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Growth in children with chronic kidney disease; from the baseline data of KNOW-PedCKD

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Objectives: Growth failure has long been a major complication in children with chronic kidney disease (CKD). We aimed to examine the characteristics of growth [height, weight and body mass index (BMI)] and to identify the factors influencing the linear growth in children with mild to moderate CKD.

Methods: Growth outcomes were analyzed by age-sex-specific height, weight and BMI standard deviation scores for 432 participants of the KoreaN cohort study for Outcome in patients with Pediatric Chronic Kidney Disease.

Results: The median height, weight and BMI SDS were -0.7 (IQR -1.82 to 0.16), -0.73 (IQR -1.81 to 0.33) and -0.13 (IQR -1.08 to 0.80). A high prevalence of short stature (22.7%) and underweight (16.2%) was observed. In the multivariable analyses of the three models according to the birth history, CKD stage 4 and 5, underweight and low household income were significantly associated with short stature in all models. Among birth history, prematurity and low birth weight contributed to short stature in children with CKD (aOR 2.083, p=0.029 and aOR 2.256, p=0.013, respectively).

Conclusions: Children with mild to moderate CKD were shorter, had lower body weight and BMI compared to the general population of Korean children. Short stature in children with mild to moderate CKD was associated with advanced CKD stage, underweight, low household income and abnormal birth history (prematurity and low birth weight).