BARRIERS IN CONTROLLING GLYCEMIC CONDITION OF CHILDREN SUFFERING FROM TYPE 1 DIABETES

Thesis

Submitted for partial fulfillment of
Master Degree in Pediatric Nursing

By

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معوقات التحكم فى الحالة السكرية لدى الأطفال الذين يعانون من النوع الأول لمرض السكر

رسالـــة

توطئة للحصول على درجة الماجستير
فى تمريض الأطفال

مقدمة من

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٢٠١١

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LIST OF ABBREVIATIONS

Abbrev.	Meaning
ADA	American Diabetes Association
BUN	Blood urea nitrogen
DKA	Diabetic keto acidosis
DM	Diabetes mellitus
DN	Diabetic nephropathy
EDC	Educational development center
GC	Glycemic control
HBA1C	Glycosylated hemoglobin
IDDM	Insulin dependent diabetes mellitus
WHO	World Health Organization
IGT	Impaired glucose tolerance
IFG	Impaired fasting glucose
g	grams
SC	Subcutaneous
IM	Intramascular
IV	Intravenous

ABSTRACT

Children with type 1 diabetes have many barriers that prevent them from controlling their blood glucose level. Therefore, this study was carried out to assess barriers in controlling glycemic condition of children suffering from type 1 diabetes. A descriptive design was adopted in carrying out the study. The sample of the study was consisted of 300 children with type 1 diabetes, their ages ranges from <1 to ≤18 years, 67.7% of them were males and 32.3% female. There tools of data collection involved; A questionnaire sheet that was used to collect demographic characteristics and knowledge about diabetes, glycemic condition and barriers in glycemic control. Observational check lists to evaluate the actual practices of the diabetic children in insulin preparation and injection, urine and blood testing for glucose and urine testing for ketones. Psychometric assessment. Results of the study revealed that. More than half-of the studied children were having barriers for controlling their glycemic condition and also there was a highly statistical significance difference between barriers of diabetes control and their total level of practice and knowledge ($P<0.001$). The study recommends continuous training programs based on actual need assessment and problems of the diabetic child and his family to control their glycemic condition.

Key words: **type 1 diabetes, glycemic condition, barrier, child, pediatric, nursing.**

Introduction and Aim of The Study

Diabetes is a disease which once detected will affects an individual's, day to day existence for the rest of their life. Type 1 diabetes is the most common endocrine metabolic disorder of childhood and adolescence**.** Individuals with type 1 diabetes confront serious lifestyle alterations that include absolute daily requirement for exogenous insulin, the need to; monitor their own glucose level and pay attention to fluctuation in glycemic condition dietary intake and exercises ***(Kumar, 2006).***

Health care interventions that take into consideration cultural and population specific characteristics can reduce the prevalence and severity of type 1 diabetes mellitus and its resulting complications ***(Taman et al., 2005).*** Good control of type 1 diabetes mellitus is essential for the future well being of the diabetic children ***(Abu-Sayeed et al., 2009).***

Diabetes mellitus is the most important chronic illness in which the child with diabetes plays an active role in treatment. The treatment affects basic aspects of every day of life of the child and his family such as diet, insulin therapy in addition to daily frequent glucose testing and monitoring ***(Armstrong and Dorosty, 2008).***

Poor glycemic control is commonly associated with psychological and social difficulties. Appropriate and timely good intervention may be the most effective way to improve glycemic control ***(Jones et al., 2007).*** Therefore the cultural, environmental, developmental and personal circumstances of the child with type 1 diabetes and his/her family should receive high priority in diabetes care. Careful assessment is important in which if these factors didn't managed and controlled well it may lead to many barriers for controlling diabetes mellitus ***(Adher, 2004 and Chung, 2000).***

Diabetes is a complex disease that requires high level of child understanding and engagement for successful management***(Chung, 2006)***. Diabetes self-management can be also a challenge. Most children with diabetes are likely to encounter barriers to care that pose major challenges in adhering to self-management programs ***(Taman et al., 2004)***. There are various barriers for achieving optimal self care in children with type I diabetes such as limitation of health care team, ineffective communication between providers and child with diabetes and the child's lack of empowerment, motivation and involvement in their treatment ***(Richard et al., 2006).*** The health care providers should assist children with type 1 diabetes in addressing self management barriers ***(ADA., 2009).***

The nurse plays an important role in health promotion and maintenance related to identification, monitoring and education of children at risk for development of diabetes mellitus and also encourages children with type 1 diabetes to take immediate action to improve diet, exercise, weight loss and get regular check up that consequently can control the child's diabetes ***(Lewis et al., 2006).***

Nurses provide education and support to children with diabetes in many health care systems and also provide age appropriate advice not only on diabetes itself but also on how to cope with psychological stress such as feeling different and in daily life such as at school and with friends***(Burns et al., 2005).***

Aim of The Study

It was clear from the previous clinical experience of the researcher that children suffering from type 1 diabetes were having uncontrolled glycemic condition that results in diabetes related complications and frequent hospitalization. Therefore it was important to carry out this study to shed light on glycemic condition of children suffering from type 1 diabetes and barriers hindering their glycemic control.

This study was carried out to assess barriers in controlling glycemic condition of children suffering from type 1 diabetes.

Research Questions :

1. What are the barriers of glycemic control of children suffering from type 1 diabetes ?
2. Is there an association between characteristics of the diabetic children and their glycemic conditions ?
3. Is there an association between knowledge and practice of the children suffering from type 1 diabetes and their glycemic condition ?