



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



HANAA ALY



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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Screening for Chronic Kidney Disease in type 2 diabetic patients: Single centre study

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List of Abbreviations

Abbr.	Full-term
ACCORD	: Action to Control Cardiovascular Risk in Diabetes
ACE	: Angiotensin Converting Enzyme
ACR	: Albumin to Creatinine Ratio
ADA	: American Diabetes Association
ADVANCE	: Action in Diabetes and Vascular disease: preterAx and diamicroN mr Controlled Evaluatio
AER	: Albumin Excretion Rate
AGEs	: Advanced glycation end products
ANG	: Angiotensin
ARBs	: Angiotensin Receptor Blockers
ATP	: Adenosine triphosphate
BMI	: Body mass index
BP	: Blood Pressure
BUN	: Blood urea nitrogen
CARDS	: Collaborative Atorvastatin Diabetes Study
CCB	: Calcium channel blockers
CKD	: Chronic Kidney Disease
CKD-Epi	: Chronic Kidney Disease Epidemiology
CVD	: Cardiovascular disease
DAG	: Diacylglycerol
DCCT	: Diabetes Control and Complications Trial
DKD	: Diabetic kidney disease
DM	: Diabetes Milletus
DN	: Diabetic Nephropathy
DNA	: Deoxyribonucleic acid
DPP IV	: Dipeptidyl-peptidase-4
DR	: Diabetic retinopathy

EDIC	: Epidemiology of Diabetes Interventions and Complications
eGFR	: Estimated Glomerular Filtration Rate
ERK	: Extracellular Signal-Regulated Kinase
ESRD	: End Stage Renal Disease
ET-1	: endothelin-1
FADH	: Flavin adenine dinucleotide
GBM	: The Glomerular Basement Membrane
GFR	: Glomerular Filtration Rate
GLP-1	: Glucagon-like peptide 1
GLP-1 RAs	: Glucagon-like peptide 1 receptor agonists
GLUT	: Glucose transporter
HDL	: High -density lipoproteins
HPS	: Heart Protection Study
IDF	: International Diabetes Federation
IGFs	: Insulin-like growth factors
IL	: interleukin
KDIGO	: Kidney Disease Improving Global Outcomes
KDOQI	: Kidney Disease Outcomes Quality Initiative
LDL	: Low-density lipoproteins
MAPK	: Mitogen-activated protein kinase
MCP-1	: Monocyte Chemoattractant Protein
MDRD	: Modification of Diet in Renal Disease
MNLs	: Mesangiolytic <i>nodular</i> lesions
NADPH	: Nicotinamide adenine dinucleotide phosphate
NF-KB	: Nuclear factor kappa-light-chain-enhancer of activated B cells
NICE	: National Institute for Health and Care Excellence
NIDDM	: Noninsulin-Dependent Diabetes Mellitus
NO	: Nitric oxide
Nrf2	: Nuclear factor erythroid 2-related factor 2

PAM	: Periodic acid-methenamine silver
PAS	: Periodic acid-Schiff
PCR	: Protein to Creatinine Ratio
PCSK9	: Proprotein convertase subtilisin/kexin type 9
PDGF	: Platelets derived growth factor
PKC	: Protein Kinase C
PPAR	: Peroxisome proliferator-activated receptor
PVD	: Peripheral vascular disease
RAAS	: Renin Angiotensin Aldosterone System
RAASi	: Renin-angiotensin-aldosterone system inhibitors
RAGE	: Receptor for Advanced Glycosylation End Product
RI	: resistive index
ROS	: Reactive Oxygen Species
SGLT2	: Sodium-glucose co-transporter-2
SIGN	: Scottish Intercollegiate Guidelines Network
T1DM	: Type 1 Diabetes Mellitus
T2DM	: Type 2 Diabetes Mellitus
TGF	: Transforming Growth Factor
TNF-α	: tumor necrosis factor alpha
TZDs	: Thiazolidinediones
UACR	: Urine Albumin to Creatinine Ratio
UAE	: Urinary Albumin Excretion
UKPDS	: United Kingdom Prospective Diabetes Study
USRDS	: United states Renal Data System
VADT	: Veterans Affairs Diabetes Trial
VEGF	: Vascular Endothelial Growth Factors

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Introduction

Diabetes is a complex, chronic illness requiring continuous medical care with multifactorial risk-reduction strategies beyond glycemic control. Ongoing diabetes self-management education and support are critical to preventing acute complications and reducing the risk of long-term complications. Significant evidence exists that supports a range of interventions to improve diabetes outcomes. **(American Diabetes Association, 2020).**

DM is worldwide epidemic and great challenge to health care systems everywhere. Current global estimates indicate that this condition affects 415 million people, and 193 million of them have not yet been diagnosed **(Al-Lawati, 2017).**

Type 2 diabetes results from the body's ineffective use of insulin. Type 2 diabetes comprises 90% of people with diabetes around the world **(Cusick et al., 2010).**

Chronic hyperglycemia is frequently associated with permanent and irreversible functional and structural changes in the cell of the body particularly in vascular system which affect kidney **(Yadav et al., 2016)**

Diabetic nephropathy is a common complication of diabetes mellitus type 2. It not only occurs in 20-40% of all

diabetic patient, but it is one of the major end-organ complication of diabetes and continue to be the most common cause of end stage renal disease **(American Diabetes Association, 2015)**.

Diabetic nephropathy is the leading cause of ESRD worldwide and is associated with increased cardiovascular morbidity and mortality. Its early detection and identification of its risk factors allow the implementation of individualized and aggressive intervention programs to reduce renal and cardiovascular outcome **(Valmadrid et al., 2000)**.

Diabetic nephropathy is a clinical syndrome characterized by persistent albuminuria (> 300 mg/24 h, or > 300 mg/g creatinine), a relentless decline in glomerular filtration rate (GFR), raised arterial blood pressure, and enhanced cardiovascular morbidity and mortality. the first clinical sign is moderately increased urine albumin excretion (microalbuminuria: 30–300 mg/24 h, or 30–300 mg/g creatinine). Untreated microalbuminuria will gradually worsen, reaching clinical proteinuria.. The GFR then begins to decline, and without treatment, end-stage renal failure is likely to result in 5 to 7 years. Regular, systematic screening for diabetic kidney disease is needed in order to identify patients at risk of or with presymptomatic diabetic kidney disease. **(Rossing et al., 2018)**.