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بسم الله الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني



Safaa Mahmoud



جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

قسم

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على هذه الأقراص المدمجة قد أعدت دون أية تغييرات





Magnitude of the Problem of Uncontrolled Diabetes among Egyptian Adolescents with Type 1 Diabetes; Ain Shams Pediatric and Adolescents Diabetology Unit Experience

Thesis

Submitted for Partial Fulfillment of MD in Pediatrics

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2022

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قالوا

سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

Acknowledgment

*First and foremost, I feel always indebted to **ALLAH**, the Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and profound gratitude to **Prof. Dr. Safinaz Adel Elhabashy**, Professor of Pediatrics, Faculty of Medicine, Ain Shams University for her keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.*

*I am also delighted to express my deepest gratitude and thanks to **Prof. Dr. Eman Mounir Sherif**, Professor of Pediatrics, Faculty of Medicine, Ain Shams University, for her kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

*I am deeply thankful to **Dr. Mouran Youssef Salah**, Lecturer of Pediatrics, Faculty of Medicine, Ain Shams University, for her great help, active participation and guidance.*

*I wish to introduce my deep respect and thanks to **Dr. Mostafa Ahmed Elsayed Abd Elkader**, Lecturer of Psychiatry, Faculty of Medicine, Ain Shams University, for his kindness, supervision and cooperation in this work.*

*I would like also to thank the **Patients** who agreed willingly to be part of my study and without them; I would not have been able to accomplish this work.*

Dina Ahmed Hosney

ABSTRACT

Background: When adolescents got diabetes, they are exposed to diabetes-related stressors including social, dietary, emotional, and clinical factors which can impair their glycemic control. **Aim:** To assess frequency, risk determinants and clinical outcomes of uncontrolled diabetes among Egyptian adolescents with T1D. **Methods:** Four hundred adolescents with T1D regularly attending the Pediatric and Adolescents Diabetology Clinic, Ain Shams University Hospitals, were studied. Their mean age was 14.78 ± 1.89 with a median diabetes duration of 6 years. Of the 400, 225 were females. Patients were divided into two equal groups according to their HbA1c with a cutoff 7%. Diabetes duration, mode and dose of insulin therapy, frequency of diabetic ketoacidosis, and clinically significant hypoglycemia were evaluated. Adherence to therapy was assessed using the Morisky Scale and eating disorders by EAT-26 questionnaire. The Mini-International Neuropsychiatric Interview for Children and Adolescents (MINI-KID) questionnaire was administered for psychological assessment. Anthropometric assessment, fundus examination and clinical screening for peripheral neuropathy were performed. Neuropathy was confirmed by sensory-nerve conduction velocity. Laboratory tests included thyroid profile, anti-tissue transglutaminase IgG, HbA1c, fasting lipids and urinary albumin/excretion ratio (UAE). **Results:** Out of 664 adolescents with T1D, 223 were uncontrolled with a frequency of 33.6%. Poorly controlled have got significantly higher sadness ($P=0.038$), depression ($P=0.003$), suicidal ($P=0.001$) and anxiety ($P<0.001$) manifestations than those with good glycemic control. Neuropathy and nephropathy were frequently detected among uncontrolled group ($P<0.001$ and $P=0.007$ respectively). A significant positive correlation was found between HbA1c and LDL ($P<0.001$), cholesterol ($P<0.001$), UAE ($P<0.001$) and school absenteeism ($P<0.001$). Multivariate logistic regression showed that HbA1c was independently related to suicidal ($P=0.036$) and anxiety manifestations ($P=0.014$). **Conclusion:** Poor glycemic control is associated with anxiety, depression, sadness, and suicidal tendency among adolescents with T1D. In addition, it is linked to increased school absenteeism, hyperlipidemia, diabetic nephropathy, and neuropathy.

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List of Abbreviations

Abb.	Full term
AB.....	Antibodies
ACE	Angiotensin converting enzyme
ACEI.....	Angiotensin converting enzyme inhibitors
ACR	Albumin/creatinine ratio
ADA.....	American Diabetes Association
ADHD.....	Attention deficit hyperactivity disorder
AER	Albumin excretion rate
AMD	The Italian Association of Clinical Diabetologists
Anti-GAD	Anti-glutamic acid decarboxylase
Anti-VEGF	Anti-vascular endothelial growth factor
BG.....	Blood glucose
BMI.....	Body mass index
B-OH.....	B-hydroxybutyrate
Bp.....	Blood pressure
CAC	Coronary artery calcification
CAD	Coronary artery disease
CAH.....	Congenital adrenal hyperplasia
CAN.....	Cardiovascular autonomic neuropathy
CGM	Continuous glucose monitoring
CHD	Coronary heart disease
CKD	Chronic Kidney Disease
CrCl.....	Creatinine clearance
CT	Computed tomography
CVD	Cardiovascular disease
CVD	Chronic Vascular Disease
DASH	Dietary Approaches to Stop Hypertension
DCCT.....	Diabetes Control and Complications Trial
DCES	Diabetes care and education specialists

List of Abbreviations Cont...

Abb.	Full term
DD.....	Diabetes distress
DKA.....	Diabetic ketoacidosis
DM.....	Diabetes mellitus
DN.....	Diabetic nephropathy
DR.....	Diabetic retinopathy
DSMES	Diabetes self-management education and support
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders
DSPN	Diabetic sensorimotor polyneuropathy
EASD	European Association for the Study of Diabetes
EDIC	Epidemiology of Diabetes Interventions and Complications
GFR.....	Glomerular filtration rate
HbA1c.....	Hemoglobin A1c (glycosylated hemoglobin)
HDL	High density lipoprotein
HF	Heart failure
HPA	Hypothalamus-pituitary-adrenal
IA2	Anti-tyrosine phosphatase
IAA	Anti-insulin antibody
IASP.....	International Association for the Study of Pain
ICA	Anti-islet cell antibody
ICD-10	International Classification of Diseases
IDD	Insulin-dependent diabetes)
IRMA	Intraretinal microvascular abnormalities
ISPAD.....	International Society for Pediatric and Adolescent Diabetes
IVGTT	Intravenous glucose tolerance test
LDL.....	Low density lipoprotein
LDLC.....	Low density lipoprotein cholesterol

List of Abbreviations Cont...

Abb.	Full term
MDI.....	Multiple daily injections
MINI-KID.....	Mini-International Neuropsychiatric-Interview for Children and Adolescents
MNT	Medical nutrition therapy
NGSP	National Glycohemoglobin Standardization Program
NICE	National Institute for Health and Care Excellence
NVCs	Neovascular complexes
OCT	Optical coherence tomography
OCTA	OCT angiography
OGTT.....	Oral glucose tolerance test
PADU	Pediatric and Adolescents Diabetes Unit
PDR.....	Proliferative diabetic retinopathy
QoL	Quality of life
RAAS.....	Renin-angiotensin-aldosterone system
SID	Italian Society of Diabetology
SMBG	Self-monitoring of blood glucose
T1D	Type 1 diabetes
T2D	Type 2 diabetes
T3.....	Triiodothyronine
T4.....	Thyroxin
TSH.....	Thyroid-stimulating Hormone
UAE	Urinary albumin/excretion ratio
UKPD	UK Prospective Diabetes Study
ZnT8	Anti-zinc transporter 8