

Background

- Anthropometric measures are associated with patient outcomes in paediatric and adult patients on renal replacement therapy (RRT), but results are not consistent and mainly based on data at RRT initiation.
- We used data from the ESPN/ERA-EDTA Registry to study the association of height and body mass index (BMI) and access to transplantation and mortality risk in a large cohort of European children on RRT.

Methods

Subjects

- Age: 0-19 years
- Starting RRT: 1995-2014
- 31 European countries

Definition of variables

- Height expressed as standard deviation scores (SDS):
 - Short stature: height SDS < -1.88
 - Tall stature: height SDS > 1.88
- BMI expressed according to height-age
 - 0-1 years: BMI cut-offs of the World Health Organisation
 - 2-17 years: BMI cut-offs of International Obesity Taskforce

Statistics

- Cox proportional hazards regression
- All analyses were adjusted for potential confounders (country, age, sex, primary renal disease (PRD), and treatment modality)

Results

Patients

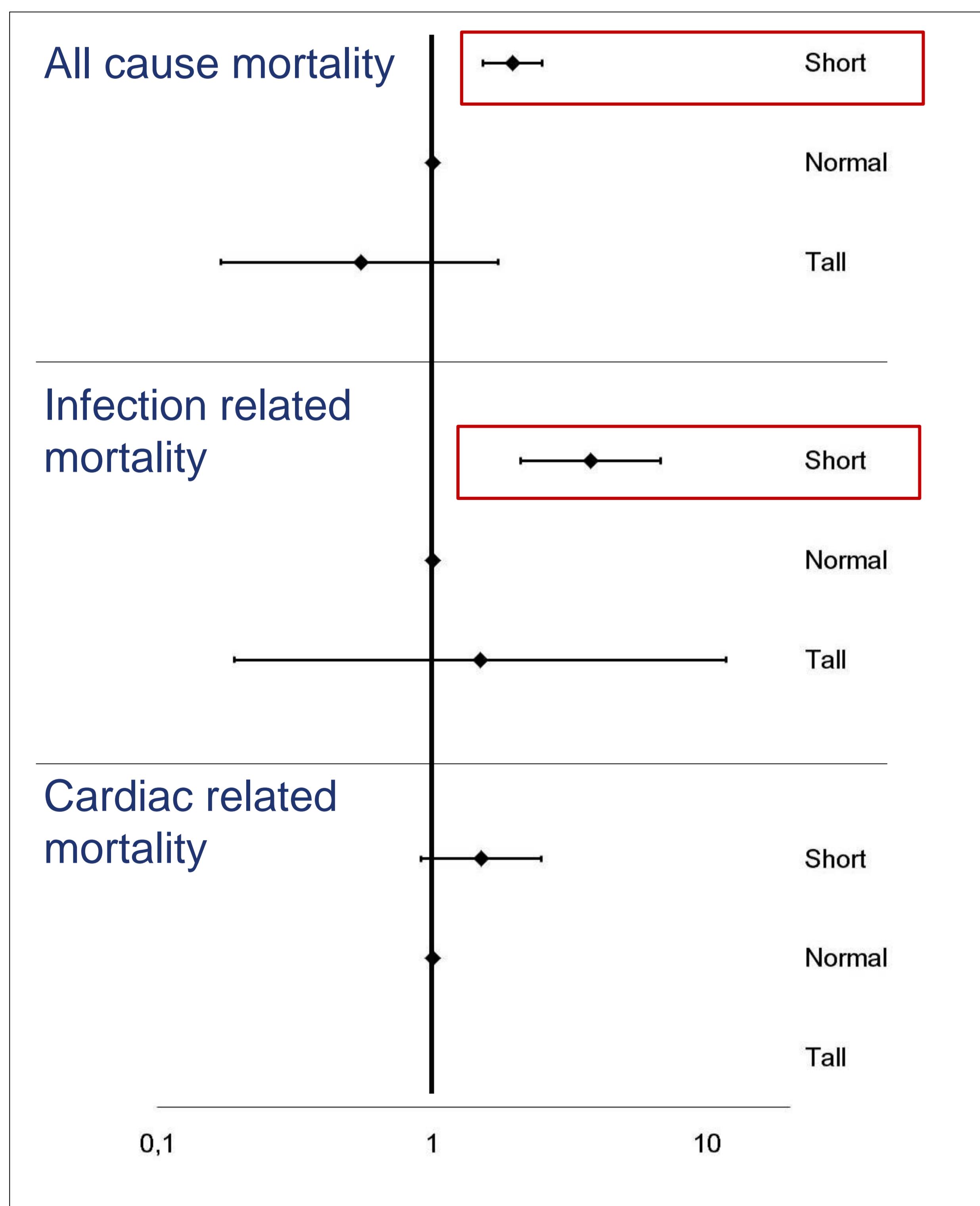
Patients N=6255	
Age at RRT (years)	N (%)
0-1	1050 (16.8)
2-5	1030 (16.5)
6-11	1949 (31.2)
12-19	2226 (35.6)
Sex	
Male	3647 (58.3)
Female	2608 (41.7)
Treatment at RRT	
HD	2445 (39.1)
PD	2959 (47.3)
Tx	788 (12.6)
Unknown	63 (1.0)

Access to Tx

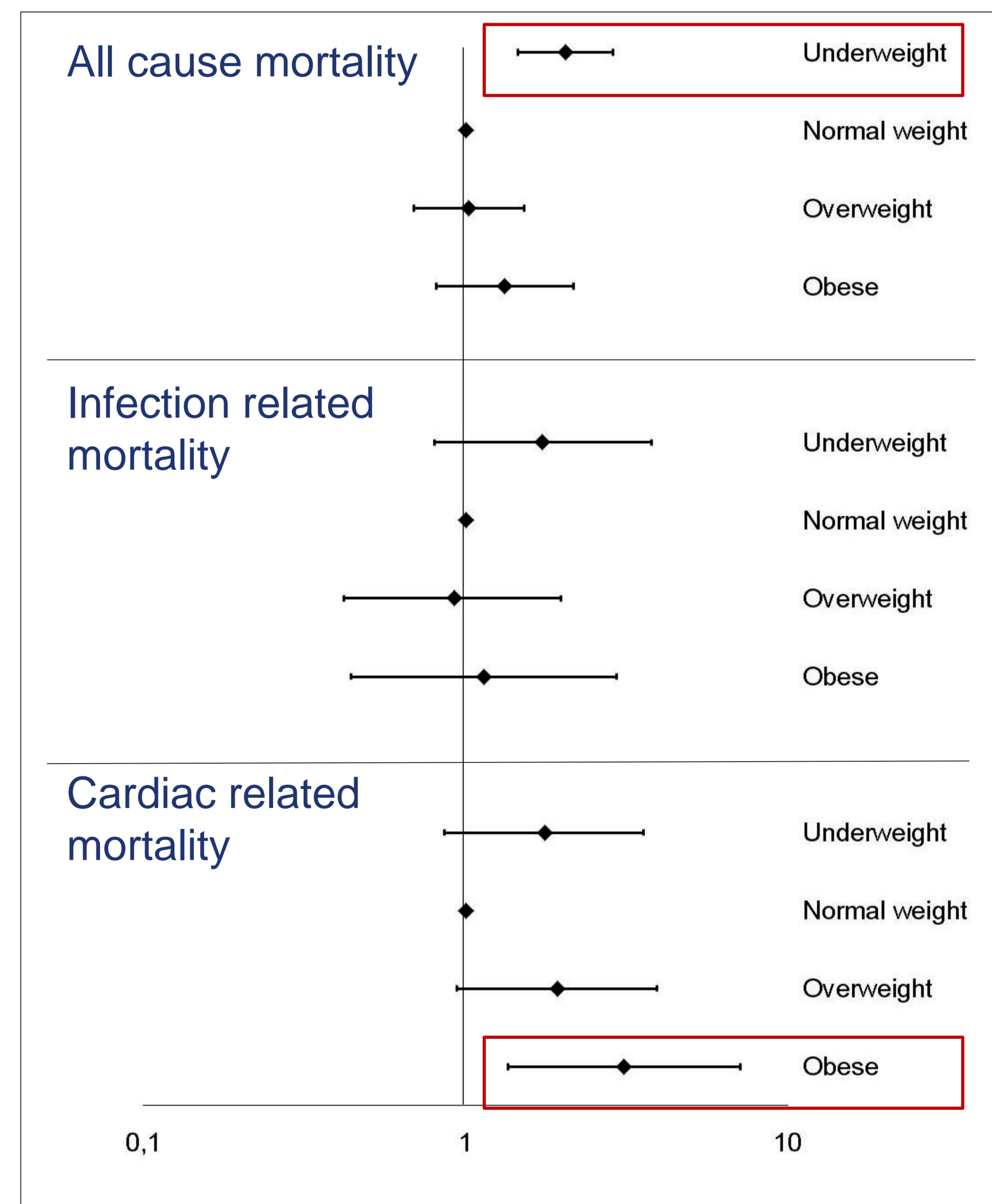
	Crude HR (95% CI)	Adjusted HR (95% CI)*
Height		
Short stature	0.82 (0.77-0.88)	0.66 (0.57-0.77)
Normal stature	1.00	1.00
Tall stature	0.76 (0.57-1.01)	1.25 (0.69-2.26)
BMI		
Underweight	0.74 (0.65-0.86)	0.80 (0.69-0.92)
Normal weight	1.00	1.00
Overweight	1.05 (0.95-1.16)	1.02 (0.93-1.13)
Obese	0.86 (0.74-1.00)	0.86 (0.74-1.01)

*Adjusted for country, age, sex, and primary renal disease

Stature and mortality



BMI and mortality



Conclusion

We found a higher mortality risk among paediatric RRT patients with a short stature or those who were underweight. Extremes in BMI were associated with a lower access to transplantation. Our results highlight the need for careful nutritional management and timely intervention in these patients.

WE WOULD LIKE TO THANK ALL FOR CONTRIBUTING TO THE ESPN/ERA-EDTA REGISTRY