

Assessment of Self-care Type 2 Diabetes Patients at Tertiary Care Hospital: A Cross Sectional Study

Aaliya Rukhsar Mohammad Ashfaque^{1*}, Najnin Khanam¹, Farhan Khan², Rutuj Waghmare¹, Shobha Joshi¹

¹Department of Medical Sciences, Datta Meghe Institute of Medical Science, Sawangi, Wardha, Maharashtra, India; ²Department of Dentistry, All India Institute of Medical Sciences, Bhopal, India

ABSTRACT

Introduction: Diabetes mellitus is one type of physiological hyperglycemic disorders. It is linked with a failure of the synthesis of sugars, fat, and proteins, contributing to medical complications like thinning, macro-vascular, and neuropathic disorders. It is linked with a failure of the synthesis of sugars, fat, and proteins, contributing to medical complications like thinning, macro-vascular, and neuropathic disorders. This research was designed to examine the self-management activities of patients with type 2 diabetes at Wardha city's tertiary care hospital.

Material and methodology: The cross-sectional research was carried out in Wardha City's tertiary care rural hospital. The research was conducted using a simple research tool and this analysis involved 105 people, and data was gathered using a pre-designed and pre-tested questionnaire.

Result: It is observed that maximum male 62 (59.00%) and female 43 (41.00%) were in the study. Mostly age group of more than 60 years of age group (64.70%) Participants had followed satisfactory self care practices on diet.

Conclusion: This study shows that practices of self care practices related to diabetic mellitus in patients were relatively good but health functionaries working in the periphery should conduct regular information education and communication activities for better adoption of all the self care activities of diabetes for all the seven days in a week for the reduction of diabetic complications.

Keywords: DM; Self-care practices; SDSCA.

INTRODUCTION

According to the International Diabetes Federation, 39.5 million people in India actually suffer from pre-diabetes and seven million of them develop diabetes per year. India's number of diabetes sufferers is projected to rise from 51 million in 2010 to 87 million in 2030 [1]. Diabetes Mellitus (DM) is a persistent disease marked by elevated blood sugar rates when insulin is not sufficiently produced by the pancreas or where the body is unable to metabolize insulin efficiently. The original is called type 1 diabetes mellitus and the other is named Type 2 Diabetes Mellitus (T2DM). The incidence of diabetes is more extreme of owing to type 2 Diabetic Mellitus, and its adverse health consequences have risen more significantly in the South Asian

country than in any other area of the world. Mellitus diabetes is a form of metabolic hyperglycemic disorders. It is linked with a failure of the synthesis of sugars, fat, and proteins, contributing to medical complications like thinning, macro-vascular, and neuropathic disorders. This research aimed to assess the self-care activities of diabetics and factors affecting patient self-care practice. India is the world's second most populated nation, and is experiencing a rapid epidemiological transformation. Under-nutrition is increasingly being replaced by obesity, diabetes and hypertension due to malnutrition that controlled in the past. Research from numerous parts of India have given proof of growing Diabetes prevalence. Studies also reported diabetic patients have spending time for traveling, consultation and laboratory investigations along with expenditure for drugs and

Corresponding Author: Aaliya Rukhsar Mohammad Ashfaque, Department of Medical Sciences, Datta Meghe Institute of Medical Sciences, Sawangi, Wardha, Maharashtra, India, Tel:9765679957; E-mail: aaliya_saifee@rediffmail.com

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hospitalization. As protection and promotion of health of diabetes patients is important, to improve overall quality of life. It is essential to have an awareness and proper self-care practicing among the diabetic population for better life. Hence this study was planned to assess self-care practices among Type 2 diabetes mellitus patients. In order to delay or prevent complications, persons with diabetes have adopted lifestyle changes in the form of increased physical activity, quitting tobacco, dietary modifications, and compliance to drug therapy. These parameters need to be adhered for whole and therefore sustained follow-ups are required. Diabetes management involves multiple healthcare providers such as medical professional (specialist and family/general practitioner), dietician and other professionals depending on course of disease [2].

MATERIAL AND METHODS

This was a cross-sectional was carried out at tertiary care Hospital (Acharya VinobaBhave Rural Hospital) of Wardha district of Maharashtra state in central India using questionnaire based interview on 105 diabetic patients. The sampling was done by convenient sampling method. Written Inform consent was received from patients in diabetic OPD that have been infected with type 2 diabetes mellitus for more than 1 year for their diagnosis of aged ≥ 20 years. Calculated sample size using formula $n = Z \alpha / 22 p (1-p) / d_2$

Z=Level of significance at 5% i.e.95% confidence interval=1.96

p=Prevalence of diabetes=7.3% [3].

d=Error of margin=5%

n=103.96 (105)

Questionnaire was used by portioning into following sections

Section A: Socio-demographic profile: (age, sex, marital status, education, occupation, SES etc.)

Section B: The extended edition of the assessment methods SDSCA (Summary of Diabetes Self-Care Activities) was used. It focused on diabetes-related nutrition, physical fitness, blood pressure monitoring, foot treatment, and smoke. The instrument assesses the real degree or consistency of diabetes-related health plan practices (e.g., amount of days a week during which respondents engage in physical activity sessions; amount of days in the past 7 days on which respondents consumed five or more fruit and vegetable portions). The expanded SDSCA version measures compliance and correlates with the health or medical recommendations of the respondent 's actions. Issue legitimacy: The SDSCA experienced two validation sets, one of three tests and the other with seven studies. Data entry and interpretation is carried out using mathematical tools from SPSS. $p < 0.05$ was considered leveled significance.

Criteria adopted for satisfactory self-care practices among type 2 diabetes mellitus [4]. The significance had an physical activity and the chronicity of diabetes along with its associated with an action complications and changeability in health status and discomfort level often makes the patients feel that they have lost control over their lives (Table 1).

Parameters	Score	
	Satisfactory	Not satisfactory
On an average, over the past month, Number of days/week followed eating plan.	44382	0-4
Number of days in a week ate five or more servings of fruits and vegetables.	44382	0-4
Number of days in a week ate high fat foods such as red meat, full-fat dairy products.	>1	0-1
Number of days in a week participated at least 30 minutes of physical activity.	44382	0-4
Number of days in a week participated in specific exercise session (swimming, walking and biking) other than as a part of work.	>1	0-1
Number of days in a week checked your feet.	44382	0-4
Number of days in a week inspected the inside of your shoes.	44382	0-4

Table1: Self-care practices among type 2 diabetes mellitus.

RESULTS AND DISCUSSION

Variables	Participants	N (%)
Age in years	30-40	07 (06.80)
	>40-50	18 (17.10)
	>50-60	28 (26.70)
	>60	52 (49.50)
Sex	Male	62 (59.00)
	Female	43 (41.00)
Education	Professional degree	08 (07.60)

Table 2: Socio- demographic profile of participants.

Mellitus diabetes is hospitalization. As protection and promotion a form of metabolic hyperglycemic disorders. It is linked with a failure of the synthesis of sugars, fat, and proteins, contributing to medical complications like thinning, macro-vascular, and neuropathic disorders. This research aimed to assess the self-care activities of diabetics and factors affecting patient self-care practice. India is the world's second most populated nation, and is experiencing a rapid epidemiological transformation. Under-nutrition is increasingly being replaced by obesity, diabetes and hypertension due to malnutrition that controlled in the past. Research from numerous parts of India have given proof of growing Diabetes prevalence. Studies also reported diabetic patients have spending time for traveling, consultation and laboratory investigations along with expenditure for drugs and hospitalization. As protection and promotion of health of diabetes patients is important, to improve overall quality of life. It is essential to have an awareness and proper self-care practicing among the diabetic population for better life (Table 2). Table shows socio-demographic of participants

Age: It was found that maximum participants 52 (49.50%) belongs to age group of more than 60 years.

Sex: It is observed that male 62 (59.00%) and female 43 (41.00%).

Education: It was found that 34 (32.40%) participants were belongs to education up-to High school followed by 16 (15.20%) were Illiterate.

This study found 72% of diabetics with satisfactory drug intake which is lower than 79.8% as found in a study in South India hospitalization. As protection and promotion of health of diabetes patients is important, to improve overall quality of life. involves multiple healthcare providers such as medical hospitalization. As protection and promotion.

Professional (specialist and family/general practitioner), studies This shows the distribution of study participants according to their practiced related to diet. It was observed that half 54 (51.4%) of the patients followed healthful eating plan for seven days a week and more than one third 39 (37.1%) did not follow. 58 (55.2%) of the participants on average, over the past month followed eating plan for all seven days in a week. It was found that only 04 (03.8%) of the patients ate five or more servings of fruits and vegetables for seven days a week and 23 (21.90%) of the participants did not eat. 25 (23.8%) of the patients ate high fat foods such as red meat or full-fat dairy products for seven days a week and 49 (46.7) of the participants did not eat. Similarly the result is calculated for Exercise, blood sugar testing and foot care. It was observed that half 58 (55.2%) of the patients did 30 minutes of physical activity last seven days in a week. It was found that about 72 (68.6%) of the patients not at all participated in any one of the days in a week for specific exercise session (swimming, walking and biking) other than as a part of work. It was observed that 27 (25.7%) of the participants checked feet seven days in a week while 73 (69.5%) did not check. 75 (71.4%) of the participants did not inspect the inside the shoes in last seven days of a week and 26 (24.8%) participants inspected. It was found that maximum number of participants 83 (79.0%) wash their feet daily in a week. Likewise 82 (79.0%) of the participants soaked feet in all seven days in a week and

maximum number 80 (76.1%) dried between toes after washing feet.

Parameter	Satisfactory	Unsatisfactory
Diet	51 (48.57%)	54 (51.43%)
Exercise	65 (61.91%)	40 (38.09%)
Foot care	57 (54.28%)	48 (45.72%)
Medication	98 (93.34%)	07 (06.66%)

Table 3: Satisfactory self-care practices by participants.

Table 4 shows Participants followed satisfactory self-care practice on diet (48.57%), exercise (61.91%), foot care (54.28%), and medication (93.34%).

Variable	Self-care practice (Diet)				
	satisfactory (n)		Not satisfactory (n)		
	30 - <60	18 (35.29%)	35 (64.81%)	8.001	0.0046*
	≥ 60	33 (64.70%)	19 (35.18%)		
Sex	Male	32 (56.14%)	30 (62.50%)	0.3028	0.5822
	Female	19 (43.85%)	24 (37.50%)		
Education	Illiterate to Middle school certificate	21 (34.14%)	12 (29.68%)		
	High school certificate to Professional degree	30 (65.85%)	42 (70.31%)	3.537	0.06

Table 4: Association of socio-demographic factors and self-care practice.

This table shows association of socio-demographic factors of diabetic patients and their self-care practice on diet. Significant association (p=0.004) observed in their age distribution and self-care practice on diet. Maximum (64.70%) Participants followed satisfactory self-care practice on diet, having age ≥ 60 years. Non-significant association observed among socio-demographic factors like sex, education, occupation and socio-economic status with their self-care practice on Diet. Significant association (p=0.003) observed in their age distribution and self-care practice on exercise. Most (61.53%) of the Participants followed satisfactory self-care practice on exercise, having age 30

to <60 years. Significant association ($p=0.004$). Significant association ($p=0.005$) observed in their socio-economic status with self-care practice on foot care. Majority (56.14%) of the Participants followed satisfactory self-care practice on foot care belongs to socio-economical class II and III.

The chronicity of diabetes along with its associated complications and changeability in health status and discomfort level often makes the patients feel that they have lost control over their lives. Patients must be able to set targets and every day make choices that are equally effective and suit their lifestyles, to manage diabetes successfully. This study was therefore performed with the intention of understanding the self-care activities of Type 2 diabetes mellitus patients in the Sawangi (Meghe) Wardha District Tertiary Care Hospital, with the goal of assessing the socio-demographic profile of Type 2 diabetes mellitus patients, analyzing different self-care practices of Type 2 diabetes mellitus patients and associating socio-demographic diabetes mellitus patients with various practices of self-care of type 2 diabetes mellitus. In present study total numbers of participants were 105. The distribution of study participants according to age group and gender and participants in age group of 30-40 were 06.80%, in >40-50 age group were 17.10% and >50-60 age group was 26.70%. Similar study was found by Participants' age group 30-40 were 9.2%, 25.8% were 41-50 age group and the 26.5% were in the 51-60 age group Rural areas of Tamil Nadu. Study conducted by men 47.1% and Women 52.9% respectively. In present study numbers of participants male 59.00% and female were 41.00% conducted in Tamil Nadu. And the other study conducted by [5]. 43.3% were male, 56.7% female and respectively. In the present study literate were 85% and illiterate were 15.20%. Whereas the study conducted in Thiruvallar district by [6]. More were illiterate 61% and literate were 39% [7]. Study illiterate were 41.7%. Graduation and above in the present study 15.20%. In the present study occupation wise majority of participants are farmer 36.20% [8]. Study found that also majority of participants 39.40 were farmer. In this study it was observed that a maximum of 83 (79.04%) participants were told regarding less sweet intake by health care team. 80 (76.19 %) of fruits and vegetables intake is recommended by the health care team on lots (at least 5 servings a day). Only 23 (21.9%) were advised to follow low-fat eating plan. In contrast results have been described in a community-based study using the SDSCA questionnaire in urban Vellore which noted good dietary behavior present in only 29% of patients. Even lower level of self-care activity regarding specific diet (2.8%) has been reported in a community-based study in Pune [9]. In the present study satisfactory diet (48.57%), satisfactory exercise (61.90%), satisfactory blood sugar testing (55.23%), satisfactory foot care (54.23%), satisfactory smoking (44.76%) and medication [10]. Found 25.6% of study participants had satisfactory self-care activities. 35.4% had satisfactory diet, 62.6% had satisfactory exercise, 72.3% followed proper drug regimen, 61.5% had satisfactory blood sugar monitoring, 84.1% were non-smokers, and 37.4% had satisfactory foot care activities and glycemic control were significant predictors of satisfactory self-care activities [11]. In this study found 72% of diabetics with satisfactory drug intake which is lower than 79.8% as found in a study in South India

and 88.1% [12]. As found in a study this major difference may be attributed to the urban setting of the other studies. Our finding is more than that found in studies done in tertiary care centers as more non-compliant diabetic are referred to such centers for complications [13]. In this study, satisfactory diet practice was found in only 35.4% of study participants, which is less when compared with other studies 45.9% conducted in South India which may be attributed to the inclusion of sweets in local dietary practice in our setting [14].

LIMITATIONS

This is a Hospital based study and it is difficult to generalize the results; however with this we obtain significant results which will definitely boost the researcher to go further step with more socio-demographic variables with Community based study. Insulin dependent diabetes mellitus (type 1) did not include in the study.

CONCLUSION

This study shows that practices of self-care practices related to diabetic mellitus in patients were relatively good but health functionaries working in the periphery should conduct regular information education and communication activities for better adoption of all the self care activities of diabetes for all the seven days in a week for the reduction of diabetic complications.

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CONFLICTS OF INTEREST

There are no conflicts of interest.

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