

“A Study to Assess the Knowledge Regarding Self Care Management of Clients with Diabetes Mellitus in Selected Urban Slums, Tirupati”.

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Abstract

Objectives of the study to assess the knowledge regarding selfcare management of clients with diabetes mellitus and to find the association between knowledge regarding selfcare management of clients with diabetes mellitus with their selected socio demographic variables. A descriptive design was adopted. One hundred diabetic clients were selected by using convenient sampling technique on the basis of inclusion criteria to assess the knowledge regarding self-care management of clients with diabetes mellitus. The data was collected from Nehrunagar, Indiranagar, Bommagunta, Manchinellagunta urban slums in Tirupati. Who fulfilled inclusive criteria, Consent was taken from them by explaining the purpose of the study. The interview schedule was used to assess knowledge regarding self-care management of clients with diabetes mellitus. Regarding the level of knowledge on self-care management of diabetes mellitus among 100 diabetic clients, 50% had moderate knowledge, 30% had inadequate knowledge, 20% had adequate knowledge. There was association between the socio-demographic variables like age, gender, educational status, occupation, family income per month, family history of diabetes mellitus, source of information and duration of illness significant at $P < 0.01$ level, type of family at $P < 0.05$ level and there was no significant association with other socio demographic variables like Marital status, Religion and Type of Diabetes, These findings suggested that majority of sample were had moderate and inadequate knowledge so there will be need to enhance the knowledge of self-care management of Diabetes mellitus, so there by researcher distributed information booklet to all samples. Further nurses need to organize the health education campaigns on self-care management of diabetes mellitus to enhance their knowledge.

Key words: Knowledge, Selfcare, Diabetes mellitus

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I. Introduction

DM is primarily driven by dietary transitions and insufficient or lack of physical activity altering the physiological milieu leading to overweight or obesity and diabetes. Care for chronic diseases like diabetes poses challenges characterized by the need for sustained compliance to treatment, prevention or management of associated complications. This requires the continuous engagement of health systems in the continuum of care at all stages Diabetes care requires coordination across all tiers of health care systems. Most importantly co-driven by the patient's knowledge, attitudes and perceptions toward awareness, treatment and adherence to the recommendations

Diabetes mellitus is a group of metabolic disorder arising due to relative or absolute deficiency of a digestive hormone called insulin or inability or resistance of body cells to use the available insulin. Risk factors are family history, obesity, impaired glucose tolerance, hypertension, history of gestational diabetes mellitus. Clinical manifestations include 3 P's polyuria, Polyphagia, Polydipsia, fatigue, weakness, sudden vision changes, tingling or numbness of hands and foot, dry skin. Patients with Diabetes mellitus cannot be cured, but they can control it with proper care, regular exercise, diet and drug. Proper care, regular administration of drug can provide desired outcome, control diabetes, and prevent its complications. Undiagnosed or inadequately treated diabetes mellitus patients develop multiple complications leading to hospital admission.

Diabetic patients have to carry out their daily self-management activities according to the instruction of their health care provider in order to prevent diabetes-related morbidity and mortality. In diabetes care, self-management by patients is the key basis which is believed to enhance patients' efficacy in diabetes management by increasing disease awareness and improving prevention.

Need for the Study

India has an estimated 77 million people (1 in 11 Indians) formally diagnosed with which makes it the second most affected in the world, after China. Furthermore, 700,000 Indians died of diabetes, hyperglycemia, other complications of diabetes in 2020. One in six people 17% in the world with diabetes is from India. India's population as calculated in October 2018 was about 17.5% of the global total. The number is projected to grow by 2045 to become 134 million per the International Diabetes Federation. Diabetes is one of the largest global health emergencies of this century, ranking among the 10 leading causes of mortality together with cardiovascular disease (CVD), respiratory disease, and cancer. According to the World Health Organization (WHO), non-communicable diseases (NCDs) accounted for 74% of deaths globally in 2019, of which, diabetes resulted in 1.6 million deaths, thus becoming the ninth leading cause of death globally. By the year 2035, nearly 592 million people are predicted to die of diabetes.

OBJECTIVES OF THE STUDY:

- To assess the knowledge regarding selfcare management of clients with diabetes mellitus.
- To find the association between knowledge regarding selfcare management of clients with diabetes mellitus with their selected socio demographic variables.
- To distribute information booklet regarding selfcare management of diabetes mellitus.

ASSUMPTIONS

- The knowledge of the diabetic clients influences practices.
- Self-care management technique can be administered at any time as early as possible to prevent complications of diabetes mellitus.

NULL HYPOTHESIS

H₀₁: There will be no significant association between level of knowledge regarding selfcare management of clients with Diabetes mellitus with their selected demographic variables. Hence null hypothesis (H₀₁) was rejected and hypothesis was accepted.

DELIMITATIONS

The study is limited to Doctor diagnosed diabetic patients in selected urban slums only.

II. Research Methodology

Research approach: Non experimental Research Approach used in present study.

Research design: The researcher adopted Descriptive Research Design for this study.

Setting of the study: The present study was conducted at selected urban slums Nehr Nagar, Bommagunta, Indiranagar, Manchineellagunta Tirupati.

Population: The present study target population consists of doctor diagnose diabetic clients in urban slums of Tirupati.

Sample & sample size: The sample of present study included 100 diabetic clients who fulfill inclusion criteria.

Sampling Technique: Sampling technique adopted for present study was Non-probability convenient sampling technique.

Criteria for sample selection:

Inclusion criteria:

Diabetic clients those who:

- Are willing to participate in the study.
- Are available during data collection.
- Are doctor diagnosed.

Exclusion criteria:

Diabetic clients those who:

- Are residing other than urban slum area.
- Are physically and mentally disabled.
- Speaks other than Telugu or English languages.

Development and description of the tool

The researcher developed the tool based on the objectives of the study. A closed ended **Structured Questionnaire** is used to collect the necessary data from the samples.

The tool consists of I & II sections.

Section-I :

It includes selected demographic variable like age, sex, religion, marital status, education, family income, type of diabetes mellitus, duration of diabetes mellitus, family history of diabetes, source of information regarding diabetes mellitus.

Section –II :

Structured questionnaire which consists of 30 questions to assess the knowledge regarding self-care management of client with diabetes mellitus. A total of 30 in which some questions consists one answer and some questions consists more than one answer each correct answer carries 1 mark and wrong answer carries 0 mark the maximum score was 70.

SCORE INTERPRETATION FOR SECTION – II:

SCORE	MARKS	LEVEL OF KNOWLEDGE
<50 %	<35	Inadequate level of knowledge
51-75 %	36-52	Moderate level of knowledge
>75%	>53	Adequate level of knowledge

Content validity:

The tool was submitted to 10 experts constituting 8 experts from the department of nursing and 2 experts in department of community medicine. Based on the suggestions given by the experts the necessary modifications of the tool were made and final draft was prepared and incorporated in pilot study.

Reliability of the tool:

To establish the reliability of tool Chrobach’s alpha method was used. Tool was administered to 10 members who were not included in the main study. The reliability score r-0.93 which indicates that tool was highly reliable.

Pilot study:

Formal permission was obtained from the district medical officer. Pilot study was conducted on 8-7-2022. 10 diabetic clients at Kameswar nagar, Tirupati who fulfill the inclusion criteria were selected, obtained consent from them by establishing good rapport and the samples selected for pilot study was based on Non-probability convenience sampling technique.

Investigator administrated interview schedule to assess the knowledge regarding self-care management of clients with diabetes mellitus and instructions were given to them to answer questionnaire frankly, after that information booklet was distributed among the samples. After that tabulate the data and statistical analysis was done by researcher, results show that it is feasible and practicable.

Procedure of Data collection

A formal written permission was obtained from The Medical officer. The data was collected from Nehrunagar, Indiranagar, Bommagunta, Mancchinellagunta urban slums in Tirupati. Who fulfilled inclusive criteria. Consent was taken from them by explaining the purpose of the study.

The interview schedule was used to assess knowledge regarding self-care management of clients with diabetes mellitus for 20 minutes per each sample daily for 5 to 6 samples per day from 9:00 am to 1:00 pm, total duration of data collection as one month.

The schedule adopted was given below for data collection:

Plan for data Analysis:

The study was planned to analyze based on the study objectives with the help of descriptive and inferential statistics.

Descriptive statistics:

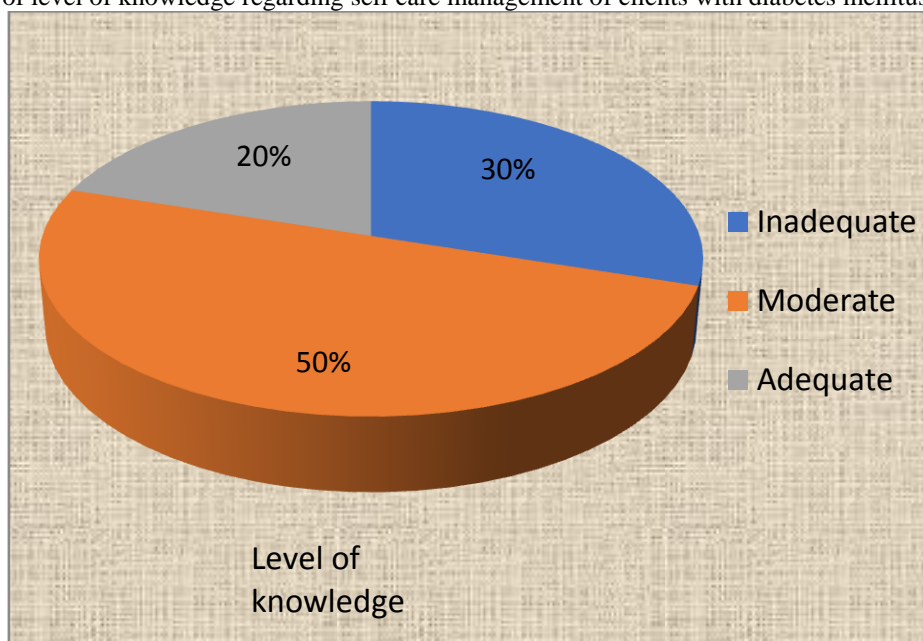
- Frequency and percentage distribution was used to assess demographic data among diabetic clients.
- Percentage, mean distribution and standard deviation was used to form the level of knowledge on diabetes Self-care management.

Inferential statistics:

Chi-Square was used to identify the association between knowledge regarding self-care management of clients with diabetes mellitus with their selected socio demographic variables.

III. Results

Distribution of level of knowledge regarding self care management of clients with diabetes mellitus



Percentage distribution of the respondents according to their level of Knowledge

Association between knowledge regarding self-care management of clients with diabetes mellitus with their selected socio demographic variables.

Variable	Category	N/%	Knowledge			Total	Chi-square	P value
			Inade-quate	Mode-rate	Ade-quate			
1 Age in years	21-30	N	2	1	0	3	29.089**	0.000
		%	2.00%	1.00%	0.00%	3.00%		
	31-40	N	11	6	0	17		
		%	11.00%	6.00%	0.00%	17.00%		
	41-50	N	16	26	7	49		
		%	16.00%	26.00%	7.00%	49.00%		
	above 50	N	1	17	13	31		
		%	1.00%	17.00%	13.00%	31.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
2 Gender	Male	N	4	10	11	25	12.444**	0.002
		%	4.00%	10.00%	11.00%	25.00%		
	Female	N	26	40	9	75		
		%	26.00%	40.00%	9.00%	75.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
3 Marital status	Unmarried	N	2	0	0	2	11.272	0.080
		%	2.00%	0.00%	0.00%	2.00%		
	Married	N	22	42	20	84		
		%	22.00%	42.00%	20.00%	84.00%		
	Widow	N	5	8	0	13		
		%	5.00%	8.00%	0.00%	13.00%		

	Divorced	N	1	0	0	1		
		%	1.00%	0.00%	0.00%	1.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
4 Religion	Hindu	N	25	37	16	78	1.714	0.788
		%	25.00%	37.00%	16.00%	78.00%		
	Muslim	N	5	12	4	21		
		%	5.00%	12.00%	4.00%	21.00%		
	Christian	N	0	1	0	1		
		%	0.00%	1.00%	0.00%	1.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
5 Educational status	Illiterate	N	20	24	0	44	39.703**	0.000
		%	20.00%	24.00%	0.00%	44.00%		
	Primary school	N	6	14	6	26		
		%	6.00%	14.00%	6.00%	26.00%		
	Secondary school	N	4	6	3	13		
		%	4.00%	6.00%	3.00%	13.00%		
	Intermediate	N	0	5	5	10		
		%	0.00%	5.00%	5.00%	10.00%		
	Degree and above	N	0	1	6	7		
		%	0.00%	1.00%	6.00%	7.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
6 Occupational status	Unemployee	N	13	28	3	44	32.410**	0.000
		%	13.00%	28.00%	3.00%	44.00%		
	Employee	N	1	5	11	17		
		%	1.00%	5.00%	11.00%	17.00%		
	Cooli	N	7	6	2	15		
		%	7.00%	6.00%	2.00%	15.00%		
	Business	N	7	5	2	14		
		%	7.00%	5.00%	2.00%	14.00%		
	Any other	N	2	6	2	10		
		%	2.00%	6.00%	2.00%	10.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
7 Family Income per month	< 5000	N	8	13	5	26	43.060**	0.000
		%	8.00%	13.00%	5.00%	26.00%		
	5001-10000	N	9	13	0	22		
		%	9.00%	13.00%	0.00%	22.00%		
	10001-15000	N	7	13	4	24		
		%	7.00%	13.00%	4.00%	24.00%		
	15001-20000	N	5	11	1	17		
		%	5.00%	11.00%	1.00%	17.00%		
	above 20000	N	1	0	10	11		
		%	1.00%	0.00%	10.00%	11.00%		

		%	1.00%	0.00%	10.00%	11.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
8 Type of family	Nuclear family	N	19	37	20	76	9.064* 0.011	
		%	19.00%	37.00%	20.00%	76.00%		
	Joint family	N	11	13	0	24		
		%	11.00%	13.00%	0.00%	24.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
9 Type of diabetes	Type 1	N	1	4	1	6	0.768 0.681	
		%	1.00%	4.00%	1.00%	6.00%		
	Type 2	N	29	46	19	94		
		%	29.00%	46.00%	19.00%	94.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
10 Duration of the illness	< 5 years	N	17	19	1	37	36.484** 0.000	
		%	17.00%	19.00%	1.00%	37.00%		
	5-10 years	N	7	24	6	37		
		%	7.00%	24.00%	6.00%	37.00%		
	10-15 years	N	6	3	4	13		
		%	6.00%	3.00%	4.00%	13.00%		
	> 15 years	N	0	4	9	13		
		%	0.00%	4.00%	9.00%	13.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
11 Is there any family history of the diabetes mellitus	Yes	N	9	30	16	55	13.131** 0.001	
		%	9.00%	30.00%	16.00%	55.00%		
	No	N	21	20	4	45		
		%	21.00%	20.00%	4.00%	45.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		
12 Source of Information	Mass media	N	4	1	0	5	13.969** 0.007	
		%	4.00%	1.00%	0.00%	5.00%		
	Health care personal	N	18	36	20	74		
		%	18.00%	36.00%	20.00%	74.00%		
	Parents / Friends / Relatives	N	8	13	0	21		
		%	8.00%	13.00%	0.00%	21.00%		
Total		N	30	50	20	100		
		%	30.00%	50.00%	20.00%	100.00%		

The results shows that there was association between level of knowledge regarding selfcare management of clients with diabetes mellitus with age,gender,educational status,occupation,family income per month, duration of illness, family history of diabetes mellitus and source of information significant at P < 0.01 level, type of family at P < 0.05 level,There was no significant association with the other socio demographic variables like type of diabetes, marital status and religion. Hence H₀₁ was rejected.

IV. Discussion

The discussion of the findings is much more subjective section of a research report than presentation of the findings. The purpose of the study was "To assess the knowledge regarding selfcare management of clients with diabetes mellitus in selected urban slums, Tirupati".

The first objective of the study was "To assess the knowledge regarding selfcare management of clients with diabetes mellitus." Out of 100 diabetic clients majority 50(50%) had moderate knowledge, 30(30%) had inadequate knowledge and followed by 20(20%) had adequate knowledge regarding selfcare management. The mean score of knowledge regarding selfcare management was 40.68 and standard deviation was 10.04.

The second objective of the study was to find the association between knowledge regarding selfcare management of clients with diabetes mellitus with their selected socio demographic variables. There was association between level of knowledge regarding selfcare management and socio demographic variables like age, gender, educational status, occupation, family income per month, family history of diabetes mellitus, duration of illness, source of information significant at $P < 0.01$ level, type of family at $P < 0.05$ level. There was no significant association with the other socio demographic variables like type of diabetes mellitus, marital status and religion.

V. Conclusion:

In this study knowledge among diabetic clients majority 50 (50%) had moderate knowledge, 30 (30%) had inadequate knowledge and followed by 20 (20%) had adequate knowledge regarding selfcare management of diabetes.

There was association between level of knowledge regarding selfcare management of clients with diabetes mellitus with socio demographic variables like age, gender, educational status, occupation, family income per month, family history of diabetes mellitus, source of information and Duration of illness at $P < 0.01$ level, type of family at $P < 0.05$ level. There was no significant association with other sociodemographic variables like Marital status, Religion and Type of Diabetes. Hence H_{01} was rejected.

IMPLICATIONS:

The implications drawn from present study is of vital concern to health teams including nursing practice, nursing education, Nursing administration and so on.

LIMITATIONS:

- ✚ Study is limited to Doctor diagnosed diabetic clients.
- ✚ Study is confined to assess the knowledge regarding selfcare management of clients with diabetes mellitus in selected urban slums, Tirupati.
- ✚ Study is limited to who knows Telugu or English languages.

RECOMMENDATIONS:

- ✚ A comparative study can be done between urban and rural area to find out effectiveness of Self Instruction Module.
- ✚ A comparative study can be done to assess the knowledge on self-care management among Type-1 and Type-2 diabetic clients.
- ✚ As study can be conducted to assess the effectiveness of structured teaching programme on knowledge regarding selfcare management of clients with diabetes mellitus.
- ✚ Field trials can be conducted to improve the healthy practices on prevention diabetes complications in the community.

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