



## SE8EO – Teaching and Role Development

*SE8EO: Two examples are required (one example must be from ambulatory care setting, if applicable).*

*SE8EOa: Provide two examples, with supporting evidence of an improved patient outcome associated with a nursing continuing education assessment and a related implementation plan.*

- *Copy of the assessment plan must be provided.*

### **Ambulatory Example SE8EOa: Development of a Therapeutic Plasma Exchange (TPE) Nursing Upskilling Program to Improve Patient Access to TPE Treatment Within the Hemodialysis Unit (HDU)**

#### **Problem**

KFSHRC-J supports nurses in advancing their skills and offers clinical experiences to provide appropriate services to patients by completing continuing education assessments as per the Nursing Professional Development Plan, 2022. Apheresis nurses focus on maintaining and improving standards of TPE care, the effective use of resources, and improving the quality of life of individuals needing TPE (Neyrinck, & Vrieling, 2019, Potok, 2016, Grapsa, 2015). Within KFSHRC-J, experienced TPE nurses care for a variety of patients, including those following renal transplant who may experience periods of post-transplant rejection. TPE as a therapy reduces rejection in the post-transplant period.

During the fourth quarter (Q) of 2018, the HDU that provided TPE services began to experience a nursing staff shortage and an increased number of patients requiring TPE. Due to the difficulties of hiring national and international experienced nursing candidates to the HDU, a need to develop nurses with the knowledge and skills who could work to provide the TPE service was identified. Since the HDU cared for patients using an extra-corporeal circuit, a decision was taken by the nursing team led by Wadea Beheri, PhD RN, Deputy Executive Director, Nursing Affairs, to provide an opportunity for nurses within the HDU to undergo a TPE upskilling program. This program would build upon their existing expertise as renal nurses.

Due to the shortage of TPE competent nurses in Q4, 2018, an increasing demand for the TPE services was evident. During December 2018, the number of clinical nurse resignations at this time began to increase from one to five. On review of the patient data

for Q4, 2018, it was noted that there was an increased number of patients with transplant rejection requiring TPE. In Q4, 2018, eight patients (rate of rejection 0.14%) had transplant rejection which was an increase from five (rate of rejection 0.9%) in Q2, 2018, and two (rate of rejection 0.4%) in Q3, 2018. To respond to the rejections, KFSHRC-Riyadh seconded three TPE nurses on a locum basis to KFSHRC-J to assist with the delivery of TPE services at KFSHRC-J.

### **Goal Statement**

Implement a TPE nursing upskilling program to increase the number of competent TPE nurses to support the increased delivery of TPE sessions and improve the renal transplant rejection rate by Q2, 2020.

### **Participants**

Table SE8EOa.1 below presents the members of the TPE project.

**Table SE8EOa.1: Participants Involved in the TPE Project**

<b>Name &amp; Credentials</b>	<b>Job Title</b>	<b>Department</b>
Wadea Beheri, PhD RN	Deputy Executive Director	Nursing Affairs
Moira Abrahams, BSN RN	Head Nurse	HDU
Janis Bruyns, BSN RN, MA	Program Director	Ambulatory Care Nursing
John Sedgewick, PhD, RN, RMN, Dip.N, Renal Cert, Cert.ED, RNT, FETC, FFNM(RCSI), FInstLM	Program Director	Nursing Development and Saudization (NDS)
Myssa Salamah, BSN RN, CCNE	Education Coordinator	NDS
Joynalyn Barrios, MSN RN	Nurse Clinician	HDU
Ahmed Al-Majaly	Clinical TPE Field Specialist	Algosaibi GTC/Terumo BCT
Sultan Abu Doghmi	Clinical TPE Field Specialist	Algosaibi GTC/Terumo BCT

### **Description of the Intervention**

#### **Intervention Phase occurred from Q1, 2019 to Q3, 2019.**

In January 2019, Janis Bruyns, BSN RN, MA, Program Director, Ambulatory Care Nursing, assigned Moira Abrahams, BSN RN, Head Nurse, HDU, and her nursing team to assume operational responsibility to provide a TPE service. This additional responsibility required a comprehensive education program to be developed to support

HDU nurses in their new role. HDU nurses would be required to deliver TPE sessions to patients following the completion of the upskilling program. A collaborative meeting with Nursing Development and Saudization Department (NDS) was held to discuss the design and implementation of a TPE upskilling program. The program's design would require a continuing education needs assessment planned for Q1, 2019.

The continuing education needs assessment commenced with Maisa Salamah, BSN RN, Education Coordinator, NDS, and Joy Barrios, MSN RN, BSN, Nurse Clinician, HDU, determining the existing experience of potential candidates for the upskilling program. The assessment also involved conducting a pre- and post-assessment of nurses' TPE knowledge. This helped to design the content of the program and the clinical skills development. The HDU leadership team decided that four HDU nurses would join the first cohort. The program would provide theoretical and clinical components requiring the successful completion of TPE procedures under supervised conditions.

### **The Nursing Continuing Education Assessment and Implementation Plan for the Upskilling TPE Program**

An evidence-based cross-training program was proposed, which would be delivered over a number of phases. **Evidence SE8EOa.1 Nursing Continuing Education Assessment Therapeutic Plasma Exchange and SE8EOa.2 Implementation Plan Therapeutic Plasma Exchange.** The TPE upskilling training would enable HDU nurses to transition to competent TPE nurses. On January 15, 2019, Maisa began the curriculum design. TPE Field Specialist representatives from Algosaiabi GTC/Terumo BCT TPE Company, Ahmed Al-Majaly, and Sultan Abu Doghmi, supported the program delivery. The program was based on the TPE Standards from the American Association of Blood Banks (2018) and the evidence-based Therapeutic TPE Guidelines (2018) from the American Society for Apheresis (ASFA). The clinical component of the program was supported with:

- Simulation
- Seminars
- Case Studies
- Debriefing sessions in clinical practice following TPE procedures

The program involved collaboration with the Apheresis Unit at KFSHRC-Riyadh. Nurses participating in the TPE upskilling program were allocated clinical placement experience within the TPE unit at KFSHRC-Riyadh. This provided TPE care under the direct supervision of expert TPE nurses. The TPE upskilling program resulted in an additional eight nurses being able to provide TPE sessions to patients at KFSHRC-J.

### **Selection of HDU Nurses**

In January 2019, the Head Nurse and Nurse Clinician selected the first cohort of nurses based on their experience as a renal dialysis nurse and their interest in the program. See Table SE8EOa.2 below.

**Table SE8EOa.2: Nurses who Completed the TPE Upskilling Program**

Name & Credentials	Job Title	Department	First Cohort	Second Cohort
Joynalyn Barrios, MSN RN,	Nurse Clinician	HDU	•	
Faith Bautista, BSN RN	Staff Nurse 1 (SN1), Clinical Nurse	HDU	•	
Catherine Yap, BSN RN	SN1, Clinical Nurse	HDU	•	
Moresia Anderson, Dip.N RN	SN1, Clinical Nurse	HDU	•	
Judy Soriano, BSN RN	SN1, Clinical Nurse	HDU		•
Rawan Alkhaibari, BSN RN	SN1, Clinical Nurse	HDU		•
Diana Chona, BSN RN,	SN1, Clinical Nurse	HDU		•
Bachir Hawsawi, BSN RN	SN1, Clinical Nurse	HDU		•

The TPE program commenced on February 24, 2019. The company TPE Field Specialist conducted the initial TPE simulation sessions to familiarize participants with TPE procedures and the TPE machine. Two days per week were allocated to theory, with three days allocated for supervised clinical practice with Maisa. The theory component of the program was completed on April 07, 2019.

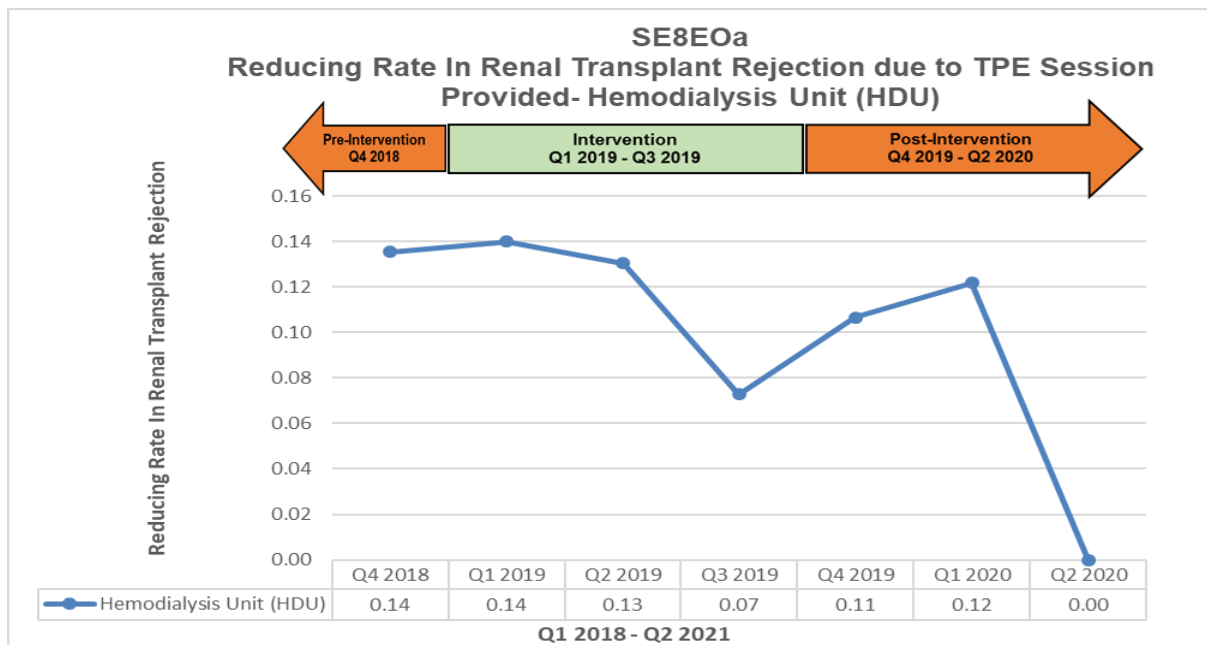
Due to the limited number of patients requiring TPE at KFSHRC-J, nurses continued to practice at KFSHRC-Riyadh. Nurses were divided into two groups, with the first group being allocated to KFSHRC-Riyadh on April 03, 2019, and with the second group joining KFSHRC-Riyadh on April 10, 2019. Placement at KFSHRC-Riyadh enabled participants to achieve the necessary observed 20 TPE sessions. The program was completed in September 2019, with all course participants achieving successful TPE skills checkoffs to confirm their TPE competency.

During the intervention period of the upskilling TPE program, 135 TPE sessions were provided. Due to COVID-19 pandemic in 2020, all TPE cases were reduced to emergency cases only. In addition to emergency cases, the process of initiating TPE required vigorous COVID-19 screening pre-TPE procedure. Due to an increased TPE service in

2021 being offered by nurses who had undergone the TPE program, the overall TPE sessions had increased to 499 by the end of 2021. This increase in TPE was a direct result of the increased numbers of nurses who had completed the TPE upskilling program.

**Outcome**

An improved patient outcome was the **reduction in the percentage rate** of renal transplant graft rejection due to TPE provided in the pre-transplant period of the patient’s workup for transplantation. The rate of renal transplant rejection (pre-data) in Q4 2018 was eight patients (0.14%). During the intervention phase, the incidence rate of transplant rejection was 0.14% in Q1 2019, 0.13% in Q2 2019, and 0.7% in Q3 2019 as TPE was offered in the pre-renal transplant phase this reduced post-transplant rejection. TPE provided for renal transplant rejection resulted in a decline in the incidence rate of renal transplant graft rejection from 8 patients (0.14% incidence rate) in Q4 2018 to 0 patients in Q2 2020. These results are, in part, the positive outcome of the upskilling TPE program.



**Graph SE8EOa: Rate of Renal Transplant Rejections**

**References**

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