

Health Promotion Behavior among Patients with Type 2 Diabetes Mellitus – A Cross Sectional Survey

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Abstract: A Cross sectional survey was conducted to assess the health promotion behavior of patients with type 2 diabetes mellitus. The study was conducted in selected government hospitals of Udupi district, Karnataka. Health promotion behavior (HPB) was measured by a questionnaire on Health promotion behavior for type 2 diabetes developed by the researcher. Data was collected after obtaining informed consent. HPB was categorized as poor, average and good. Majority (63%) of the patients had average HPB in dietary adherence, whereas most (43%) of them had good HPB in exercise and majority (66%) of them had good adherence to drug regimen. Majority (61%) had average adherence to overall HPB.

Keywords: Health Promotion Behavior, Type 2 Diabetes Mellitus

1. Introduction

In 2008, an estimated 347 million people in the world had diabetes and the prevalence is growing, particularly in low and middle income countries. India had 69.2 million people living with diabetes as per the 2015 data. Of these, it remained undiagnosed in more than 36 million people.^[1]

Controlling blood sugar levels is the primary goal of diabetes management. The management of diabetes is complex and lifelong. Adherence to dietary restrictions, regular exercise and compliance to drug therapy are key to the management of diabetes. Dietary restrictions play a major role in the management of diabetes. It is important to ensure that glycemic levels are kept within boundaries to prevent fluctuations in blood sugar. Sedentary life style is a major risk factor for the development of diabetes. Exercise helps in taking the sugar in to the muscles and lowers the blood sugar. It is believed that exercise can reduce insulin resistance. Adherence to medications is important. Taking food and drugs on time regularly helps maintain blood sugar levels. Proper follow up is important for early identification and prevention of complications of diabetes.

2. Statement of the Problem

A study to assess the health promotion behavior among patients with type 2 diabetes mellitus in selected government hospitals of Udupi, Karnataka.

3.Objectives

The objective of the study was to assess the health promotion behavior of patients with type 2 diabetes mellitus.

4.Materials and Methods

A cross sectional study was conducted among 100 diabetic patients from selected government hospitals of Udupi,

Karnataka. Health promotion behavior was assessed by a practice questionnaire developed by the researcher. Health promotion behavior included three sub categories. Dietary restrictions included 11 items, exercise five items and adherence to medication three items. Subjects rated their Health promotion behavior on a 5-point Likert scale on how well they practiced HPB (i.e. from “never” (scored as 0) to “always” (scored as 4). HPB was categorized as poor, average and good. Data was collected after obtaining informed consent. Data was analyzed using descriptive statistics.

5. Results

Table 1: Distribution of subjects based on demographic and morbidity variables

Demographic variables	Frequency /Percentage	
	f	%
Age in years		
1. 35-40	3	3
2. 41 – 50	24	24
3. 51 – 60	27	27
4. 61 – 70	42	42
5. > 70	4	4
Gender		
1. Male	48	48
2. Female	52	52
Marital status		
1.Married	88	88
2.Widow/ Widower	12	12
Religion		
1. Hindu	84	84
2. Muslim	8	8
3. Christian	8	8
Educational status		
1. Primary	2	2
2. Secondary	40	40
3. High School	20	20
4. Pre University	30	30
5. Graduate	3	3
6. Post graduate	5	5

Occupational status		
1. Unemployed	19	19
2. Unskilled	41	41
3. Semiskilled	29	29
4. Skilled	3	3
5. Shop/ farm owner	1	1
6. Semi professional	7	7
Monthly income in rupees		
1. >5001	21	21
2. 4001-5000	15	15
3. 3001-4000	25	25
4. 2001-3000	26	26
5. <2000	13	13
Duration of diabetes in years		
1. Less than 5 years	54	54
2. 5-10 years	37	37
3. 11- 15 years	6	6
4. Above 15 years	3	3
Treatment		
Oral hypoglycemic agents	98	98
Oral hypoglycemic agents and Insulin	2	2
Body Mass Index		
Normal: 18.5-24.99	44	44
Overweight: 25-29.99	46	46
Obese : above 30	10	10

The data presented in table 1 shows that most (42%) of the subjects belonged to the age group of 61 to 70 years and 27 of them were between 51 to 60 years. Most (52%) of them were male by gender and 88% of the subjects were married and living with their spouse. Majority (84%) of them were Hindu by religion. Most (40) of them were with secondary education, and 41% of them were unskilled workers and 54% of them were with duration of illness less than 5 year's duration. Majority (98%) of the subjects were on oral hypoglycemic agents and most (46%) of them were overweight with body mass index between 25-29.9

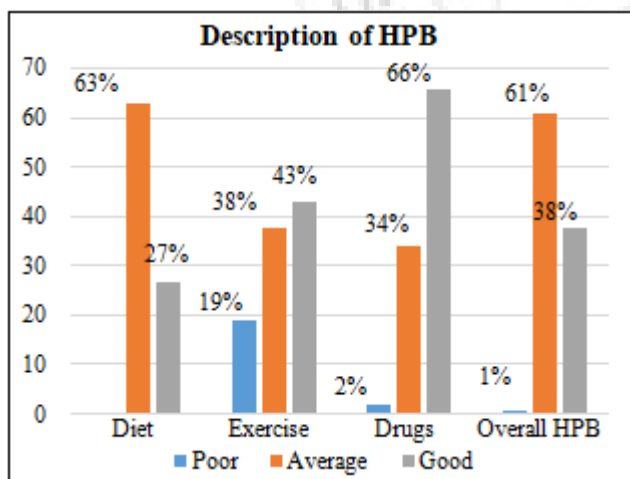


Chart 1: Domain wise description of health Promotion behavior among subjects

The data presented in the above chart on subcategories of HPB reveals that majority 63% of the subjects had average HPB in dietary adherence, whereas most (43%) of them had good HPB in exercise and majority (66%) of them had good adherence to drug regimen. Majority (61%) had average adherence to overall HPB.

Table 3: Mean, Median and Standard Deviation of HPB

Domains of HPB	Min Score	Max Score	Mean	SD	Median
HPB: Diet	24	44	32.94	4.19	32.00
HPB: Exercise	4	20	13.29	3.23	14.00
HPB: Medication	6	12	10.00	1.64	10.00
HPB. Total	38	69	56.23	6.13	57.00

The data presented in table no:2 shows that mean HPB with regard to Medication was 10 ± 1.645 and the mean score of Total HPB was 56.23 ± 6.13

6. Discussion

The present study results showed that HPB on dietary adherence was good in 27% and average in 63%, whereas HPB in exercise was poor in 19%, average in 38% and good in 43%. HPB related to medications was poor in 2%, average in 34% and good in 66% and overall HPB was average in 38% and good in 61%.

A study from a tertiary health care setting in Karnataka also reported healthy eating plan on a daily basis by 45.9%, daily exercises for 30 min by 43.4% and adherence to medication among 60.5% of the participants.^[2]

Similar results were also reported in a study conducted in Kashmir in which 23.26% of them had moderate and 76.74% of them had high level of dietary adherence. Level of physical activity in low, moderate and high level were 15.70%, 52.90% and 31.40% respectively. Medication adherence in low, moderate and high level were 8.13%, 70.94% and 20.93% respectively.^[3]

A community based survey in urban southern India on self-care activities of diabetics also showed good dietary behavior in 29%, good exercise behavior in 19.5% and drug adherence in 79.8%.^[4]

Similar findings were reported in a study conducted in Karnataka in which compliance to treatment was found to be 82.1%. Sixty percent reported doing regular exercise whereas almost 92% of respondents were following diet control advices.^[5]

7. Recommendations

- 1) Behavioral intervention programmes for diabetic patients that promotes adherence to Health promotion behavior
- 2) Individualized plan for management of diabetic patients to enhance the efficacy of interventions.
- 3) Family oriented intervention packages to enhance family support to facilitate adherence to HPB

8. Conclusion

Adherence to medication was good in most of the subjects whereas adherence to dietary restrictions was only average in majority of the subjects. Health professionals must develop behavioral intervention programmes for better adherence to dietary restrictions and to promote health promotion behavior among diabetes patients in order to

prevent the complications and to improve the quality of life with diabetes.

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