



بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / سلوي محمود عقل

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى

مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد



**Factors Affecting the Patients Safety
with Diabetic Ketoacidosis
in Intensive Care Unit**

Thesis

**Submitted for Partial Fulfillment of the Requirement of Master Degree in
Medical Surgical Nursing
(Critical Care Nursing)**

By

Rania Mohammed Korany

B.Sc. of Nursing Science, 2015

Demonstrator of Medical Surgical nursing

Faculty of Nursing, Fayoum University

**Faculty of Nursing
Ain Shams University**

2021-2022

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*First and foremost, I feel always indebted to **Allah**, the most Merciful and the most gracious for all countless gifts I have been offered. One of these gifts is accomplishing this research work.*

*I wish to express my deepest gratitude and sincere appreciation towards **Prof. Dr. Kamelia Fouad Abdalla**, Professor of Medical-Surgical Nursing, Faculty of Nursing – Ain Shams University, who devoted much of her time, great efforts and generous advice for the completion of this work. Words can never express my hearty thanks and indebtedness to her valuable advice, experienced guidance and encouragement.*

*I am deeply grateful to **Dr. Shimaa Nabil Abdelsalam**, Assistant Professor of Medical-Surgical Nursing, Faculty of Nursing – Ain Shams University, for her supervision, help and valuable support and guidance, I am deeply affected by her noble character, perfection, care and consideration.*

*I would like to express my deep appreciation and special thanks with a great sense of gratitude to **Dr. Manal Saad Shaker** Lecturer of Medical-Surgical Nursing, Faculty of Nursing – Fayoum University, for her ongoing efforts, support, sincere advice, suggestions and guidance during all phases of this work.*

I would like also to extend my deep thanks to all those who contributed sparing no time, efforts and encouragement to the fulfillment of this work “Allah blesses them all”.

Rania Mohammed Korany



This work is dedicated to ...

My Father whom I owe everything I ever did in my life

My Mother for always being there for me

**My lovely Husband Mohamed Radwan for his encouragement,
support and pushing me forward & giving me the strength to
fulfill this work**

**My children Yassen and Hamza my sisters, my brothers,
and my Friends for Support**

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List of Abbreviations

<i>Abb</i>	<i>Full Term</i>
ABCDE ...	Airway, Breathing, Circulation, Disability and Exposure
ABGs	Arterial Blood Gases
ADA	American Diabetes Association
ADLs	Activities of Daily Living
AG	Anion Gap
ARDS	Acute Respiratory Distress Syndrome
B-cells	Beta cells
BG	Blood Glucose
BP	Blood Pressure
BUN	Blood Urea Nitrogen
CBC	Complete Blood Count
CT	Computed Tomography
CVC	Central Venous Catheter
CVP	Central Venous Pressure
DKA	Diabetic Ketoacidosis
DM	Diabetes Mellitus
ECG	Electro Cardio Graph
GDM	Gestational Diabetes Mellitus
GIT	Gastro Intestinal Tract
HAMs	High Alert Medication
HbA1c	Hemoglobin A1C

HF.....	Heart Failure
HHS	Hyperglycemic Hyperosmolar Syndrome
ICUs	Intensive Care Units
ID.....	Identification bracelet
IDF	International Diabetes Federation
IV	Intravenous
K.....	Potassium
KCl.....	Potassium Chloride
LOC.....	Level of Consciousness
MENA	Middle East and North Africa
MI	Myocardial Infarction
N/G.....	Naso Gastric
NaHCO ₃ ..	Sodium Bicarbonate
NPO	Nothing by mouth
OGTT	Oral Glucose Tolerance Test
PH.....	Potential of Hydrogen
PPE.....	Personal Protective Equipment
SC.....	Sub Cutaneous
T1DM	Type 1 Diabetes Mellitus
T2DM.....	Type-2 Diabetes Mellitus
WBCs	White Blood Cells
WHO	World Health Organization

Factors Affecting the Patients Safety with Diabetic Ketoacidosis in Intensive Care Unit

By

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ABSTRACT

Background: Diabetic ketoacidosis is an acute, major, life-threatening complications of diabetes. Nurses' knowledge and practice play important role in provision of supportive care to decrease morbidity and mortality secondary to diabetic ketoacidosis. Patient safety is influenced by many factors, identification of these factors can prevent harm and protect patients from any associated complications. **Aim:** was to assess the factors affecting the patients safety with diabetic ketoacidosis in intensive care unit. **Design:** A descriptive exploratory design. **Setting:** The study conducted in intensive care unit at Fayoum University Medicine Hospitals. **Sample:** A convenient sample of all available nurses (no=30) and patients with diabetic ketoacidosis admitted to intensive care unit (no=70). **Tools of data collection:** self-administered questionnaire, nurses' practice observational checklist, patients interviewing questionnaire and patients complications assessment sheet. **Results and conclusion:** Regarding nurses related factors more than half of the nurses had satisfactory level of knowledge and practice regarding safety nursing management of patients with diabetic ketoacidosis (56.7% and 60%) respectively. Also, (63.3% & 70%) respectively of them had satisfactory level regarding factors affecting patients safety. Regarding general nursing safety measures related factors, (73.3%) of the nurses had satisfactory level regarding infection control measures in intensive care unit and (50%) of them had unsatisfactory level regarding medications administration measures. In relation to organizational related factors (73.3%) of the nurses had satisfactory level regarding sufficient staffing and (33.3%) of them had unsatisfactory level regarding hospital facilities and equipment. Regarding patients related factors (61.4%) of them had unsatisfactory level of knowledge regarding diabetic ketoacidosis safety management and (7.1%) of them had diabetic ketoacidosis associated complications. **Recommendations:** Importance of in-service training courses to enhance the nurses knowledge and practice regarding patients safety with diabetic ketoacidosis in intensive care unit to decrease morbidity and mortality rate.

Keywords: Diabetic ketoacidosis, Intensive care unit, Patients safety.

Introduction

Diabetes mellitus (DM); is a group of metabolic diseases and chronic multisystem disease characterized by hyperglycemia from abnormal insulin production, impaired insulin use, or both. Diabetes is a serious health problem throughout the world (*Harding, et al., 2020*).

Clinical manifestations of diabetes include; polyuria, polydipsia, polyphagia, fatigue and weakness, vision changes, dry skin, skin lesions or wounds that are slow to heal, and recurrent infections. Patches of dark skin itching and yeast infections, tingling, numbness, or pain in the hands or feet (*Galan & Prelipcean, 2020*).

Complications of diabetes categorized into short-term and long-term complications as following; short-term imbalances in blood glucose (BG) levels as: hypoglycemia, diabetic ketoacidosis (DKA) and hyperglycemic hyperosmolar syndrome (HHS). Long-term complications of diabetes; are macrovascular disease and microvascular disease. Coronary artery disease, cerebrovascular disease, and peripheral vascular disease are the three main types of macrovascular complications that occur frequently in patients with diabetes. Microvascular disease including diabetic retinopathy, nephropathy and diabetic neuropathy (*Hinkle & Cheever 2018*).