

A25

Tasmia Promi

Advisor(s): Jason Lazar

Establishing Criteria for Nocturnal Polyuria in Adolescents

Nocturnal polyuria (NP), defined as the overproduction of urine at night, is one of the leading causes of nocturia in adults. While diagnostic criteria for NP have been established in adult men, they remain unvalidated in other demographic groups, including women and adolescents. The objective of this study was to define NP in adolescents by determining a cutoff for hourly nocturnal urine production (NUP) that best predicted the presence of nocturia. Prospectively collected data of 100 male and female patients aged 10-18 years recruited from pediatric clinics were utilized. Patients completed nocturnal voiding diaries and nocturia was defined as 1 or more voids recorded by voiding diary. Receiver operating characteristic curve was used to compare the association between nocturia and NUP and revealed AUC of 0.85. In a multivariable logistic regression with variables of sex, obesity, and elevated blood pressure, adding NUP as a categorical variable increased the predictive value of the model the most when utilizing a cutoff of 50 ml/hour, increasing Nagelkerke R² from 0.491 to 0.683. NUP greater than 50 ml/hour had a sensitivity of 62.2% and a specificity of 96.4% in predicting nocturia in our patient population. Thus, we suggest a definition for NP in adolescents as NUP >50 ml/hour. Our findings propose a definition of nocturnal polyuria in adolescents and establish NP as a strong predictor of nocturia, offering a foundation for diagnosis and management of nocturia in this patient population.