

Improving Dental Health Outcomes in Pediatric Kidney Transplant Recipients

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INTRODUCTION

Pediatric kidney transplant patients are at an increased risk of dental complications due to the level of immunosuppression needed following transplant. The importance of dental health for this patient population is well known, but guidelines are not standardized. A quality improvement project was designed to address this issue at the Medical University of South Carolina (MUSC).

OBJECTIVES

1. Increase patient understanding of the importance of oral health in overall transplant care
2. Increase the percentage of patients with a dental home
3. Improve the pre-transplant dental clearance process

METHODS

Baseline data was obtained through a survey assessing pediatric kidney transplant patients' demographics, dental history, and perceived importance of oral health. An educational intervention was carried out following completion of the survey. A pediatric dental resident delivered education, provided oral screenings, and facilitated dental visits. Outcome measures include frequency of dental visits and perception of the importance of dental health. A follow-up survey was administered to track changes.

RESULTS

Participants:

- Nineteen patients completed the initial survey in full, received the educational intervention, and completed the follow up survey in full

Demographics:

- 64% reported an annual income of \$50,000 or less, with the most frequently selected bracket being \$10,000-25,000 (28%)
- The average number of children per household is 3
- 68% of caregivers reported an education level of high school or below
- The average drive time to MUSC is 83 minutes

Dental history:

- 33% of patients reported that they had not seen a dentist in over a year
- 52% of patients benefited from assistance from the dental resident in facilitating dental care

Questionnaire on perceived importance of oral health:

- Participants were asked to indicate their agreement with the following statements:

1. I think there is a connection between my child's oral health and my child's overall health
2. I think that my child's medical conditions/medical treatment can impact my child's dental conditions/dental treatment
3. I think that my child's dental conditions/dental treatment can impact my child's medical conditions/medical treatment
4. I think it's important for my child's dental care to be coordinated with his/her nephrologist during treatment

- There was an increase in the mean response for all 4 questions
- Questions 1, 2, and 3 had a statistically significant increase in the median response, as reported by the Wilcoxon signed rank test

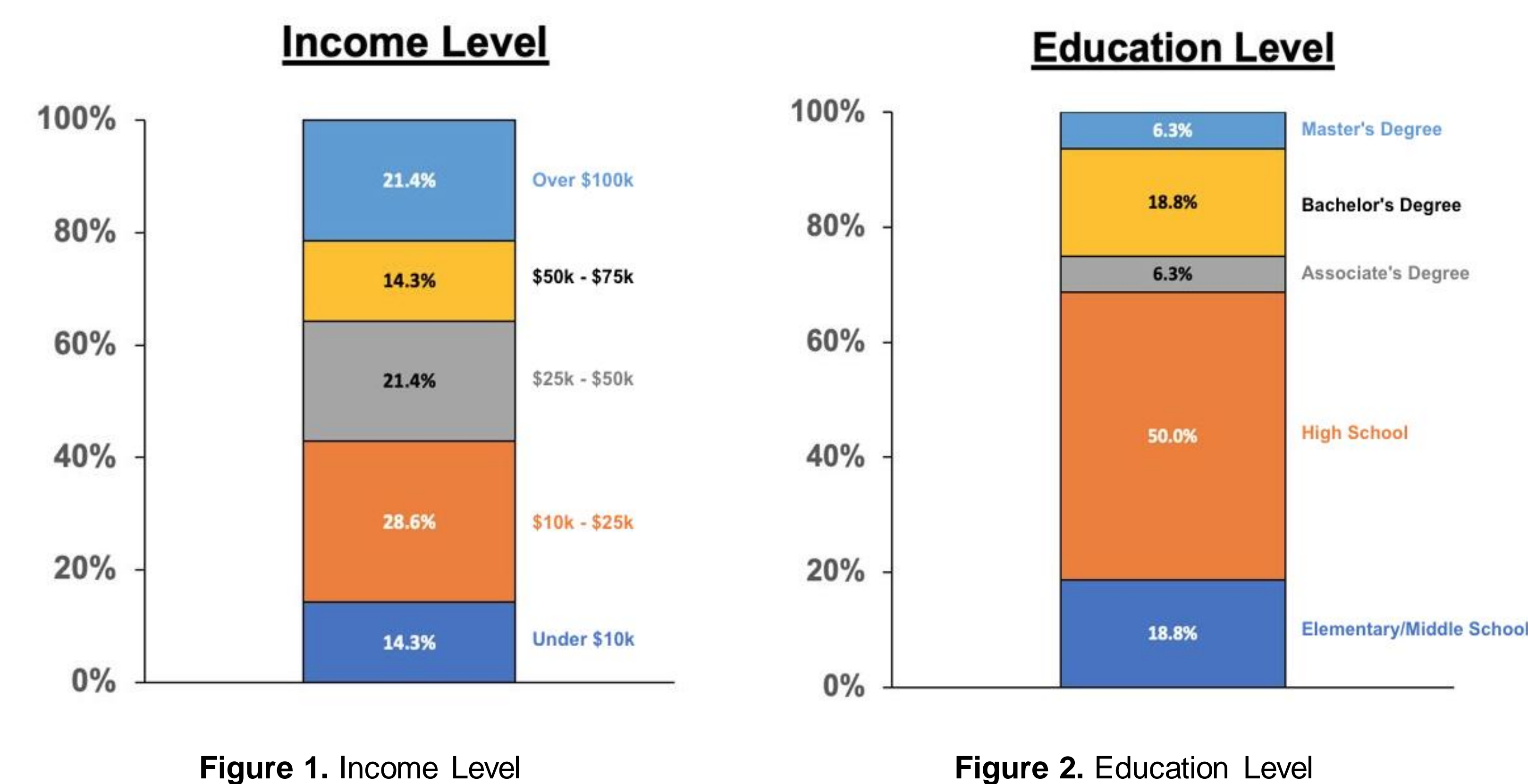


Figure 1. Income Level

Figure 2. Education Level

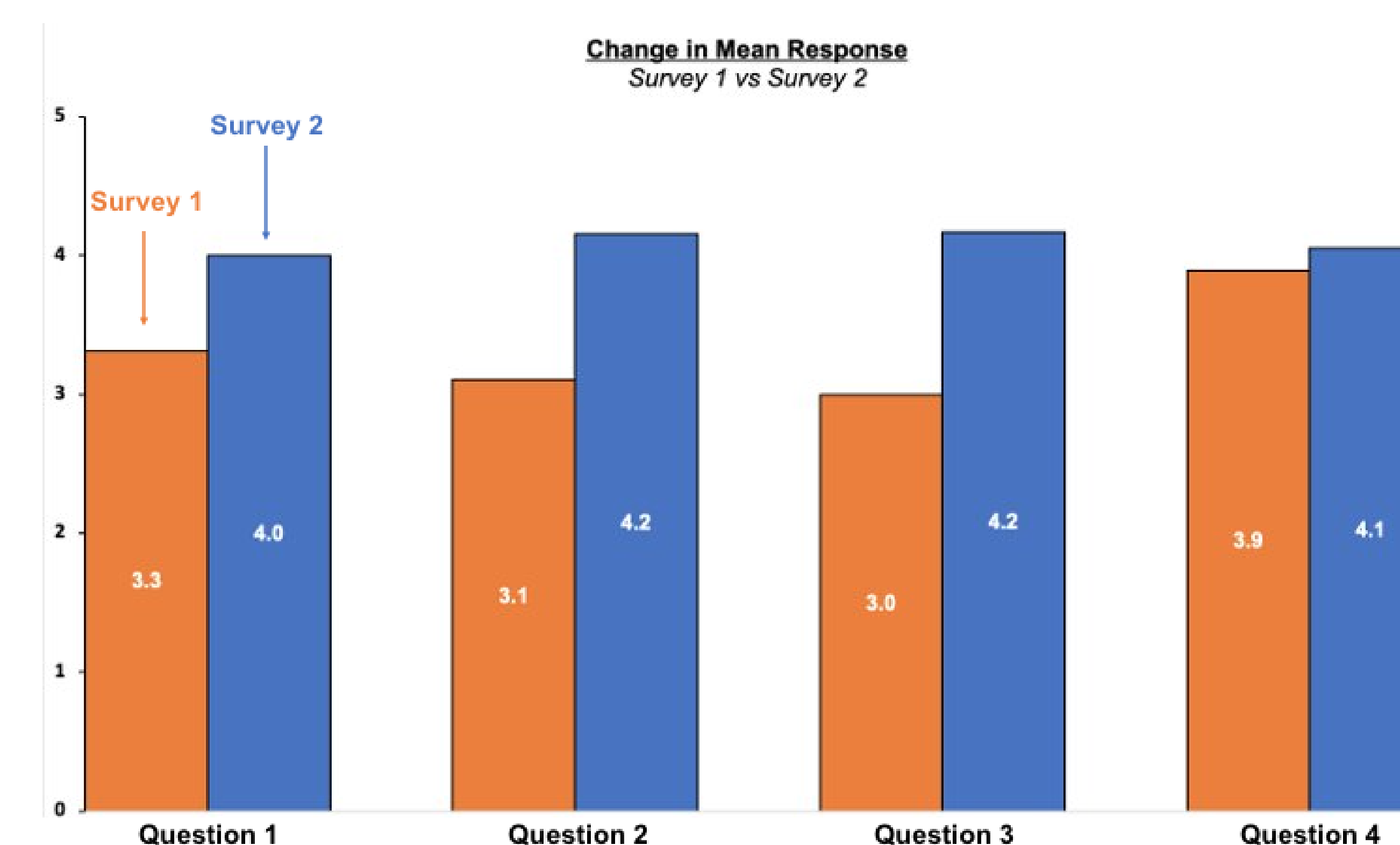


Figure 3. Change in Mean Response of Questionnaire
1 indicates strongly disagree, 2 indicates disagree, 3 indicates neutral, 4 indicates agree, 5 indicates strongly agree

DISCUSSION

This patient population would benefit greatly from improved access to multiple specialties in a single visit, as many caretakers of these medically complex children also care for multiple other children, are of a low socioeconomic status and education level, and drive a significant distance to reach MUSC.

The presence of a pediatric dental resident in the transplant clinic led to improved access to care. Over half of the patients required some sort of assistance in facilitating dental care. It also led to improved interdisciplinary care by establishing relationships between dentistry and medical specialty teams.

The educational intervention led to improved patient understanding of the importance of oral health in relation to overall transplant care.

Future direction of this project includes furthering the project within the kidney transplant patient population and considering expanding to include liver transplant patients. The survey will be improved to ensure it is at an appropriate health literacy level. Additional focus will be on pre-transplant patients; one initial step taken was creation and utilization of a standardized dental clearance form.

Dental Provider Information
Dental Practice Name: _____ Dental practice phone number: _____
Name of dentist completing form: _____

Patient Attendance Information
Date of initial appointment: _____ Reason for initial visit: _____
Date of most recent appointment: _____ Reason for visit: _____
Has the patient been a regular attendee since initial visit, coming every ~6 months for recalls?
Yes ____ No (if no, please elaborate) _____

Radiographic History
Please list date and type of most recent radiographs: _____
Please indicate if the following radiographs have been exposed and date of last exposure:
Bitewings: _____ Mx occlusal/Anterior PAs: _____ Mn occlusal/Anterior PAs: _____
Posterior PAs: _____ Panorax: _____

Treatment History/Needs
Please use the below space to indicate if the patient has received any dental treatment, date(s), services completed, and any type of sedation administered (GA at surgery center/hospital or in office treatment with IV sedation, oral sedation, nitrous oxide, or no sedation):

Figure 4. Portion of Dental Clearance Form

CONCLUSIONS

The addition of a pediatric dentist to the kidney transplant team is warranted. The continued development of interdisciplinary care between dentistry and medicine, especially specialties involved in the care of immunocompromised patients, is important.