

Transition from Childhood Nocturnal Enuresis to Adult Nocturia: A Systematic Review and Meta-Analysis

Current literature has suggested a relationship between nocturnal enuresis (NE) in childhood and the development of nocturia later in life as both disorders have similar underlying etiologies, comorbidities, and treatments. The objective was to synthesize the available evidence on the association between childhood NE and later development of nocturia. PubMed, CINAHL, Scopus, and Google Scholar were searched for peer-reviewed studies published between January 1980 and April 2021. Case control and cohort studies which reported on childhood NE and current nocturia were included. The PRISMA protocol was followed. A random-effects model was applied to calculate the pooled odds ratio (OR) and 95% confidence interval (CI). Risk of bias was assessed by the GRADE criteria and with a funnel plot. Of 278 articles identified, 8 studies met inclusion criteria. The 6 case control and 2 prospective cohort studies resulted in a total sample size of 26,070 participants. Based on the GRADE criteria, the quality of evidence was low for one study, moderate for six studies, and high for one study. In a random-effect pooled analysis, childhood NE was significantly associated with the development of nocturia (OR: 1.75, 95% CI: 1.11-2.40). Significant heterogeneity ($I^2 = 92.7\%$, $p < 0.01$) was identified among included studies, which was reflected in an asymmetrical funnel plot. NE and nocturia have similar underlying etiologies of hormonal abnormalities, sleep disorders, physiological disorders, and psychological disorders. A history of childhood NE is significantly associated with nocturia later in life. The data in this meta-analysis supports this transition and identifies potential similarities between the two disorders. The sparse number of articles relevant to this topic is a strong indicator of the need for more work on this transition from childhood to maturity and further explore the association between NE and nocturia.