An examination of Height, Weight and BMI z-scores in a cohort of paediatric renal transplant patients at transplant, post-transplant and at transition

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1. INTRODUCTION

- Paediatric CKD is a rare yet debilitating condition where poor growth and weight status are frequently documented in paediatric CKD[1]
- Even after renal transplantation, up to 50% of patients fail to attain maximum final height by the time they transition to adult services.
- Weight is also a concern in paediatric CKD, as both underweight and overweight are associated with negative consequences[2]

2. AIMS & OBJECTIVES

- To longitudinally examine the height, weight and BMI status of 43 paediatric transplant recipients
- To sub-analyse the height and weight outcomes of paediatric renal transplant patients by cross-sectional examination at time of transition to adult services.
- To explore catch-up growth in this population; the timeframe in which it occurs, the factors that contribute to catch-up growth and the groups which may be vulnerable to growth impairment.

3. METHODS

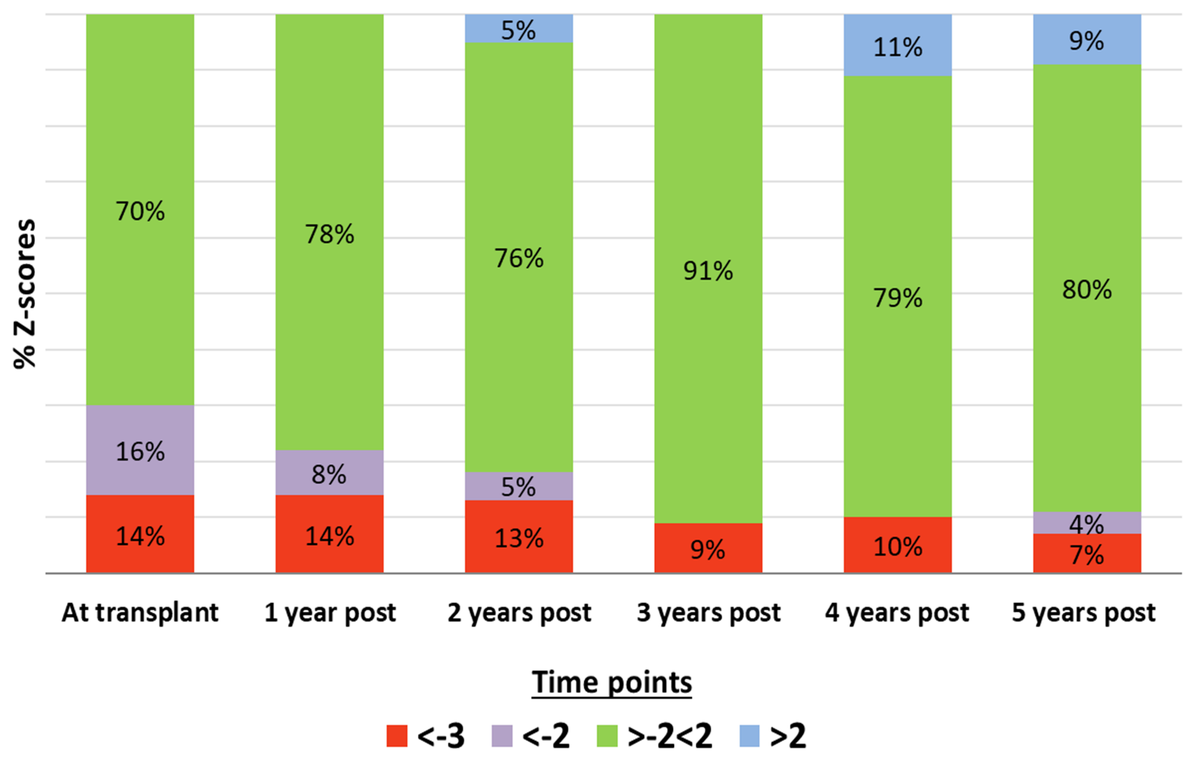
- A retrospective chart review was undertaken of patients who received a renal transplant from January 2005 - December 2015 (n=43).
- A sub-analysis of transplant patients at time of transition was carried out (n=18).
- Case record forms were used to collect data from patient charts. Z-scores were interpreted based on the World Health Organisation classification[3]. Data was analysed using SPSS

4. EVALUATION (RESULTS)

Table 1: Percentage Z-scores of 43 transplant recipients (Normal range = >-2 <2, Low = <-2, High= >2)

	Low Height (%)	Catch-up growth (%)	Low Weight (%)	High BMI (%)
At Transplant	26		11.6	7
2-years post-transplant	18	60.5	7	7
5-years post-transplant	11	72	2.3	4.7
At Transition	16.6		5.6	11

Figure 1: Height z-scores improve during longitudinal follow-up from transplant to 5-years post-transplant



DISCUSSION

- Poor growth and weight status is identified in Irish paediatric CKD Patients at transplant, post-transplant and at transition of care. However, results are superior to that described in international literature.
- Nutritionally vulnerable patients identified –PD treated patients, non-pre-emptive transplant patients and renal dysplasia diagnosis.
- Catch-up growth is demonstrated in this cohort and the majority of patients achieve adequate nutritional status by time of transition
- The present study is limited by its retrospective nature, future research should include a prospective following the patients from paediatric care into adulthood and observing nutritional outcomes

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Acknowledgments

The support of Temple Street Foundation in funding the study is acknowledged..