	42.5	114	30.8	351	37.9
>70	25	4.5	10	2.7	35	3.8
Total	557	100	370	100	927	100

Table 2: Distribution of the respondents by family history of Diabetes

Family history of diabetes	Respondents	
	No.	%
No history of diabetes	517	55.8
Mother	60	6.4
Father	72	7.8
Sibling	168	18.1
Offspring	12	1.3
DNK	132	14.2

Table 3: Personal habits among the study subjects (n = 557)

Personal habits	Study Subjects					
	Current		Past		Never	
	No.	%	No.	%	No.	%
Alcohol intake	106	19	212	38	239	43
Smoking	57	10.2	270	48.5	230	41.3
Tobacco chewing	169	30.3	212	38	176	31.7

Table 4 - Distribution of study subjects according to correct knowledge and practice about no. of meals/day

Knowledge and practice about no. of meals/day	Study Subjects	
	No.	%
Correct knowledge	406	43.8
Correct practice	357	38.5

Table 5 - Knowledge and practice about extra care of feet among study subjects

Knowledge about extra care of feet	Study Subjects			
	Correct Knowledge		Correct practice	
	No.	%	No.	%
Inspect foot daily for cuts,	200	21.6	72	7.8
Swelling, red spots				
Dry feet after washing esp. inbetween toes	65	7	39	4.2
Rub thin coat of lotion Avoiding inbetween toes	34	3.7	22	2.4
Not to put feet in very hot/ cold water	76	8.2	76	8.2
Not to walk barefooted	234	25.3	920	99.2

Table 6- awareness about complications of diabetes among study subjects

Awareness about complications	Study Subjects	
	No.	%
Heart complications	102	11
Urinary complications	78	8.4
Eye complications	42	4.5
Gangrene	54	5.8
Paralysis	36	3.9

Table 7: Distribution of study subjects according to follow up examinations done

Follow-up examinations done	Study Subjects	
	No.	%
Weight measurement in last 1 month	372	40.1
B.P. check in last 3 months	348	37.5
Blood sugar estimation in last 3 months	903	97.4
Feet examination in last 1 year	66	7.1
Eye examination in last 1 year	102	11
Urine examination in last 1 year	96	10.3
Diet counselling in last 1 year	216	23.3

References:

[1] King H, Albert RE, Herman WH. Global burden of diabetes, 1995-2025, prevalence numerical estimates and projection. *Diabetes care*, 21: 144-143, 1998.

[2] Amos AF, Mc Carty DJ Zimmet P. The rising global burden of diabetes and its complications. Estimates and projections to the year 2010. *Diabetic medicine*, 14:557-585, 1997.

[3] Seshiah V, Balaji V, Madhuri Balaji. The rising burden of diabetes and its complications. In Medicine up date ed. Santosh Panja, vol.11, 409-412, 2001.

[4] Leo P Krall . Education : A Treatment for Diabetes. In Joslins' Diabetes Mellitus, eds. Alexander Marble,12th edition. Lee and Febiger Pub, Philadelphia, 465-482, 1985.

[5] Kaur K, Singh MM, Kumar, Walia I. Knowledge and self care practices of diabetes in a resettlement colony of Chandigarh. *Indian Journal of Medical Science*, 52(8): 341-347, 1998.

[6] Ramana Gopalan, DK Srinivas and Bina Dusgupta. Perception and practices of diabetics in Pondcherry Indian Journal of Medical Research, 94: 30-35, 1991.

[7] KY Tham, JJY Ong, DKL Tan, KY Hon. How much do diabetic patients know about diabetes mellitus and its complications? *Ann Academic Medicine Singapore*, 33: 503-509, 2004.

[8] Viswanathan V, R Shobhana, C Snehalatha, R Seena A Ramchandran. Need for education of foot care in diabetic patients in India. *Journal of Association of Physicians of India*, 47(11) 1083-1085, 1999.

[9] Viswanathan V, N Thomas, N Tandon, A Asirvathdam, Seena Rajasekar, A Ramchandran, K Senthivasan Vs Murugan, Muthulakshmi. Profile of diabetic foot complications and its associated complications- A multicentric study from India. *Journal of Association of Physicians of India*, 53: 933-935, 2005.

[10] WHO Study Group on Prevention of Diabetes Mellitus, Prevention of Diabetes Mellitus: report of WHO Study Group. Geneva, World Health Organization Technical Report Series: 844, 1994.

[11] Jitender Nagpal; Abhishek Bhatia. Quality of diabetes care in the middle and high income group populace. *Diabetes care*, 29:2341-2348, 2006.