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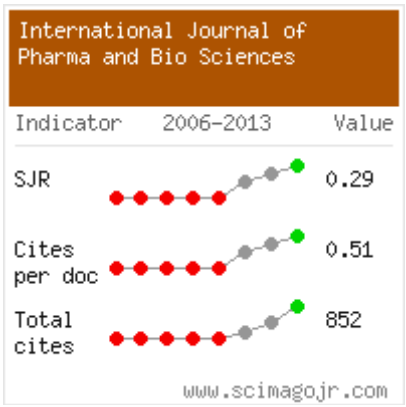

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Research Article **Medical surgical nursing**

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THE KNOWLEDGE AND PRACTICE ON MANAGEMENT OF DIABETES MELLITUS AMONG PATIENTS ATTENDING OUT PATIENT DEPARTMENT

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ABSTRACT

The rising of diabetes in developing countries is closely associated with industrialization and socioeconomic development, Genetic predisposition, lifestyle changes due to rapid urbanization, high intake of fast food without any activity in the form of exercise in urban area may all be contributory to high prevalence of diabetes. The Objectives are to assess the knowledge and practice of patients with diabetes mellitus, to determine the association between knowledge and practice of diabetes mellitus with selected demographic variables and to distribute a teaching module. Descriptive study design was selected to assess the knowledge and practice on management of diabetes mellitus among patients attending outpatient department of Government General Hospital Chennai was carried among 200 patients attending outpatient department, identified from interview schedule. Percentage, mean, standard deviation, chi-square test, student't' test and 'F' test were used based on objectives of the study. 43% of patients had inadequate knowledge about the disease, 49.5% had inadequate knowledge about the diet, 64.5% had inadequate knowledge about the exercise and 42.5% of patient had inadequate knowledge about the drug. There is a high association between the knowledge and practice, p value=0.01. By conducting health education programme the knowledge of diabetes patients will definitely improve, which will leads to practice towards the management of diabetes mellitus.

KEY WORDS: **Diabetes mellitus, drug, diet, exercise.**

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INTRODUCTION

The rising of diabetes in developing countries is closely associated with industrialization and socioeconomic development. The major determinants for projected increase in the number of diabetes, in these countries are population growth, age structure and urbanization with the rise in the urban / rural population ratio in a regions and growing prevalence of obesity among urban dwellers, diabetes will increasingly concentrate in the urban area. Genetic predisposition, lifestyle changes due to rapid urbanization, high intake of fast food without any activity in the form of exercise in urban area may all be contributory to high prevalence of diabetes. Medicine has been progressed so rapidly in preventions and control of many diseases, that more people live long enough with long term care. Life expectancy, in general, is increasing. According to 2001 census, the life expectancy of people in India is estimated at 65.2 for males and 67.6 for females. More diabetes is being diagnosed these days. As a result the nursing community is faced with challenge of providing long term nursing care to an increased number of patients with diabetes mellitus in managing the disease condition and in preventing complications. The current expert committee and classifications of diabetes mellitus has proposed 4 types. They are Type 1 diabetes, Type 2 diabetes, Diabetes mellitus associated with other conditions or syndrome, gestational diabetes. Knowledge of diabetes self management is imperative for people with diabetes who need to make effective daily self care decision. Findings from the diabetes control and complications trial show that the strict control of blood glucose reduces the development and progression of long term complications.

Objectives

To determine the association between knowledge and practice of diabetes mellitus with selected demographic variables

Operational definitions

Knowledge

It refers to the understanding about the disease, diet exercise and drug.

Research Design

Descriptive study design was selected to achieve the objectives of the study.

Setting

The study was conducted in the diabetic outpatient department of Government General Hospital Chennai. It is one of the premier teaching institutions in South East Asia. The hospital has all the specialties and super specialties such as Neurology, Cardiology, Nephrology, Urology, Endocrinology, Rheumatology, Plastic and reconstructive and Dermatology etc. It is an educational and research institute as well as tertiary level hospital. The total bed strength of the hospital is 2029. Approximately 400 - 450 patients attend the diabetic outpatient department per day, and 15-20 clients were diagnosed newly as diabetes every day.

Population

The population of this study comprised of diabetic patients diagnosed as diabetes mellitus within one year.

Criteria for sample selection

Inclusive criteria

1. Patients diagnosed as type II diabetes mellitus within I year duration.
2. Patients willing to participate.
3. Patients above 18 years of age.
4. Both Male and female.

Exclusive criteria

1. Who speaks languages other than Tamil and English
2. Those with diabetes mellitus more than one year duration
3. Patients with other type of diabetes mellitus.

MATERIALS AND METHODS

Sampling technique

Sampling techniques applied for this study were systematic sampling.

Sample size

The sample comprises of two hundred patients.

Description of instrument

The tool designed for this study is interview schedule. The interview schedule designed for the study consists of 3sections.

Section-I
The first part of the interview schedule deals with demographic data.

Section II
This section contains questions related to knowledge of disease, diet, drug and exercise comprises 20 questions with 4 sub divisions.

Section III
This part deals with practices related to control and management of diabetes, composed of 20 questions.

Criteria for scoring
Section I – No scoring

Section II – each correct answer carries I mark and no mark was given to the wrong answer. Total score in this section is 20. It was interpreted as if the score is < 25% - below average, 25% - 50% - average , >50 % - above average

Section III – practices on management measures have given a score one and no score was given those who does not practice. Total score in this section is 20. It was interpreted as if the score is < 25% - below average, 25% - 50% - average , >50 % - above average

Testing of the tool Validity
In order to obtain content validity the tool was submitted to experts, and validity of the tools obtained from experts.

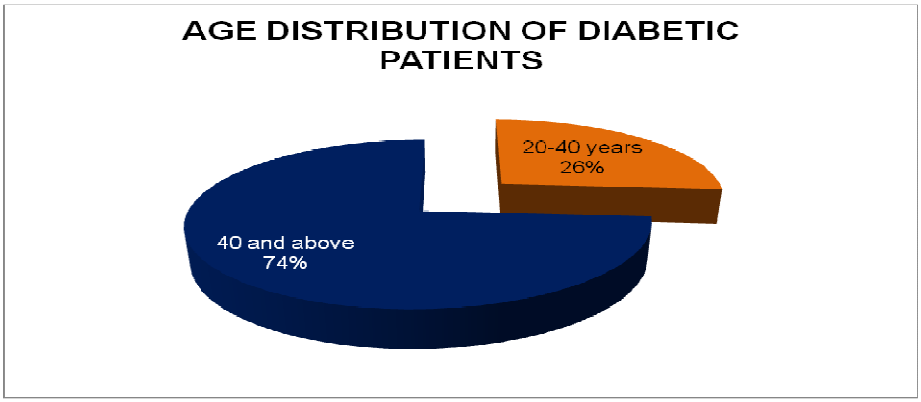
Data collection procedure
Permission was obtained from professor and Head of the department, Department of Diabetology, Government General Hospital, Madras Medical College, Chennai-3 for conducting the main study. Systematic sampling technique was followed to select the samples from diabetic out patient out patient department. The data collection period is 6 weeks. The data collection for each sample took 45 minutes – 1 hour.

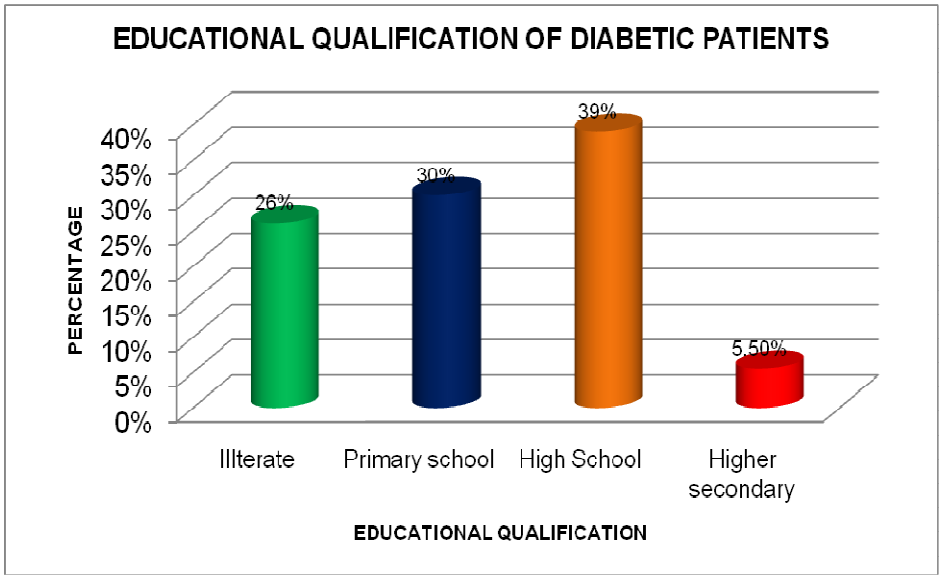
Data analysis
The collected data were tabulated using percentage mean, and standard deviation chi-square test, student't' test and 'F' test was used to compare knowledge and practice with their demographic variables.

Distribution of the demographic characteristics of the patients with diabetes

S.No	Demographic characteristics	No of persons	Percentage
1.	Age		
	a. 20-40years	52	26
	b. 40 and above	148	74
2.	Sex		
	a. Male	84	42
	b. Female	116	58
3.	Religion		
	a. Hindu	164	82
	b. Christian	22	11
	c. Muslims	14	7
4.	Education		
	a. Illiterate	52	26
	b. Primary school	59	29.5
	c. High school	78	39
	d. Higher secondary	11	5.5
5.	Work pattern		
	a. Professional	2	1
	b. Business	12	6
	c. Unskilled	71	35.5
	d. Skilled	21	10.5
	e. Housewife	94	47
6.	Income per month		
	a. 1000 - 2000	86	43
	b. 2001 - 3000	95	47.5
	c. 3001 - 4000	15	7.5
	d. 4000 and above	4	2
7.	Community		
	a. Rural	35	17.5
	b. Urban	165	82.5
8.	Type of family		
	a. Nuclear	86	43
	b. Joint	114	57

The demographic characteristic of 200 diabetes patients divided with sub tables. This table describes the percentage distribution of the following of the patients with diabetes.





DISTRIBUTION OF TREATMENT REGIMEN, PREVIOUS KNOWLEDGE, SOURCE OF INFORMATION AND DIETARY PATTERN

S.No	Demographic characteristics	No of persons	Percentage
9.	Treatment regimen		
	a. Diet alone	5	2.5
	b. Oral drug alone	195	97.5
10.	Previous knowledge of diabetes mellitus		
	a. Yes	106	53
	b. No	94	47
11.	Source of information		
	a. Parents	55	27.5
	b. Mass media	44	22
	c. Health professional	10	5
	d. Friends	5	2.5
	e. Nil	86	43
12.	Dietary pattern		
	a. Vegetarian	9	4.5
	b. Non-vegetarian	191	95.5

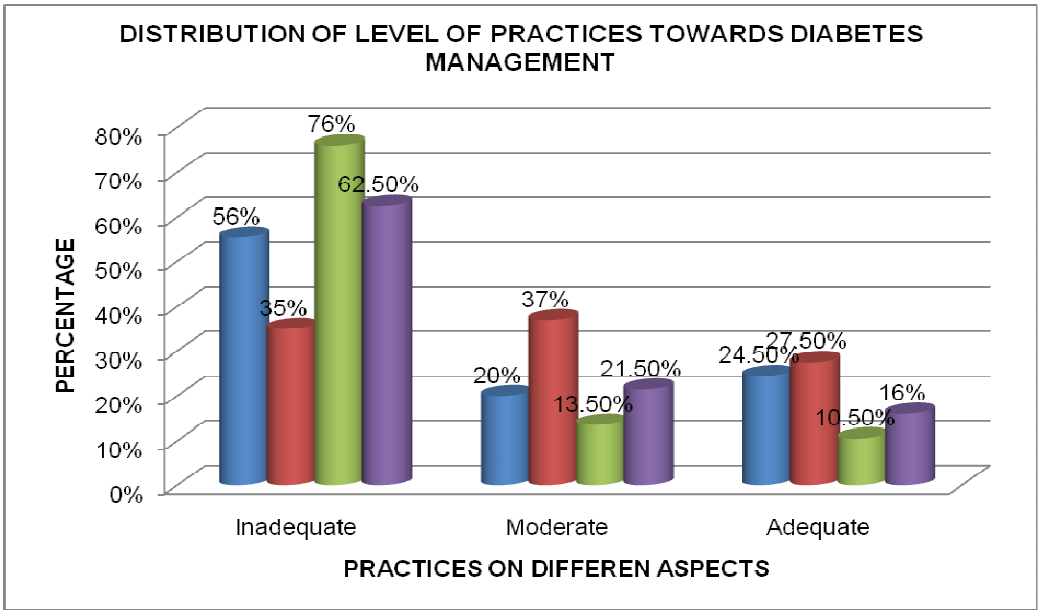
The above table describes the demographic variables like treatment regimen previous knowledge, source of information and dietary pattern. When considering the treatment regimen 97.5% of patients were oral drugs and 0.5% of patients were diet alone. About the previous knowledge of diabetes mellitus 53% of patients said “Yes” and 47% of patients said “No”. With respect to the source of information 42% of patients got no knowledge of information, 27.5% got the source of information from their parents, 22% got the information through mass media 5% patients got the source of information from the health professional and 2.5% patients got the source of information from their friends. When considering the dietary habits 95.5% were non vegetarians and only 45% of patients were vegetarians.

KNOWLEDGE OF DIABETES MELLITUS

S.NO	KNOWLEDGE ASPECTS	NO. OF PERSONS	PERCENTAGE
1.	Meaning of diabetes mellitus	130	65
2.	The usual causes for diabetes mellitus	64	32
3.	The signs and symptoms of diabetes mellitus	188	94
4.	The test done to investigate	119	59.5
5.	Symptoms of decreased blood sugar level	38	19.0
6.	Diet that should be followed by diabetics	66	33
7.	If there is any delay in diet you should take	91	45.5
8.	Sweet increases the blood sugar	72	36
9.	The vegetables that should be included	74	37
10.	The oils that can be used	73	36.5
11.	The best time for exercise	14	7
12.	Exercise help diabetes	27	13.5
13.	The type of exercises	106	53
14.	Avoiding exercise	30	15
15.	Necessity of following exercise	65	32.5
16.	Time for medications	187	93.5
17.	Treatment for decreased blood sugar	31	15.5
18.	Reason for increased blood sugar	67	33.5
19.	Diabetes can be controlled	63	31.5
20.	Reason for taking medications	126	63

PRACTICE TOWARDS DIABETES MANAGEMENT

S.NO	ASPECTS OF PRACTICE	NO. OF PERSONS	PERCENTAGE
1.	Low caloric & high fiber diet	38	19
2.	Avoiding sugar content food	9	4.5
3.	3 meals per day	91	45.5
4.	Correct regular meal time	82	41
5.	Without skipping meals	91	45.5
6.	Following prescribed medications	176	88
7.	Taking Daonil / Insulin before food	60	30
8.	Not adjusting the dosage without consultation	32	16
9.	Taking medication in time	10	5
10.	Regular hospital visit	123	61.5
11.	Following planned exercise	12	6
12.	Doing exercise after food	11	5.5
13.	Visiting the Doctor with frequent urination and thirst	25	12.5
14.	Carrying I.D Card & Sugar while travelling	36	18
15.	Wearing chapels while going out	106	53
16.	Inspecting the foot daily	21	10.5
17.	Proper wound care	55	27.5
18.	Special attention to nails	49	24.5
19.	For burning sensation and pain in the foot visiting the Doctor	24	12
20.	Keeping the skin clean and dry and wearing clean clothes	110	55



ASSOCIATION BETWEEN EDUCATION OF DIABETES PATIENTS AND PRACTICE TOWARDS DIABETES MANAGEMENT

S.NO	EDUCATIONAL STATUS	INADEQUATE <25%		MODERATELY ADEQUATE 25%- 50%		ADEQUATE <50%		INFERENCE
		NO	%	NO	%	NO	%	
1.	Illiterate	38	73.1	12	23.1	22	3.8	
2.	Primary school	36	61.0	20	33.9	3	5.1	χ^2 - 2.83
3.	High school	34	43.6	33	42.3	11	14.1	P = 0.002
4.	Higher secondary	4	18.2	6	54.5	3	27.3	

The above table shows the association between the higher educational level and the practice towards management. The variable is found to be significant i.e. there is a high association between higher educational level of the patients and practice towards the management of diabetes. Higher educational level of the patients enables them to understand the consequences of hyperglycemic, and to prevent that they will follow the diabetes management practices adequately. This was confirmed by chi-square test and P. value. (χ^2 = 20.83, P=0.002)

COMPARISON OF PRACTICE VERSUS DEMOGRAPHIC CHARACTERISTICS OF DIABETES PATIENTS

S.No	FACTOR	N	MEAN	SD	'F' TEST/ 't' TEST	INFERENCE
1.	Sex					
	a. Male	84	32.62	15.07	3.42	0.001
	b. Female	116	24.69	16.89		
2.	Education					
	a. Illiterate	52	20.96	14.75	9.891	0.001
	b. Primary School	59	26.61	15.24		
	c. High School & above	89	33.08	16.91		
3.	Family history of diabetes					
	a. Yes	57	39.73	17.12	7.03	0.001
	b. No	142	23.35	13.88		
4.	Source of Information					
	a. Parents	55	40.36	16.46	22.31	0.001
	b. Mass Media	44	28.563	16.25		
	c. Health Profession	10	37.50	12.30		
	d. Friend	5	32.00	16.04		
	e. Nil	86	18.48	10.38		

The above table depicts association between the demographic characteristics and practice towards diabetes management. It was found that the increase in the level of practice towards diabetes management is more on male, higher education level, having family history of diabetes and getting information from parents / health professionals. It was confirmed by t-test or 'F' test.

SUMMARY AND DISCUSSION

This study was conducted to assess the knowledge and practice on management of diabetes among patient attending outpatient department, Govt General Hospital, Chennai-600 003. The objective of the study is to assess the knowledge and to identify the practice adopted by their in order to management of diabetes, and prepare a self instructional modules. Patients with above the age of 18 those who had the diagnose of diabetes mellitus within one year, both male and females in diabetic outpatient department, Govt. General Hospital, Chennai were selected for this study. 200 samples of patients by systematic sampling were interviewed. Majority of the patients (58%) were females, and 39% of patients had studied up to high school education and 47.5% of the family's monthly income falls between 2001 - 3000, 47% of patients were house wives and majority 82.5% from urban area 34.5% diabetes were detected in less than 3 months. 57% of patients had adequate knowledge about the disease, 49.5% had inadequate knowledge about the diet. 64.5% had inadequate knowledge about exercise and 42.5% of patients had adequate knowledge about the drug. The association between the knowledge on diabetes with

educational level reveals high association p = 0.001. As the patients who have higher education have knowledge on diabetes. The correlation between the knowledge and practice of diet, drug, exercise and healthy habits reveals high correlation. There is a significant relationship between knowledge and practice of management of diabetes at p = 0.01.

SUGGESTIONS FOR FURTHER STUDY

1. A Similar study may be conducted on large sample
2. A comparative study would be done between diabetic male and female patients and between urban and rural population.
3. A study could be done to determine the factors influencing patient education.

CONCLUSION

This study had given some clues that majority of patients had inadequate knowledge about the diet and exercise. Dietary, planned exercise and drug practices are also inadequate. This study experience had helped the investigator to spell out some recommendations and to develop a self instructional module so as to improve the knowledge about the diseases and increase the practice for control of diabetes and prevention of complications. By conducting health education programme the knowledge of diabetes patients will definitely improve, which will leads to practice towards the management of diabetes mellitus.

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