Engaging Registered Nurses in Interventional Research to Improve Outcomes in a Vulnerable Population

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Disclosures

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We do not have any relevant relationships to disclose.
Objectives

› Identify opportunities to engage registered nurses in clinical research to improve care outcomes in vulnerable populations.

› Compare and contrast risk factors and causes for early readmissions post-kidney transplant between a transplant center in the Southern U.S. and national U.S. findings.

› Describe a multimodal educational intervention to improve understanding of and adherence to a post-kidney transplant plan of care.

› Discuss implications of culturally and linguistically appropriate strategies to reduce post-kidney transplant readmissions.
Hispanic Americans

› Largest minority population in the United States
› 56.5 million people of Hispanic heritage living in the U.S.
  – 10.7 million currently reside in Texas
Influences on Hispanic Health

› Cultural barriers

› Language barriers

› Health literacy levels

› Lack of insurance

› Lack of access to preventive healthcare services
Academic-Practice Partnership

› Partnership:
  ‒ University of the Incarnate Word
  ‒ Methodist Specialty & Transplant Center

› Established in 2014

› Purpose: to facilitate registered nurses’ involvement and improvement in care outcomes
  ‒ Evidence-based Practice
    › CAUTI, CLABSI
  ‒ Research
    › Kidney Transplant
    › Liver Transplant
    › Nurse Retention
Hospital Readmissions

Subsequent hospitalization (at any acute care hospital) for any reason within 30 days after discharge from the index hospitalization

› Indicator of healthcare quality¹
› Increases healthcare costs
› 2013 all-cause Medicare 30-day readmission rate 17.3/100²
› Centers for Medicare and Medicaid Services tracks and reduces hospital Inpatient Prospective Payment System payments for excess readmissions in select diagnoses
› Average cost of readmission: $10,500³
› Readmissions correlate with worse outcomes¹
Setting

› 250+ licensed bed tertiary care hospital in South Texas

› Growing transplant program
Kidney Transplantation Readmissions within 30 Days post Discharge

SOUTHERN U.S. HOSPITAL

- 30-Day Readmission Risk factors:
  - Female
  - Hispanic
  - Married
  - Diabetes mellitus and/or Hypertension
  - BMI 26+
  - Education High School or Lower
  - Distance from transplant center
  - Within 14 days of transplantation
Purpose

To determine whether 30-day readmissions post kidney transplant for adults 18 years of age and older in a predominately Hispanic Southern U.S. population are reduced by using a new method of delivering patient education as compared to the current education intervention.
Nurse-Driven Multi-modal Education Intervention

› Abbreviated handouts
  - One page summarizing critical information
  - Medication poster
  - Written at a 2.6 grade level
  - Patient’s preferred language (English/Spanish)

› Approaches
  - Repetition of content out-patient preop/in-patient postop
  - Inpatient clinical teaching pathway

› Key concepts to attain/maintain health post-transplant
# Intervention

## Abbreviated Handout

<table>
<thead>
<tr>
<th>Medications</th>
<th>I take medication for:</th>
<th>How to take the medication</th>
<th>Possible side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prograf</td>
<td>Anti-rejection</td>
<td>Take 2 times a day, every 12 hours</td>
<td>↑ creatinine, headache, high blood pressure, ↑ blood sugar, hair loss</td>
</tr>
<tr>
<td>Colcet</td>
<td>Anti-rejection</td>
<td>Take 2 times a day, every 12 hours</td>
<td>Nausea, diarrhea, anemia, mouth sores</td>
</tr>
<tr>
<td>Bactrim</td>
<td>Anti-bacterial</td>
<td>Take with food in the morning on Mondays, Wednesdays, and Fridays</td>
<td>Upset stomach, diarrhea</td>
</tr>
<tr>
<td>Valsylute</td>
<td>Anti-viral</td>
<td>Take with food in the morning</td>
<td>Upset stomach, diarrhea, tremors</td>
</tr>
<tr>
<td>Prednisone</td>
<td>Immunosuppression</td>
<td>Take with food in the morning</td>
<td>Mood swings, ↑ blood sugar, ↑ appetite, puffy cheeks, retain fluid</td>
</tr>
</tbody>
</table>

## Home Care and Prevention

**Prevent Infection**
- Good hand washing
- Avoid sick people
- Do not share food or drink
- Cook all food thoroughly
- Do not clean cat litter, bird cages, fish tanks
- Wear a mask around children or someone who may be sick

**Wound Care**
- Showers only, no baths
- No swimming, no hot tubs
- Pat incision dry
- Check incision for redness, warmth, or swelling from incision
- May cover incision with clean gauze if clothes rub or drainage
- Do not use cream, ointment, or powder on incision

**Week 1 to 8: Avoid these activities**
- Hard exercise
- Too much bendng at hip
- Too much twisting
- Driving (if using pain medication)
- Lifting more than 10 pounds
- Too much stair climbing

At home write down in a notebook:
- Daily amount of urine
- Daily blood pressure (if indicated by your doctor)
- Daily blood glucose (if indicated by your doctor)
Methods

› Single center, correlational, interventional study with retrospective data collection

› Medical record review of all adult kidney transplant recipients
  - Inclusion
    › Adults 18 and older
    › Transplant surgery occurred between February 18, 2017 and February 17, 2018
    › Consented to allow in-depth medical record review
  - Exclusion
    › Simultaneous multi-organ transplant recipients
Sample

› 271 adult kidney transplant recipients participated in education

› 254 recipients consented to allow MR review
  – Mean age 48.5 years (range 22 – 80 years)
  – Mean BMI 28.8 (range 17.1 – 43.5)
## Results

› **Readmission rate:**

<table>
<thead>
<tr>
<th></th>
<th>2016-2017 Readmit rate</th>
<th>2017 – 2018 Readmit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadaveric donor recipient</td>
<td>26.6%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Living donor Recipient (non-exchange)</td>
<td>18.8%</td>
<td>19.8%</td>
</tr>
<tr>
<td>Living donor transplant exchange recipients</td>
<td>18.8%</td>
<td>29.2%</td>
</tr>
<tr>
<td>Total kidney Transplant recipients</td>
<td>22.2%</td>
<td>21.8%</td>
</tr>
</tbody>
</table>
Other Results

PATIENT SATISFACTION
› Press Gainey Scores
  - Increase in Top Box score
  - Q1: Nurses explained medications in an understanding way
  - Q2: Nurses explained why new medications are ordered
  - Q3: Nurses describe medication side effects clearly.
› Patients requested to take teaching materials home.

NURSE ENGAGEMENT
› Improved working relationships
  - Physicians
  - Clinic nurses
  - Inpatient educators
  - Transplant staff nurses
› Greater satisfaction in work
  - Nurse & physician
Questions?

