بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / مني مغربي أحمد

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد

Needs Assessment for Patients Undergoing Plasmapheresis: Suggested Guidelines

Submitted for Partial Fulfillment of the Master

Degree Nursing science (Medical Surgical Nursing)

By

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2022

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Submitted for Partial Fulfillment of the Requirements of Master Degree, in Medical- Surgical Nursing

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2022

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. Hanan Shehata Mohamed***, *Professor of Medical Surgical Nursing Faculty of Nursing- Ain Shams University for her keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.*

I'm also delighted to express my deepest gratitude and thanks to ***Assist. Prof. Shimaa Nabil Abd Elsalam***, *Assistant Professor of Medical Surgical Nursing Faculty of Nursing -Ain Shams University, for her kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

Also, I'd like to express my respectful thanks and profound gratitude to ***Lecturer. Dr. Amr Abdellatif Elsawy*** *Lecturer of Urology Department- Department of urology-Mansoura University. All thanks to all of my close friends who help me from beginning to the end of these years of studying. Great thank to hemodialysis physicians who help me more and more to understand many aspects of diseases related to this study.*

Hadeel Fayez Abbas Said

Dedication

I'd like to express my deep appreciation and all thanks to all members of my family, especially my parents, brother, my three sons and my lovely spouse. These ones pray for me, they shared my concern and they cannot be rewarded for what they have given to me. Great greetings and special thanks to my darling father (Fayez) for his continuous encouragement to obtain a master degree in medical surgical nursing, all thanks for them for pushing me forward in all aspect of my life.

Hadeel Fayez Abbas Said Ahmed

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List of Abbreviations

Abb.	Term
ACE	Angiotensin-converting enzyme
ANA	American Nurses Association
ASFA	American Society for Apheresis
AV	Arterio- Venous
AVF	Arterio- Venous Fistula
CKD	Chronic Kidney Disease
CPGs	Clinical practice Guidelines
CVCs	Central Venous Catheters
FFP	Fresh Frozen plasma
FSGS	Focal Segmental Glomerulosclerosis
HADS	Hospital Anxiety and Depression Scale
HLAantibodies	Human Leukocyte Antigen Antibodies
HPC	High Performance Computing Solutions
IJ	internal Jugular
IVIG	Intravenous Immunoglobulin
KT	Kidney Transplantations
MOS	Medical Outcome Study
N-CPGs	Nursing Clinical Practice Guidelines
PT	prothrombin Time
RBC	Red Blood Cells
Rpm	Revolution per minute
SLE	Systemic Lupus Erythematosus
TA	Therapeutic Apheresis
TPE	Therapeutic Plasma Exchange

Needs Assessment for Patients Undergoing Plasmapheresis: Suggested Guidelines

ABSTRACT

Background: Plasmapheresis is a procedure carried out for various life-threatening and debilitating diseases as a principal mode of treatment or as an adjunct with other therapies. It is a process involving extracorporeal removal of plasma from other components of blood, discarding and replacing plasma with physiological fluids. **Aim:** The present study was conducted to assess needs for the patients undergoing plasmapheresis and develop suggested guidelines. **Research design:** A descriptive exploratory design.**Setting:** The study was conducted in hemodialysis unit at urology and nephrology center and hemodialysis unit affiliated to Mansoura university hospitals**.** **Methods:** A purposive sample of 108 patients undergoing plasmapheresis that met the following selective criteria, from both genders, adult focal segmental glomerulosclerosis patients prepare for renal transplantation, adult patients after renal transplantation rejection, patients suffer from immunological disorder (systemic lupus) and patients undergoing plasmapheresis and agree to participate in the study. **Results:** Majority of studied patients had unsatisfactory level of overall knowledge needs of patients undergoing plasmapheresis. More than one third of patients were partially physically dependent and about one third of them were minimally physically dependent. Regarding psychological needs. Most of the patients under the study had anxiety level while the majority of the studied patients suffer from borderline depression. Regarding social needs the current study revealed that about more than one third of studied patients were very socially dependent. **Conclusion:** The highest dependence needs were anxiety followed by knowledge needs, depression, total physically dependent lastly totally socially dependent. Also, there wasn't a statistically significant relationship between knowledge needs and their educational level and occupation among the studied patients. There was a statistically significant relationship between physical needs and age. **Recommendations:** Providing of simple booklet written in Arabic language for all plasmapheresis units to improve patients' knowledge level & Psychosocial counseling should be provided by specialist for them to facilitate dealing with anxiety and depression and improve their mental health and social dependance.

Keywords: Patients Needs Assessment- Plasmapheresis- Suggested Guidelines.

Introduction

Plasmapheresis is defined as the procedure in which the plasma is separated from the blood and replaced by a replacement fluid. In clinical practice, the terms plasmapheresis and plasma exchange are used synonymously, although in the vast majority of occasions, the plasma separated from the whole blood is eliminated and replaced with the same volume of another solution. Plasmapheresis is a process involving extracorporeal removal of plasma from other components of blood, discarding and replacing plasma with physiological fluids **(Bustos et al., 2021).**

In most instances, the therapeutic goal of plasmapheresis is the removal of harmful proteins or antibodies. The use of albumin may be favored as a replacement fluid, when possible, because of its low cost and low frequency of adverse events. However, replacement using fresh frozen plasma (FFP) is the most physiologic approach as it replenishes all normal plasma constituents (**Pierelli et al., 2019).**

Therapeutic plasma exchange (TPE) is an important treatment option for various diseases, including systemic

lupus erythematosus and ABO-incompatible kidney transplantation, which has gradually become a common therapy in living-related kidney transplantation. Also, TPE has become an important therapy with variable success in recurrent FSGS also, newly plasmapheresis treatment is used for severely ill patients with COVID-19 **(Suzuki, Ogiwara &Nishi 2019, Lerzan et al., 2020).**

There are two ways to separate the components of blood: **Centrifugation**, this process spins the blood, which divides it according to the density of the parts. **Filtration**, this involves passing the blood through a filter to separate plasma. During a plasmapheresis, the machine will dispose of unhealthy plasma and replace it with healthy plasma from a donor. Unhealthy plasma can also be replaced with saline, albumin, or a combination of the two **(Elali et al., 2021).**

The preferred method of plasmapheresis in most centers worldwide is by automated centrifuge-based technology. However, in certain hospitals and patients on hemodialysis, plasmapheresis is done using membrane plasma separation. In plasmapheresis using centrifugation, filtered plasma is discarded, and RBCs and replacement fluid (donor plasma or colloids) are returned. Membrane