

Sigma's 30th International Nursing Research Congress

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

Jean Dowling Dols, PhD, RN, NEA-BC, FACHE

Ila Faye Miller School of Nursing & Health Professions, University of the Incarnate Word, San Antonio, TX, USA

Katie A. Chargualaf, PhD, RN, CMSRN

Ila Faye Miller School of Nursing and Health Professions, University of the Incarnate Word, San Antonio, TX, USA

Purpose:

According to the U.S. Census Bureau, there are approximately 56.5 million people (17.6% of the U.S. population) of Hispanic heritage living in the United States (1). Texas has the 2nd largest Hispanic population with roughly 10.7 million (1). In 2015, Hispanic Americans comprised 1 in 5 members of the population; this is expected to increase to 1 in 4 members by 2045 (1). Hispanic health is influenced by cultural and language barriers, lack of insurance coverage, and a lack of access to preventive healthcare services (2). As a result, Hispanic Americans are more likely to be obese and have diabetes and hypertension (3). Higher rates of obesity, diabetes mellitus, and hypertension contribute to the rising rates of kidney failure resulting in a diagnosis of end stage renal disease (ESRD) requiring dialysis. Kidney transplantation is considered the treatment of choice for patients with ESRD as it improves quality of life, lengthens life span, and is more cost-effective than dialysis (4). Yet, outcomes of kidney transplantation in Hispanic recipients differ significantly from non-Hispanic White transplant recipients. Arce and colleagues found that there is a greater risk of graft failure, not resulting in death, among younger Hispanic transplant recipients (5).

A recent study of national kidney transplant data revealed that 31% of kidney transplant recipients were readmitted to the hospital within 30 days of discharge (6). Some of the risk factors associated with early hospital readmission after kidney transplantation include age, race, body mass index (BMI), diabetes, heart disease, and length of stay (6,7,8,9). Considered a proxy measure of healthcare quality, readmissions reflect preventable incidents capable of increasing patient mortality and the cost of care for patients, providers, and payers (10,11).

Methods:

A transplant center located in the southern U.S. experienced rapid growth in their kidney transplant program resulting in rising readmission rates. Appreciating the predominantly Hispanic population served by the transplant center, and the prevalence of chronic conditions known to influence transplant outcomes, nursing and academic leaders in partnership recruited registered nurses to determine the causes and confounding factors contributing to early readmissions.

The team included transplant staff nurses, clinical educators, quality improvement nurses, and was led by nursing faculty from a local university. To build a successful nursing research environment the team conducted an assessment of the environment, staff, and patients, identified clinical issues, established a research agenda, educated the research team, increased research expertise, acquired partners with expertise, and began to conduct ethical research studies (12). The first research project, a descriptive study of readmitted kidney transplant recipients, was completed in 2016. The study revealed that the risk factors and causes of early readmissions were uniquely different from the U.S. population. Readmitted patients were more likely to be male, married, receive a deceased donor kidney, identify as Hispanic, have a high BMI and diabetes, have an educational level of high school or lower, report English as the language spoken, and live more than 100 miles away from the hospital (13).

Although McAdams-DeMarco and colleagues emphasize that better outpatient management systems may reduce the number of readmissions, our team was unsure if the solution was an appropriate one for the population served by our hospital and others in the southern region of the U.S. with a high diversity factor, extensive travel to receive an organ, and rapid growth of the kidney transplant population (6). The research team closely examined the transplant program, beginning with the first pre-transplant education session through discharge following kidney transplantation, and identified areas for improvement. Less complex patient education materials and a teaching pathway were developed. A correlational study with retrospective data analysis was initiated to determine whether 30-day readmission following kidney transplantation for adults 18 years of age and older in a predominantly Hispanic southern U.S. population was reduced by using a new method of delivering patient education. The intervention included an abbreviated English/Spanish handout, written at a 2.6 grade level, for use in both outpatient and inpatient sites coupled with repetition of teaching through multi-modal methods. This study was approved by the IRB and patients were consented prior to the new education to allow review of their medical records post-discharge.

Results:

Beginning in January 2017 and ending February 2018, medical records of adult kidney transplant recipients were reviewed for the occurrence of readmissions, causes for readmission, and risk factors identified through a review of literature and team member expertise in the care of transplant patients. Implementing an abbreviated education sheet and employing a multi-modal teaching approach resulted in positive outcomes. Within one year, the post-kidney transplant readmission rate dropped from 22.2% (pre-intervention) to 21.8%. For recipients of deceased donor kidneys, readmission rates dropped from 29.5% to 20.5%. The results suggest less complex educational materials that are linguistically appropriate coupled with repetitive educational encounters contribute to enhanced understanding of post-transplant care and available resources.

Additionally, improved patient and staff satisfaction were noted. Prior to the intervention, patient satisfaction scores in the medication domain of the Hospital Consumer Assessment of Healthcare Providers & Systems (HCAHPS) scores were 77% but improved to an average of 95% with evidence of a perceived increase in understanding of medications. Patients eagerly requested to take learning materials home as they felt it helped to keep important details clear. Anecdotal comments from staff indicated the intervention helped to streamline teaching efforts better tailored to the patient population served by the transplant center and enhanced communication between hospital and transplant clinic staff.

Conclusion:

A focus on educating recipients of kidney transplant using less complex and burdensome materials, repetition, and targeted focus on elements essential to returning to a healthy status reduced 30-day readmission post-index hospitalization for kidney transplant. Clinical RNs were invested in education they designed and implemented based on their prior research findings.

Title:

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Keywords:

Nursing research, Readmissions and Transplants

References:

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Abstract Summary:

After a nursing research study identified readmission risks/causes following kidney transplant, an academic-practice partnership facilitated the implementation of a nurse-led intervention study employing educational materials and teaching methods congruent with linguistic preference and educational level. Findings support engaging registered nurses in efforts to improve outcomes in a vulnerable population.

Content Outline:

The learner will be able to:

- 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 educational strategies to reduce post-kidney transplant readmissions.

Expanded Content Outline:

1. Purpose:
 1. Disparities related to ethnicity in healthcare
 1. Influences on Hispanic health
 2. Outcomes for Hispanic recipients of kidney transplant vs non-Hispanic white recipients
2. Methods
 1. Academic-Practice partnership to facilitate RNs' improvement of care outcomes
 1. Building a clinical nursing research team
 2. Initial study of readmission risk factors/causes for adult kidney transplant recipients
 1. U.S. national findings
 2. Southern transplant center findings
 2. Multi-modal educational intervention research study
 1. Abbreviated education sheet
 2. Education pathway
 3. Approaches
3. Results
 1. Clinical outcomes
 2. Patient satisfaction
 3. Nurse engagement
4. Conclusions

First Primary Presenting Author

Primary Presenting Author

Jean Dowling Dols, PhD, RN, NEA-BC, FACHE

University of the Incarnate Word

Ila Faye Miller School of Nursing & Health Professions

Associate Professor

San Antonio TX

USA

Author Summary: Currently an Associate Professor at the University of the Incarnate Word, Dr. Dols has presented extensively nationally and internationally and has published more than 15 professional publications. A partner in an academic-practice partnership Dr Dols is leading the implementation of research in the transplant population.

Second Secondary Presenting Author

Corresponding Secondary Presenting Author

Katie A. Chargualaf, PhD, RN, CMSRN

University of the Incarnate Word

Ila Faye Miller School of Nursing and Health Professions

Assistant Professor

San Antonio TX

USA

Author Summary: Dr. Katie Chargualaf is a certified medical-surgical nurse with more than 19 years of clinical experience. As a nurse educator and researcher, she teaches undergraduate leadership and management and medical-surgical clinicals in a pre-licensure nursing program. As a member of an academic-practice partnership, Dr. Chargualaf assists two research teams to investigate early readmissions of kidney and liver transplant recipients and implement nurse-led interventions to improve patient outcomes.