Contents

List of Abbreviations

AV	Arteriovenous access
β2M	Beta 2 microglobulin
BP	Blood pressure
BUN	Blood Urea Nitrogen
CAPD	continuous ambulatory peritoneal dialysis
CAPR	Cardiopulmonary recirculation
CKD	Chronic kideny disease
CVD	Cardiovascular disease
DFR	Dialysate flow rate
DM	Diabetus mellitus
DOPPS	Dialysis outcome and practice pattern study
ERA-EDTA	the European Renal Association-European Dialysis and Transplantation association
ESRD	End stage renal disease
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HD	Hemodialysis
HDF	Hemodiafiltration
HF	Hemofiltration
HTN	Hypertension
IPD	Intermittent peritoneal dialysis
K/DOQI	Kidney Disease Outcome Quality Initiative
KDIGO	Kidney disease improving global outcomes
KOA	The mass transfer area coefficient
$\mathbf{K_{uf}}$	The ultrafiltration coefficient

MIA	Malnutrition -Inflammation atherosclerosis (MIA) Syndrome
MOH	Ministry of health
NKF	National Kidney Foundation
RRT	Renal replacement therapy
UF	Ultrafiltration
URR	Urea reduction ratio

List of Figures

List of Tables

Current Status of the Implication of the Clinical Practice Pattern in Hemodialysis Prescription in Regular Hemodialysis Patients in Egypt (Cairo) Sector A2

Thesis

Submitted For Partial Fulfillment of Master Degree in Internal Medicine

By

Eman Saad Ahmed

M.B.B.Ch.

Faculty of Medicine – Ain Shams University

Under Supervision of

Prof. Dr. Mohamed Mahmoud Abd Alghany

Professor of Internal Medicine and Nephrology

Faculty of Medicine - Ain Shams University

Dr. Walid Ahmed Bichari

Assistant Professor of Internal Medicine and Nephrology

Faculty of Medicine - Ain Shams University

Faculty of Medicine

Ain Shams University

2015

الوضع الحالى لأشكال الممارسه الإكلينيكية المتبعه لوصفات الاستصفاء الدموى لدى مرضى الاستصفاء الدموى فى مصر (القاهرة) قطاع أ٢

رسالة

توطئة للحصول على درجة الماجستير

فى أمراض الباطنة العامة

مقدمة من

الطبيبة/ إيمان سعد أحمد

بكالوريوس الطب والجراحة

جامعه عين شمس

تحت إشراف

أ.د/محمد محمود عبد الغنى

أستاذ أمراض الباطنة والكلى

كلية الطب - جامعة عين شمس

د/ وليد أحمد بشارى

أستاذ مساعد أمراض الباطنة و الكلى

كلية الطب - جامعة عين شمس

كلية الطب

جامعة عين شمس

٢٠١٥

Acknowledgement

First of all, *thanks to* **Allah** *whose magnificent help was the main factor in completing this work.*

I wish to express my deep appreciation and sincere gratitude to Prof Dr.Mohamed Mahmoud Abd Alghany, Professor of Internal Medicine and nephrology, Ain Shams University, for his close supervision, valuable instructions, continuous help, patience, advices and guidance. he has generously devoted much of his time and effort for planning and supervision of this study. It was a great honor to me to work under his direct supervision.

I wish to express my great thanks and gratitude to Dr. Walid Ahmed Bichari Assistant professor of Internal Medicine and nephrology, Ain Shams University, for her kind supervision, indispensable advice and great help in this work.

I wish to express my great thanks and gratitude to Dr. Yahya Makkeyah Lecturer of Internal Medicine and nephrology, Ain Shams University, for his kind supervision, indispensable advice and great help in this work.

Last and not least, I want to thank all my family, my fiancee, my colleagues, for their valuable help and support.

Finally I would present all my appreciations to my patients without them, this work could not have been completed.

Eman Saad Ahmed

سورة البقرة الآية: ٣٢

Introduction

Studies examining the link between research evidence and clinical practice have consistently shown gaps between the evidence and current practice. Some studies in the United States suggest that 30%–40% of patients do not receive evidence-based care, while in 20% of patients care may be not needed or potentially harmful. However, relatively little information exists about how to apply evidence in clinical practice, and data on the effect of evidence-based guidelines on knowledge uptake, process of care or patient outcomes is limited ***(Locatelli et al., 2004).***

In recent years, specific clinical guidelines have been developed to optimize the quality of anemia management secondary to chronic kidney diseases (CKD). As a result, the National Kidney Foundation Kidney Disease Outcome Quality Initiative (K\DOQ I) guidelines and the Renal-European Dialysis and Transplantation Association best practice guidelines have been published in USA & Europe. Therefore; clinical practice guidance help individual physician and physicians as group to improve their clinical performance and thus raise standard of patient care towards optimum levels, They may also help to insure that all institution provide an equally good baseline standard of care ***(Cameron, 1999).***

Guidelines practiced on anemia and actual practices are much different with different places and patients according to treatment. Moreover, in individual countries and individual units within countries local circumstances relating to economic conditions; organization of health care delivery or even legal constraints may render the immediate implementation of best practice guidelines difficult or impossible. Nevertheless, they provide a goal against which progress can be measured ***(Locatelli et al., 2004).***

Dialysis Outcomes and Practice Patterns Study (DOPPS) has observed a large variation in anemia management among different countries. The main hemoglobin concentration in hemodialysis patient varied widely across the studied countries ranging between 8g/dl to 11g/dl. The percentage of prevalent hemodialysis patient receiving erythropoietin stimulating agent "ESA" has increased from 75% to 83%. The percentage of HD patient receiving iron varies greatly among DOPPS countries range from 38% to 89% ***(Locatelli et al., 2004).***

There are challenges in implanting clinical guidelines in medical practice. Overall DOPPS data which show that, despite the availability of practice guidelines for treatment of renal anemia, wider variation in anemia management exists as gap between what is recommended by the guidelines and

is accomplished in every day clinical practice. Compliance with clinical guidelines is an important indicator of quality and efficacy of patient care at the same time their adaptation in clinical practice may be initiated by numerous factors including; clinical experts, patient performance, constrains of public health policies, community standard, budgetary limitation and methods of feeding back information concerning current practice ***(Cameron, 1999).***

Aim of the Work

1. To study the pattern of current clinical practice in hemodialysis prescription in regular hemodialysis patients in Egypt and to compare this pattern with standard international guidelines in hemodialysis prescription, stressing on anemia, bone disease management and adequacy of dialysis.

2. Statement of the current status of dialysis patient in Egypt (questionnaire).