

A Study to Assess the Difficulties in Providing Care as Expressed by the Mothers of Children with Diabetes Mellitus in Selected Setting in Chennai

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Abstract: *Diabetes mellitus (DM) is a chronic metabolic disorder. In India the annual incidence of childhood diabetes had increased from 7.8/100,000 in 1999 to 10.6/100,000 in 2003. Diabetes demands mothers to modify their child rearing practice to manage the disease condition of the child. Management aspects of the child with diabetes are mainly related to diet, activities of children, medication, monitoring of blood glucose level, care during illness of the children. When providing care, mother faces difficulties which may depend on the mother's knowledge, interest, occupation, availability of time, child's nature and schooling time. Research approach was explorative in nature and descriptive design was used for this study. The study was conducted among the mothers of children with Diabetes Mellitus attending inpatient and outpatient department of TAG VHS Diabetes Research Center, Adyar and Aruna Diabetes Center, Choolaimedu, Chennai. Non probability convenient sampling technique was used to select 60 mothers. Data was collected using semi structured interview schedule. Majority of the mothers had difficulties in monitoring and maintaining blood glucose level (98.33%), drug administration and management (95%), promotion of optimum rest, sleep and exercise (85%), dietary management (78.33%) and promotion of growth and development (76.67%), maintaining drug timing (84.21%) and getting diabetic medication for their child(76.36%). 56.7% of the mothers had moderate difficulties, 31.7% of the mothers had low difficulties and 11.7% of the mothers had high difficulties in providing care to the child with Diabetes Mellitus. Majority of the mothers of children with Diabetes Mellitus experienced moderate difficulty in providing care to their children. Elder mothers experienced lower difficulty than the younger mothers. Mothers of male children with Diabetes Mellitus had moderate difficulty. The findings of the study helps in evidence based practice for nurses.*

1. Introduction

Diabetes mellitus (DM) is a chronic metabolic disorder caused by an absolute or relative deficiency of insulin, an anabolic hormone. It has two types type 1 and type 2. Type 1 is caused by deficiency in production of insulin by the beta cells of the islets of langerhans located in the pancreas. It may be absence, destruction or other loss of these cells results in type 1 Diabetes and also called Insulin-Dependent Diabetes Mellitus [IDDM]. Most children with Diabetes have type 1 Diabetes Mellitus (T1DM) and a lifetime dependence on exogenous insulin. Type 2 Diabetes Mellitus (Non-Insulin-Dependent Diabetes Mellitus [NIDDM]) is a heterogeneous disorder. Most patients with type 2 Diabetes Mellitus have insulin resistance and their beta cells lack the ability to overcome this resistance. Although this form of Diabetes was previously uncommon in children, in some countries, 20 % or more number of children have type 2 Diabetes Mellitus, because of increased rates of obesity. Other children may have inherited disorders of insulin release, leading to Maturity Onset Diabetes of the young (MODY) or congenital Diabetes (American Diabetic Association, 2011).

Statement of the Problem

A study to assess the difficulties in providing care as expressed by the mothers of children with Diabetes Mellitus in selected settings in Chennai.

Objectives

- To assess the difficulties in providing care as expressed by the mothers of children with Diabetes Mellitus.
- To associate the difficulties in providing care with their selected demographic variables.

Assumption

- Mothers will have difficulties in providing care to their children with diabetes mellitus.
- Difficulties in providing care will be influenced by the demographic variables.

2. Materials and Methods

Research approach was explorative in nature and descriptive design was used for this study. The study was conducted among the mothers of children with Diabetes Mellitus attending inpatient and outpatient department of TAG VHS Diabetes Research Center, Adyar and Aruna Diabetes Center, Choolaimedu, Chennai. Non probability convenient sampling technique was used to select 60 mothers. Data was collected using semi structured interview schedule.

Description of the data collection tool

The tool was prepared, based on the information gathered from the review of literature, objectives of the study and the personal and professional experience of the investigator. It consisted of 2 section that is section A and section B.

Section A: It consisted of 2 subparts.

Part 1: consist of questions to seek information regarding demographic variables of the mothers of children with Diabetes Mellitus like age, educational status, occupation, family monthly income type of family, family size, number of the children in the family, number of the children affected in the family.

Part 2: consist of questions to seek information regarding demographic variables of the child with Diabetes Mellitus like age, sex, educational status and duration of illness.

Section B

It consisted of 12 questions to assess the difficulties in providing care expressed by the mothers of children with Diabetes Mellitus. Questions related to children's diet, medication, and activities of the children and monitoring and maintaining of blood glucose levels, promoting growth and development of the child, promoting optimum rest, sleep, exercise and prevention of complication were included to assess the difficulties in implementing expected care.

The difficulties in providing care was interpreted as follows:

Grading	Levels of Difficulties
>75%	High difficulties
50 – 75%	Moderate difficulties
<50%	Low difficulties

Research Approach

Research approach was explorative in nature.

Research Design

A Descriptive research design was adopted for this study.

Settings

The study was conducted among the mothers of children with Diabetes Mellitus attending inpatient and outpatient department in following centers in Chennai.

- TAG-VHS Diabetes Research Centre, Adyar, Chennai.
- Aruna Diabetes Centre.. Choolaimedu, Chennai.

Study Participant

The sample of the study was the mothers of children with Diabetes Mellitus, who fulfilled the inclusion criteria.

Criteria for Sample Selection

The sample was selected based on the following inclusion and exclusion criteria.

Inclusion Criteria

- Mothers of children less than 18 years and who were diagnosed as Diabetes Mellitus.
- Mothers of children with Diabetes Mellitus, who were attending outpatient and inpatient department in selected Diabetes Centers in Chennai.
- Mothers of children with Diabetes Mellitus who were willing to participate in this study.
- Mothers who can understand Tamil or English.

Exclusion Criteria

- Mothers who had already participated in the pilot study.

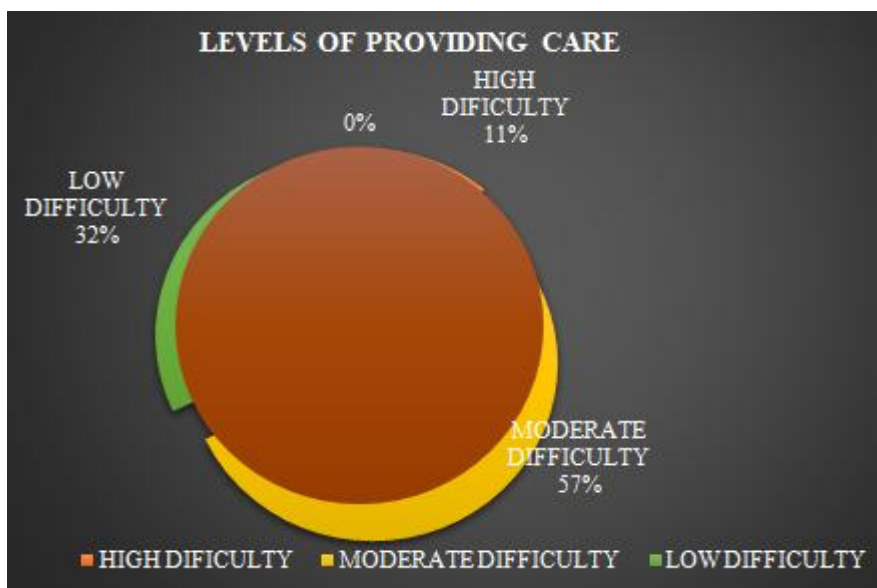
3. Result

Majority of the mothers had difficulties in monitoring and maintaining blood glucose level (98.33%), drug administration and management (95%), promotion of optimum rest, sleep and exercise (85%), dietary management (78.33%) and promotion of growth and development (76.67%), maintaining drug timing (84.21%) and getting diabetic medication for their child(76.36%).

56.7% of the mothers had moderate difficulties, 31.7% of the mothers had low difficulties and 11.7% of the mothers had high difficulties in providing care to the child with Diabetes Mellitus.

Table 1: Frequency and percentage distribution of overall difficulties in providing care as expressed by the mothers of children with diabetes mellitus

S. No	The difficulties in providing care as expressed by the mothers	Frequency	Percentage (%)
1.	Low difficulties	19	31.7
2.	Moderate difficulty	34	56.7
3.	High difficulty	7	11.7



Graph 1: Frequency and percentage distribution of overall difficulties in providing care as expressed by the mothers of children with diabetes mellitus

Association of the difficulties in providing care to the children with the demographic variables of the mothers

S. no	Demographic variables	Low Difficulty		Moderate Difficulty		High Difficulty		chi square value
		F	P (%)	F	P (%)	F	P (%)	
1.	Age							23.428 p=0.003**
	a) less than 30 years	1	20	1	20	3	60	
	b) 31 – 35 years	8	42.1	7	36.8	4	21.1	
	c) 36 – 40 years	5	41.7	7	583	0	0	
	d) 41 – 45 years	4	28.6	10	71.4	0	0	
	e) 46 – 50 years	1	10	9	90	0	0	
2.	Educational qualification							7.637 p=0.470
	a) non literate	4	36.4	6	54.5	1	9.1	
	b) primary schooling	2	28.6	5	71.4	0	0	
	c) secondary schooling	10	43.5	10	43.5	3	13	
	d) higher schooling	3	20	9	60	3	20	
	e) graduate	0	0	4	100	0	0	
3.	Religion							13.1 p=0.001***
	a) hindu	10	22.7	27	61.4	7	15.9	
	b) christian	5	50	5	50	0	0	
	c) muslim	4	66.7	2	33.3	0	0	
	d) any other specify	0	0	0	0	0	0	
4.	Occupation							5.333 p=0.255
	a) employed	2	10	12	60	1	30	
	b) unemployed	17	42.5	22	55	0	2.5	
	if employed							
	a) private	0	0	0	0	1	100	
	b) government	0	0	4	100	0	0	
	c) business	2	13.3	8	53.3	5	33.3	
	d) coolie/daily wages	2	10	12	60	6	30	
5.	Monthly family income							8.528 p=0.202
	a) less than rs. 5,000	8	33.3	13	54.2	3	12.5	
	b) rs. 5001 – 10000	9	40.9	9	40.9	4	18.2	
	c) rs. 1001 – 15000	0	0	6	100	0	0	
	d) above rs. 15000	2	25	6	75	0	0	
6.	Type of the family							2.267 p=0.322
	a) joint family	3	27.3	8	72.7	0	0	
	b) nuclear family	160	32.7	26	53.1	7	14.3	
	c) broken family		0	0	0	0	0	
7.	Family size							15.44 p=0.016*
	a) three members	8	50	4	25	4	25	
	b) four members	6	19.4	22	71	3	9.7	
	c) five members	5	55.6	4	44.4	0	0	
	d) six members	0	0	4	100	0	0	
8.	Number of children in the family							12.810 p=0.046*
	a) one	8	47.1	5	29.4	4	23.5	
	b) two	6	18.2	24	72.7	3	9.1	
	c) three	5	55.6	4	44.4	0	0	
	d) four and above	0	0	1	100	0	0	
9.	Number of children affected with diabetes mellitus in the family							0.778 p=0.678
	a) one	19	32.3	33	55.9	7	11.9	
	b) two	0	100	1	0	0	0	
	c) three	10	31.7	3	56.7	7	11.7	
	d) four and above	0	0	0	0	0	0	

Association of the difficulties in providing care to the children with the demographic variables of the children

S. no	Demographic variables	low difficulty		moderate difficulty		high difficulty		chi square value
		f	p (%)	f	p (%)	f	p (%)	
1	Age							17.458 p=0.002**
	a) less than 1 years	0	0	0	0	0	0	
	b) 1 – 6 years	0	0	3	50	3	50	
	c) 7 – 12 years	5	31.3	7	43.8	4	25	
	d) 13 – 18 years	14	36.8	24	63.2	0	0	
2.	Sex							3.778 p=0.152
	a) male	4	18.2	16	72.7	2	9.1	
	b) female	15	39.5	18	47.4	5	13.2	
3.	Education							13.166
	a) primary schooling	11	16.7	2	33.3	3	50	

	b) secondary schooling	7	25	17	60.7	4	14.3	p=0.010***
	c) higher secondary schooling	11	42.3	15	57.7	0	0	
4.	Age at diagnosis							9.247 p=0.055
	a) less than 1 year	0	0	0	0	0	0	
	b) 1 – 6 years	8	27.6	2	33.3	3	50	
	c) 7 – 12 years	8	32	17	60.7	4	14.3	
	d) 13 – 18 years	3	50	15	57.7	0	0	
5.	Duration of illness							13.509 p=0.036*
	a) less than 1 year	0	0	0	0	0	0	
	b) 1 – 3 years	3	37.5	2	25	3	37.5	
	c) 4 – 6 years	11	35.5	16	51.6	4	12.9	
	d) 7 – 10 years	2	13.3	13	86.7	0	0	
	e) 10 years and above	3	50	3	50	0	0	

4. Conclusion

It is found from this study that majority of the mothers of children with Diabetes Mellitus experienced moderate difficulty in providing care to their children. The demographic variables like age of mother, religion, family size and number of children in the family influences the difficulty in providing care. Elder mothers experienced low difficulty than the younger mothers. Mothers of male children with Diabetes Mellitus had moderate difficulty when compared to the mothers who had female children. It provides clue for nurses to promote optimum care children of children with diabetes mellitus and their caregiver.

5. Recommendations

Keeping the findings of the present study in view, the following recommendations are made

- The study results showed that there was a significant association of difficulty in providing care to children with Diabetes Mellitus with the age of the mother. A co-relational study can be conducted to assess the maternal age and practice of mothers towards health promotion of children diagnosed with Diabetes Mellitus.
- A checklist of care by mothers at home can be prepared and its effectiveness can be assessed. The mothers reported that they forgot to administer injection. So a study can be conducted to assess the effectiveness of structured teaching/demonstration program on insulin administration among children with Diabetes Mellitus.
- Most of the mothers were reported that they don't know about diabetic diet. Hospital and community level cooking demonstration can be conducted. Self-help group members and peer educators can be utilized to create awareness on the importance of diabetic diet.
- It was found that, most of the time siblings are also involved in the care of affected child with Diabetes Mellitus. So study can be conducted to assess the psychological and emotional wellbeing of sibling of children with Diabetes Mellitus.
- Studies can be conducted to assess the support services available for children with Diabetes Mellitus and their caregiver.
- The study can be conducted to assess the need of the parents of children with Diabetes Mellitus.

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