Assessment of Knowledge and Practice of Caregivers of Type 1 Diabetes Mellitus in Sulaimani Governorate

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ABSTRACT

Background and Objectives: Families of those children were the primary caregivers who are suffering from the burden of care and who encountered many other problems that arise may from illiteracy or limited knowledge. aim of study is to assess caregiver's knowledge and practice regarding the disease and to find out the association between knowledge and practices.

Subject & Methods: Descriptive study was conducted on 60 caregivers of the children with the disease from Sulaimani Governorate who were attending the center of diabetes for treatment and routine check up. Data were obtained through interviewing the caregivers via structured questionnaire developed the study.

Results : Caregivers were emphasizing on nutritional intake and necessity of insulin administration, and unable to recognize the importance of breast feeding. Caregivers read and write, majority were housewife, and almost urban resident. Patients were aged 6-10 yrs, gender were prevailed female. Negative family history was shown among patients, and two third were breast fed at the first six months of life.

Conclusions: For total knowledge of caregivers, the study showed good topics of knowledge, and high satisfactory practicing. Age of the sample shows no significant associations with knowledge regarding etiology and sign and symptoms, while significant association found between treatment, control measure and practices. Significant association found between educational level of caregivers and their knowledge regarding treatment, etiology, control measure and their practices. No significant association found between marital status of caregivers and practice. Families and patients need ongoing education and support, providing nutritional therapy, telephone contacts in some situations that needs, providing scientific booklet, publications about type I diabetes. Wear identification (ID) that identifies him or her as having diabetes.

Key words: Type I Diabetes, caregivers, patients.

INTRODUCTION:

Type 1 diabetes is a family disease; means that all family members must help. Children who do the best with their diabetes have the help and support of their parents, caregivers and family members. Peter H. Chase, Barbara 2006 [1]. The number of people with diabetes is increasing due to population growth, aging, urbanization, and increasing prevalence of obesity and physical inactivity. Quantifying diabetes and the number of people affected by diabetes, now and in the future, is important to allow rational planning and allocation of resources Sarah et al, 2004 [2]. Close parental monitoring of care completion can contribute to better adherence in adolescents with diabetes. General warmth and support in the absence of careful parental supervision may be insufficient to help youth achieve adequate levels of adherence, Deborah et al, 2007 3. Many problems arise from type

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these reasons and as there are many common complications that arise from type 1 DM that needs special care, educational planning for caregivers, nurses, patients and their families who give care to improve their health behavior, they should have reasonable knowledge and practice toward any suspected complication which help in reducing morbidity and mortality, minimize hospitalization and the burden of the treatment, also this study conducted as an attempt to explore caregiver's knowledge and practice regarding different aspects of type 1 diabetes mellitus.

Objectives of the study

To assess caregiver's knowledge and practice regarding type 1 DM.
To discover association between knowledge and practice toward care of type I DM.
To find out the statistical association and significant relationships between knowledge, practice and the demographic data of caregiver's variables (age, education, occupation, marital status, residency, shifting of care, opportunity to contact health personnel).

SUBJECTS & METHODS:

Quantitative design/descriptive study was conducted for caregivers of the type I diabetes mellitus clients in center of type I diabetes mellitus Sulaimani governorate, from 20th of May 2007 to the 19th of August 2007 to identify the level knowledge and practice of caregivers concerning the disease. A non probability/purposive sample of sixty (60) Caregivers from a population of ninety-eight (98) registered clients were selected for the study which represented (61%) of the total population. The caregivers were almost parents and the first degree relatives who accompanied their children aged 1 month to 18 years old who were registered in the diabetes center and who had Diabetes Mellitus and were attended every Sunday to the clinic for their treatment and routine check up.

Questionnaire consisted of two parts:
-The first part deals with demographic data concerning the caregiver and general characteristics which include age of caregivers, educational level, occupation of the parents of the child, their residency, marital status, relationship of caregivers with the child, period duration for taking care of the child. It also includes general information about the affected child consisting of: age, gender, when the disease was diagnosed, relationship to caregiver, feeding history during the first six months of life, and the family history of diabetes mellitus.
-The second part is concerned with the caregiver's knowledge and practice toward the child with juvenile diabetes mellitus. The caregiver's knowledge was comprised of 40 items that include (etiology of the disease, definition of the disease, signs and symptoms of type I diabetes mellitus, treatment of the disease, complications that may arise from the disease, and control measures for how to prevent the complications that may arise, while the practice score was comprised of 16 items

RESULT:

that measure aspects of care and treatment.
Figures (1) shows distribution of the sample according to their sociodemographic characteristics. It appears that the majority of the sample's age were adults age as shown in the figure that was thirty to thirty nine years old whose percentage was (43.3%), few of them (3.3%) aged less than twenty years old. Figure (2) reveals that (25%) of caregivers were read and write, compared to (1.6%) of those who were college graduate or postgraduate degree (1.6%).Figure (3) reveals that the highest frequent age group was between 6-10 years (50%) and the lowest is less than one year (1.6%). Table (1) reveals that most of the patients were female (55%) compared to (45%) male patients. No family history of DM was prevailed among

compared to (16.6%) who depended on formula, while the rest had both breast feeding and formula (15%).Table (3) No significant association was found between the age of the caregivers and their knowledge regarding etiology and sign and symptoms of disease at P >0.05.. The same table reveals the relation between

practice and the caregiver's age.Table 4. Shows the association between caregiver's knowledge regarding etiology, sign and symptoms, treatment, and control measure and their education level.Table (5) illustrates the relation between residency and caregiver's knowledge regarding (etiology, sign and symptoms, treatment, and control measure).
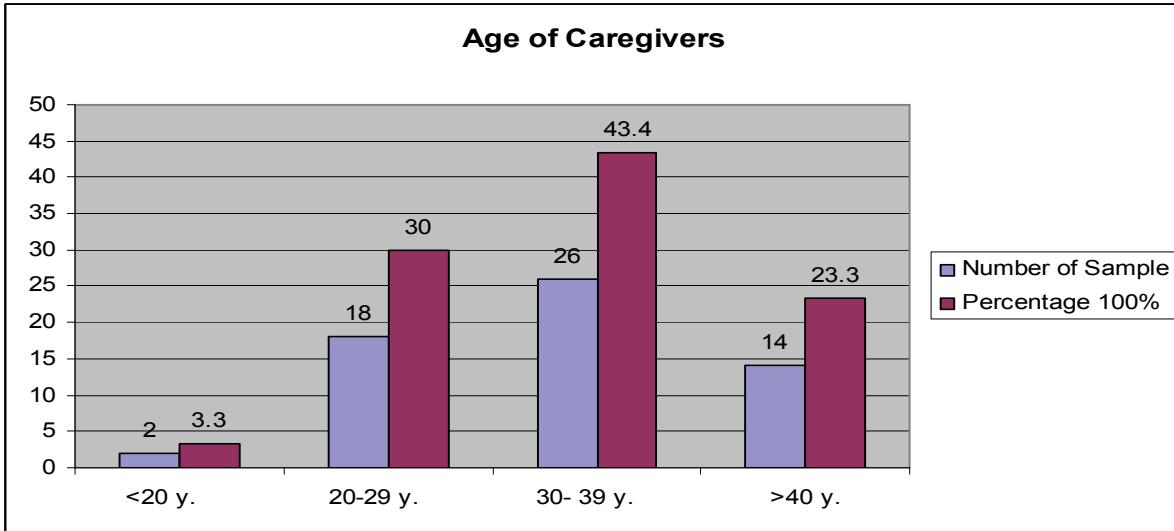

Figure 1: Caregiver's Age
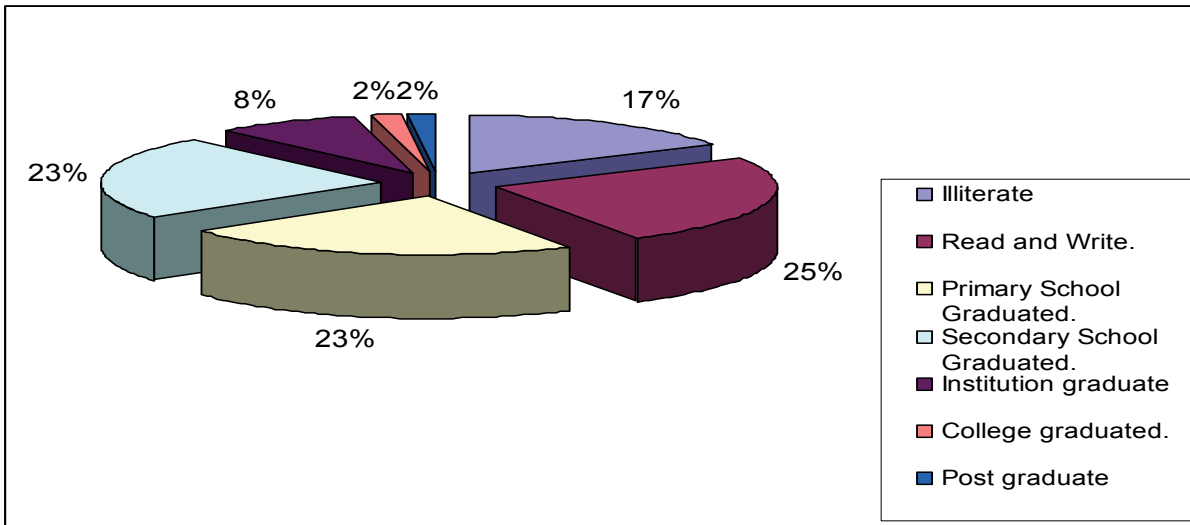
Figure 2: Educational level for caregivers
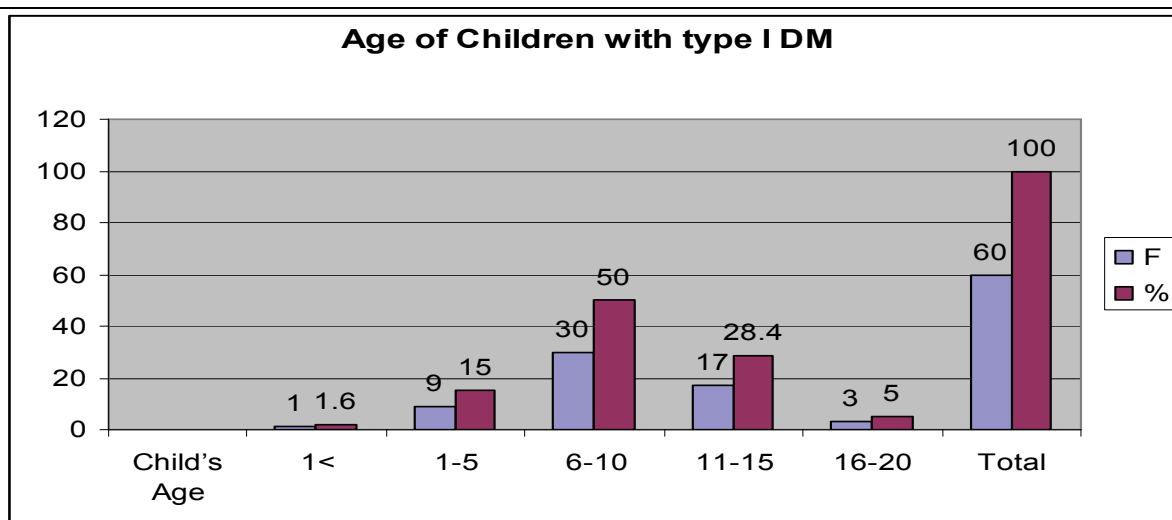
Figure 3: Age of children

Table 1: Distribution of Demographic characteristics of the children with Type 1 DM

No	Gender of the Child		
1	Female	33	55
2	Male	27	45
Total		60	100
No	Family History		
1	Yes	16	26.7
2	No	44	73.3
Total		60	100

Table 2: Distribution of type I diabetes clients regarding the type of feeding during the 1st six months of their life.

No	Type of Feeding	F	%
1	Mixed	9	15
2	Formula	10	16.6
3	Breast	41	68.4
Total		60	100

Table 4. Relationship between educational level of caregivers with their knowledge and practice.

Knowledge Education Level	Etiology				Sign & Symptoms				Treatment of type 1 DM				Control Measure				Practice			
	T		F		T		F		T		F		T		F		T		F	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Illiterate	37	14	40	25.8	40	15	22	26.9	110	17.2	33	25.6	98	16.7	22	28.3	146	16.8	14	15.8
Read & Write	65	24.5	32	20.6	64	23.9	20	24.4	151	23.6	21	16.3	155	26.2	8	10.3	222	25.5	18	20.2
Primary School	71	26.8	48	31	70	26.1	20	24.4	174	27.2	32	24.8	157	26.6	30	38.4	193	22.1	31	34.8
Sec. School	69	26	23	14.8	71	26.5	13	15.8	157	24.6	25	19.4	130	22.1	13	16.6	210	24.2	14	15.7
Institute	12	4.5	9	5.8	12	4.5	6	7.3	25	4	14	10.9	30	5.1	3	3.9	68	7.8	12	13.5
College Grad.	5	1.9	2	1.3	5	1.8	1	1.2	11	1.7	2	1.5	11	1.8	0	0	16	1.8	0	0
Post Graduate	6	2.3	1	0.7	6	2.2	0	0	11	1.7	2	1.5	9	1.5	2	2.5	16	1.8	0	0
Total	265	100	155	100	268	100	82	100	639	100	129	100	590	100	78	100	871	100	89	100

Table 5: Relationship between residency of caregivers and their knowledge and practice.

Residency	Etiology				Sign & Symptoms				Treatment of type 1 DM				Control Measure				Practice			
Knowledge	T		F		T		F		T		F		T		F		T		F	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Urban	263	80.6	150	81.1	207	76.4	63	75.9	482	75.1	97	82.2	420	73.4	63	82.9	644	73.9	76	85.4
Rural	63	19.4	35	18.9	64	23.6	20	24.1	160	24.9	21	17.8	152	26.6	13	17.1	227	16.1	13	14.6
Total	326	100	185	100	271	100	83	100	642	100	118	100	572	100	76	100	871	100	89	100

DISCUSSION:

The age of patients with type 1 is ranged from less than one year to less than twenty years, and it revealed that 6-10 years are the majority of ages. This result is supported by the study which is done in USA, 2000 [4], which indicated that "Diabetes is one of the most common chronic diseases in school-aged children". Another study that is stated clearly in Poland by Chobot, et al 2005 [5] supports the present result regarding the sex of the children affected with type I diabetes; the study revealed a slightly higher rate of females affected than males, and this was supported Chobot, et al 2005 [5]. Regarding risk factors the result shows that family history has slight effect on type 1 diabetes for the children who presented with the disease, and this has little difference with Perscilla and Karen, 2008 [6]. Concerning the type of feeding during the 1st six months of children's life, the result reveals that there were no clear effect for breast feeding on type 1 diabetes, or protection from the disease which is in consistent with a study carried out by Suvi and Mikael 2003 [7], but this outcome was disproved by another international study done by Gimeno SG and JM de Souza 1997 [8]. While significant association was found in relation to the treatments of type 1 diabetes and the control measure of the disease with the age of the sample, this result means that the families tried to know more about treatment of their children and to follow a control measure when their children become ill. Concerning the association of practice item with the age of the sample, the results show significant relation, which is supported by David et al 2004 [9]. The association between the knowledge and the educational level of the caregivers shows no significant association between the knowledge regarding the sign and symptom with the educational level. This finding can be explained according to the researcher's point of view that caregiver's educational level is inconsistent

because of some parts that were specific scientific. While caregiver's knowledge regarding other aspects (etiology, treatment of type 1 diabetes, and control measure) and educational level significant relation were found. Significant association found with practice of caregivers and the education, and these results are supported by the study which is done by Abdel W. Awadalla et al 2006 [10] and Janet et al 2005 [11]. Regarding the outcome of association between practice item and the educational level of the caregivers, there was significant association at P <0.05 and this is similar to study of Vanessa J. Briscoe and Stephen 2006 [12]. Concerning the residency of the sample table (5) revealed no significant association between the places where the caregivers live (residency) and the knowledge level regarding the four dimensions (Etiology, sign and symptoms, treatment of the disease, and control measures). The result in the same table shows significant association between the residency of caregivers and their practice item toward

CONCLUSIONS AND RECOMMENDATION:

the child with diabetes mellitus.

The results of interpretation and the discussion of the study revealed the following conclusions and recommendations:

1. Age of children ranged from 6-10 years old, their gender were almost female, and regarding the family history of diabetes mellitus the majority of them have no history of the disease in their families.

2. The study revealed significant relation between the age of caregivers and their knowledge regarding treatment and control measures which were both highly significant.

3. The findings of the study indicated that there were significant association between caregivers' knowledge regarding etiology, treatment, and control measure, and significant association between caregiver's practice and their education level, while it showed no significant relation between

accordingly these recommendations are aroused:

4. Telephone contacts in some situations needed to keep complications away and provide ongoing education.

5. Providing scientific booklet, publication and journal about type 1 diabetes, is highly recommended.

Before the school year starts or before a newly diagnosed child returns to school, parents should request a meeting with everyone in the school who may have a role in the child's diabetes care, and personnel with diabetes should always wear identification (ID) that identifies him or her as having diabetes.

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