Parents' Knowledge about Type I Diabetes Mellitus at Diabetes and Endocrine Treatment Centers in Baghdad City

معارف الوالدين نحو داء السكري (النوع 1) في مراكز علاج السكري والغدد الصماء في مدينة بغداد

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الخلاصة:

الهدف: تهدف الدراسة الحالية الى تقويم معارف الوالدين تجاه داء السكري (النوع الاول)، وتحديد العلاقة بين معارف الوالدين وخصائصهم الديمغرافية؛ وتحديد العلاقة بين معارف الوالدين والخصائص الديمغرافية للاطفال المصابين بداء السكري.

المنهجية: دراسة وصفية أجريت للفترة من يناير الى ابريل، 2015 على عينة غرضية مكونة من 100 من الاباء واطفالهم المصابين بداء السكرى الذين يقصدون مراكز علاج السكري والغدد الصمية . صممت اداة التقويم من قبل الباحث استنادا على الدراسات السابقة بشأن جوانب معارف الوالدين تجاه داء السكري لدى الاطفال. تم تحديد صلاحية المحتوى من خلال الاستعانة بالخبراء . وتم تحديد الاتساق الداخلي للاستبانة من خلال حساب معامل ارتباط ألفا والتي كانت مقبولة احصائيا. وقد تم جمع البيانات من خلال استخدام اداة التقييم واسلوب المقابلة كوسيلة لجمع البيانات . تم تحليل البيانات بلستخدام برنامج الحزمة الاحصائية للعلوم الانسانية الاصدار 15.0 ومن خلال تطبيق العمليات الاحصائية الوصفية والاستدلالية.

النتائج: أظهرت نتائج الدراسة الحالية بأن الوالدين لديهم مستوى جيد من المعلومات تجاه داء السكري (النوع الاول). وأكدت النتائج بوجود ارتباط ذات دلالة احصائية معنوية بين مؤشر كتلة الجسم والدخول للمستشفى مع معارف الوالدين. واظهرت النتائج ايضا وجود ارتباط ذات دلالة احصائية معنوية بين المستوى التعليمي والوظيفة للاب مع معارف الوالدين.

التوصيات: اوصت الدراسة بتشجيع الوالدين لمشاركة أكثر ضمن الحلقات والنقاشات التثقيفية المتعلقة بداء السكري (النوع الاول) وكيفية التعامل مع المرضى المصابين، واجراء المزيد من الدراسات للتركيز على استراتيجيات ال تأقلم مع الاعباء الناتجة عن مرض السكري (النوع الاول) كمشكلة صحية مزمنة.

Abstract

Objectives: The current study aims to evaluate parents' knowledge towards diabetes mellitus (type I); to identify the association between parents' knowledge and their demographic characteristics; and to identify the association between parents' knowledge and demographic characteristics of their children.

Methodology: Descriptive study carried out during the period from January to April 2015 on purposive sample of 100 parents with their children with diabetes mellitus who attending diabetes and endocrine treatment center. An evaluation tool is constructed by the researcher based on previous literature regarding aspects of parents' knowledge toward juvenile diabetes mellitus. Content validity was determined with panel experts. The internal consistency of the instrument was determined through the computation of Alpha Correlation Coefficient, which was statistically acceptable. Data were collected with the assessment tool and the interview technique was used as a means of data collection. The analysis of the data was employed by the use of SPSS version 15.0 through the application of descriptive statistical and inferential statistics such as frequencies, percentages, the mean of scores and chi-square.

Results: The findings of the current study show that parents having good knowledge regarding diabetes mellitus (type I). The findings indicate that there is significant association between body mass index and admission to hospital with parents' knowledge. The findings also show that there is significant association between father's education and job with parents' knowledge.

Recommendations: The study recommended encouraging parent for more involvement in seminars and educational session on diabetes mellitus (type I) and how to deal with such patient; and further studies are required for focusing on coping strategies to face the burdens of diabetes mellitus (type I) as a chronic health problem.

Keywords: Parents' Knowledge, Diabetes Mellitus

Introduction

Diabetes mellitus (DM) is considering one of the metabolic disease that resulting from a defect in level of secreted insulin, action of insulin, or both [1]. In type (1) diabetes, insulin did not produce in the body. Insulin is a hormone that is needed to convert sugar, starches and other food into energy needed for daily life. Insulin deficiency in turn leads to chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism in the body [2].

It has been reported that type (1) diabetes is the third most common chronic condition in children and adolescents in the United States [3]. Type (1) diabetes mellitus, once known as juvenile diabetes or insulin-dependent diabetes, this type of diabetes mellitus is a chronic condition in which a little or no insulin has been produced by pancreas, insulin is a hormone required for producing energy through the process of entering sugar (glucose) to the cells. The far more common type (2) diabetes occurs when the body becomes resistant to insulin or doesn't make enough insulin [4].

Type (1) diabetes mellitus is usually diagnosed in children and young adults, and was previously known as juvenile diabetes. It has been shown that only 5% of people with diabetes have this form of the disease. Diabetes is a long-term condition caused by high level of glucose, a type of sugar, in the blood. It is also known as diabetes mellitus. Normally, the amount of sugar in the blood is controlled by a hormone called insulin, which is produced by the pancreas. The pancreas is a gland behind the stomach. When food is digested and enters your bloodstream, insulin moves any glucose out of the blood and into cells, where it is broken down to produce energy [5].

Different factors may contribute to type (1) diabetes mellitus, including genetics factor and exposure to certain types of viruses. Although type (1) diabetes usually appears during childhood or adolescence, it also can begin in adulthood [6].

Despite active research, type (1) diabetes mellitus has no cure. But it can be managed with proper treatment. People with type 1 diabetes can expect to live longer, healthier lives than did people with type (1) diabetes in the past [7].

Diabetes mellitus is considered as a global health problem, which required modulation to improve the life style of individuals with diabetes. This study linked to one of the important segments of society, a future generation who hold their hopes and goals, Childhood is one of the important criteria by which to measure the progress of society and its development [8].

According to king and his colleagues [9], any chronic health problem like diabetes can affect person's life because diabetes and its associated disorders can bring a big change into person's life Diabetes and other non-communicable diseases are viewed as a disease of rich communities and of a marginal interest for the third world [10].

Nowadays, diabetes is among non-communicable diseases, which is commonly encountered and is emerging now as a problem of major public concern. Therefore, studying parents' knowledge is important to see whether they are able to deal with their children' diabetes.

Objectives of the Study

1. To evaluate parents' knowledge towards diabetes mellitus (type I).
2. To identify the association between parents' knowledge and their demographic characteristics that include: age, gender, level of education, participation in educational sessions, and source of information.
3. To identify the association between parents' knowledge and demographic

characteristics of their children with

Methodology

A study carried out during January to April, 2015 to achieve the objectives that are stated in this study. A descriptive design was used in this study. The present study is carried out in three hospitals in Baghdad which are: Al-Yarmook Teaching Hospital, Ibn AL- Balady Hospital and Baghdad Teaching Hospital. These hospitals are the only governmental hospitals, which contain medical center clinic for dealing with diabetes mellitus, in which the patient are seeking medical care for the purpose of treatment receiving medication follow up. In case of sever complication the patients were referred to special care unit such as medical or surgical ward in the same or other hospital. The administrative arrangement was obtained from the Ministry of Health for getting the permissions to enter the hospitals that are mentioned above. The permissions were facilitating the entrance of researcher and completing the data collection.

A purposive, "non probability" sample of (100) parents of patient with diabetes mellitus (type I) who attending medical care centers for diabetes mellitus in Baghdad.

A questionnaire is constructed by the researcher based on previous literature regarding aspects of parents' knowledge toward juvenile diabetes mellitus. The constructed tool is included three parts, the first part was concerned with covering letter and the agreement of participants to participate in the study, the second part was consists of demographic and personal characteristics of the parents, and the third part was consists of knowledge scale toward diabetes mellitus (type I), which consists of 30 item that are measured on a three- level Likert scale which rated as (3= I know, 2= Uncertain, 1= Do not know). The knowledge scale items range from their knowledge about the causes of the disease, type, treatment, complications diabetes mellitus. screening, testing, causes and effects. The levels of knowledge were estimated by calculating the cutoff points for the total score of the scale, which rated on three levels: poor = 30-50, fair = 51- 70 and good = 71- 90.

Content validity for the instrument was determined through the use of panel experts to investigate the clarity, relevancy, and adequacy of the study questionnaire. In addition to the experts' responses, their suggestions were taken into consideration. So far, modifications were employed and the final copy of the constructed instrument was completed to be an appropriate tool for conducting study. A pilot study was carried out for the period of fifteen days in January, 2015, and conducted on 20 parents who were selected randomly for the purpose of the questionnaire's reliability determination. The internal consistency of the instrument was determined through the pilot study and the computation of Alpha Correlation Coefficient (Cronbach's Alpha). The result of the reliability was (r = 0.79) which was statistically adequate.

Data were collected through the use of the questionnaire and the interview technique was used as a means of data collection. The parents were recruited and asked for the participation in the study after they complete their medical visits. The health workers and staff in the medical care center were very helpful for the researcher by referring the parents. The questionnaire was distributed after obtaining the agreement to participate in the study, all parents were cooperative and the time for filling the questionnaire was 40-50 minutes.

The analysis of the data was employed by the use of SPSS version 15.0 through the application of descriptive statistical and inferential statistics such as: frequencies, percentages, the mean of scores and chi-square.

Results

Table (1): Demographic Characteristics of the Children with Diabetes Mellitus

No.	Characteristics		F	%
1	**Age:**	1-5 years	32	32
		6-10 years	47	47
		11-15 years	21	21
		Total	*100*	*100*
2	**Gender:**	Male	62	62
		Female	38	38
		Total	*100*	*100*
3	**Body Mass Index:**	Underweight (<18.5 kg)	70	70
		Normal (18.5-24.9 kg)	19	19
		Overweight (25-29.9 kg)	8	8
		Obese (30 ≤ kg)	3	3
		Total	*100*	*100*
4	**Duration of illness:**	1-5 years	15	15
		6-10 years	64	64
		11-15 years	21	21
		Total	*100*	*100*
5	**Birth order:**	First	22	22
		Second	19	19
		Third	21	21
		Fourth	21	21
		Fifth	17	17
		Total	*100*	*100*
6	**Admission to hospital:**	Yes	86	86
		No	14	14
		Total	*100*	*100*

F: frequency, %: percentage

The findings of this table indicated that the majority of children are males (62%), with age group 6-10 years old (47%), 70% of them are underweight (BMI = < 18.5), 64% of them having illness for the duration of 6-10 years, and more of them are the first child in the family, 86% of them are admitted to hospital.

Table (2): Demographic Characteristics of Parents

No.	Characteristics		F	%
1	**Age of Father:**	20-29 years	11	11
		30-39 years	47	47
		40-49 years	29	29
		50 ≤ years	13	13
		Total	*100*	*100*
2	**Age of Mother:**	18-27 years	36	36
		28-37 years	38	38
		38-47 years	23	23
		48 ≤ years	3	3
		Total	*100*	*100*

Continues…

Table (2): To be Continued

No.	Characteristics		F	%
3	**Father's education:**	Doesn't read & write	2	2
		Elementary school	10	10
		Intermediate school	15	15
		Secondary school	26	26
		Institute or college	47	47
		Total	*100*	*100*
4	**Mother's education:**	Doesn't read & write	12	12
		Elementary school	31	31
		Intermediate school	27	27
		Secondary school	15	15
		Institute or college	15	15
		Total	*100*	*100*
5	**Father's job:**	Self-employed	51	51
		Governmental employee	45	45
		Retired	2	2
		Don’t work	2	2
		Total	*100*	*100*
6	**Mother's job:**	Housewife	81	81
		Governmental employee	19	19
		Retired	0	0
		Total	*100*	*100*
7	**Residence:**	Karch sector	34	34
		Rusafa sector	66	66
		Total	*100*	*100*
8	**Monthly income:**	Sufficient	37	37
		Barely sufficient	51	51
		Insufficient	12	12
		Total	*100*	*100*
9	**Participation in educational sessions:**	Yes	8	8
		No	92	92
		Total	*100*	*100*
10	**Source of information:**	Doctor	64	64
		Family	3	3
		Friends	0	0
		TV	0	0
		Internet	8	8
		Health Centers	25	25
		Total	*100*	*100*

F: frequency, %: percentage

This table indicated that 47% of father are having age group of 30-39 years old, 38% of mother having age group 28-37 years old, 66% of them are living in Al-Rusafa sector, 47% of father having institute or college education, 31% of mother having elementary school education, 51% of father's job are in free works and 75% of mothers are housewives, 51% of parents are associated with barely sufficient income, 92% of them are participated in educational program concerning diabetes mellitus, and 64% of them are receiving knowledge from doctors.

Table (3): Levels of Knowledge about Diabetes Mellitus (Type I) among Parents

Knowledge Levels	F	%	M.S
Poor	2	2	4.29
Fair	15	15	
Good	88	88	
Total	***100***	***100***	

F: frequency , MS: Mean of Scores, % Percentage

This table indicated that parents having good knowledge toward juvenile diabetes mellitus (88%).

Table (4): Significant Association between Parents' Knowledge and Demographic Characteristics of their Children

Parents' knowledge / Characteristics	Chi-square	d.f	P-Value ≤ 0.05	Significance
Age	61.221	58	0.361	N.S
Gender	35.910	29	0.176	N.S
Body mass index	125.297	87	0.005	S
Duration of illness	66.611	87	0.949	N.S
Birth order	148.842	145	0.346	N.S
Admission to hospital	89.525	58	0.005	S

DF: degree of freedom, N.S: not significant, S: Significant

This table revealed that body mass index of children and admission to hospital are significantly associated with parents' knowledge.

Table (5): Significant Association between Parents' Knowledge and their Demographic Characteristics

Parents' knowledge / Characteristics	Chi-square	d.f	P-Value ≤ 0.05	Significance
Age of father	101.478	87	0.137	N.S
Age of mother	88.323	87	0.440	N.S
Residence	21.079	29	0.856	N.S
Father's education	219.918	145	0.001	S
Mother's education	147.923	145	0.417	N.S
Monthly income	62.977	58	0.305	N.S
Father's job	152.741	87	0.001	S
Mother's job	46.880	58	0.852	N.S
Receiving knowledge	66.963	58	0.179	N.S

DF: degree of freedom, N.S: not significant, S: Significant

This table indicated that there is significant association between parents' knowledge and father's education, and also, father's job are also significantly associated with parents' knowledge.

Discussion

Analysis of such characteristics has indicated that the majority of children were males (62%), with age group 6-10 years old (47%), 70% of them were underweight (BMI = < 18.5), 64% of them having illness for the duration of 6-10 years, and more of them were the first child in the family, 86% of them were admitted to hospital (table 1). The findings of this study were consistent with a study that found results closer to current findings [(11)].

Analysis of such characteristics has indicated that 47% of fathers were having age group of 30-39 years old, 38% of mothers having age group 28-37 years old, 66% of them were living in Al-Rusafa sector, 47% of fathers were associated with barely sufficient income, 92% of them were participated in educational sessions concerning diabetes mellitus, and 64% of them were receiving information from doctors having institute or college education, 31% of mothers having elementary school education, 51% of fathers were self-employed and 75% of mothers were housewives, 51% (table 2) . The findings of this study were consistent with study thatcc found similar demographic characteristics [(12)].

Throughout the course of data analysis, the findings have depicted that most of parents has presented good knowledge towards juvenile diabetes mellitus (table 3). This level is obvious throughout their responses to the parent's knowledge questionnaire items. Mean of scores for these items has indicated that most of such items has highly significant mean of scores. The level of good knowledge among the parents could be explained that frequent visiting of the parents to the care centers increase their information about juvenile diabetes mellitus in which their knowledge will be increased through receiving knowledge from doctors and media. This finding was supported with results of study that found that parents demonstrate good knowledge towards diabetes in their children [(12)].

Table (4) revealed that that here is no significant association between parents' knowledge and demographic characteristics of their children except body mass index of children and admission to hospital were significantly associated with parents' knowledge. Such findings reflect that the variables regarding children are not important in the term of their parents' knowledge. However, there is evidence that body mass index is associated significantly with parents' knowledge; this may indicates that the changes in body weight for diabetic children are significant to their children in which they trying to have more knowledge about the conditions of their children A studies presented supportive evidence [(13)(14)].

The findings of table (5) indicated that there is significant association between parents' knowledge and father's education, and also, father's job was also significantly associated with parents' knowledge. The significant association is clearly explained that level of education is an important factor that effect on knowledge; father with high education is usually more significance than other in dealing with their children. The significant association of father's job with knowledge is also another indicator that reflects the way of fathers to deal with illness of their children, the father with good profits job can face the burden of their children illness. Many studies show that there are relationships between parents' knowledge and their demographic characteristics, various studies presented a supportive evidence [(15)(16)(17)].

Recommendations

1. Parent of children with diabetes mellitus should be encouraged for more involvement in seminars and educational session about diabetes mellitus (type I) and how to deal with such patients.
2. Further studies are required for focusing on factors associated with knowledge toward the disease.

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