A SYSTEMS-LEVEL APPROACH TO THE IDENTIFICATION AND PREVENTION OF MEDICATION INCIDENTS INVOLVING IMMUNOSUPPRESSANT AGENTS IN KIDNEY TRANSPLANT RECIPIENTS

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Background

- Kidney transplant recipients are often on complex medication regimens, which increases the risk of experiencing a medication incident, particularly during transitions of care such as admission to hospital
- Incidents involving immunosuppressant medications can be associated with significant adverse clinical outcomes and increased healthcare costs
- Immunosuppressant-related incidents have been identified as an area of focus by the IH Renal Program

Objectives

- To determine key renal stakeholders' perceptions on factors that may lead to medication incidents with immunosuppressant medications during an inpatient admission
- To develop recommendations around implementing strategies to prevent these incidents from occurring

Methods

Design
- Prospective, multi-center, qualitative study using focus groups

Setting and Sampling
- Interior Health hospitals with kidney transplant clinics
- Purposeful sampling

Inclusion
- Nurses, pharmacists and nephrologists involved in the care of kidney transplant patients

Data Collection
- Semi-structured, audio-recorded, in-person focus groups
- Discussion guide developed using the World Health Organization conceptual framework for the International Classification for Patient Safety (ICPS)

Data Analysis
- Transcript-based coding and thematic analysis
- Consensus of codes and themes for each focus group

Results

Table 1. Focus Group Demographics By Location

Profession	Total N=21	KBRH N=4	KGH N=7	PRH N=3	RIH N=7
Inpatient Nurse Educator	4	0	2	0	2
Transplant Clinic Nurse	4	1	1	1	1
Dispensary Pharmacist	4	1	1	1	1
Clinical Pharmacist	4	1	1	1	1
Nephrologist	5	1	2	0	2

Table 2. Key Themes

Theme	Utterances (groups)
Incident Types/Characteristics	117 (4)
Patient Outcomes	10 (3)
Contributing Factors/Hazards	372 (4)
Detection	12 (4)
Ameliorating Actions	16 (4)
Actions Taken to Reduce Risk	51 (4)
Incident Reporting	20 (3)
Perceived Roles in Incident Prevention	29 (4)
Current Facilitators/Enablers	86 (4)
Potential Solutions	124 (4)

Table 3. Facilitators and Enablers

Code	Utterances (groups)
Nursing processes	6 (3)
Patient as own advocate	31 (4)
Pharmacy processes	5 (4)
Pre-surgical planning	6 (1)
PROMIS database	14 (2)
MediTech renal indicator	6 (2)
Medication information resources	10 (4)
Transplant clinic	20 (4)
Thorough BPMH	5 (3)

Table 4. Contributing Factors/Hazards

Environmental	
Code	**Utterances (groups)**
Distance from renal center	8 (4)
Barriers to education	12 (4)
Drug levels sent offsite	2 (2)
External	
Code	**Utterances (groups)**
Incorrect BPMH/PharmaNet	54 (4)
Chemical properties of drug	4 (2)
Organizational	
Code	**Utterances (groups)**
Current process	18 (4)
Different MRPs	13 (3)
Human resources/workload	22 (4)
Medication stocking	33 (4)
Medication administration	14 (3)
No standardized process	16 (3)
Patient Related	
Code	**Utterances (groups)**
Non-renal reason for admit	5 (1)
Can't take medication PO	33 (4)
Condition rarely encountered	6 (3)
Can't communicate	4 (3)
Conflict with HCP	2 (1)
Non-renal transplant	2 (1)
Staff Related	
Code	**Utterances (groups)**
Breakdowns in communication	23 (4)
Inability to identify transplant	9 (2)
Knowledge gap	90 (4)

Table 5. Potential Solutions

Code	Utterances (groups)
Changes to policy or practice standards	15 (3)
Empower patients	8 (3)
Human resources-related	5 (3)
Education or training	17 (4)
Changes to EMR and MAR	38 (3)
Pre-surgical planning	3 (1)
Stocking all transplant medications	1 (1)
Transplant team as expert resource	20 (4)
Tools and resources	16 (4)

Limitations

- Representation of different professions not balanced between groups
- Low numbers (less than target 6-10) of participants in 2 of the groups
- Focus group participants were grouped by location as opposed to by profession to simplify recruitment; perceived power differential between participants of different professions could potentially influence the discussion

Conclusions

- The perceptions of front line clinicians around medication incidents involving immunosuppressants with kidney transplant recipients were collected
- Ten key themes were identified including both barriers and enablers to the safe provision of immunosuppressant medications and previous actions taken to reduce the risk of incidents with these medications
- Participants were able to provide suggestions for potential solutions that could be implemented at both the patient/provider and systems level
- There is opportunity to further investigate some of the proposed solutions and implement strategies to overcome the barriers and capitalize on the enablers that were identified

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