

# Urinary Incontinence in Children: Impact on Mental Health and Quality of Life – a Review

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## **Abstract**

### **Background**

Urinary incontinence is a common condition in childhood and represents a significant clinical and psychosocial problem. Although often perceived as a benign and self-limiting developmental issue, increasing evidence indicates that urinary incontinence may substantially impair children's mental health and quality of life. Emotional distress, social difficulties, and psychological comorbidities are frequently observed among affected children.

## **Aim**

The aim of this narrative review was to summarize current evidence on the impact of urinary incontinence in children on mental health and quality of life, with particular emphasis on psychosocial functioning and long-term consequences extending into adolescence.

## **Materials and methods**

This narrative review was based on a qualitative synthesis of the literature identified through a search of the PubMed database. Clinical, epidemiological, and psychosocial studies focusing on nocturnal enuresis, daytime urinary incontinence, lower urinary tract symptoms, quality of life, and mental health outcomes in children and adolescents were included. The findings were analyzed descriptively and organized thematically.

## **Results**

The reviewed studies consistently demonstrate that urinary incontinence in children is associated with significant impairment in quality of life across emotional, social, school, and family domains. Affected children show increased levels of anxiety, reduced self-esteem, and a higher prevalence of emotional and behavioral problems compared with their continent peers. Psychosocial burden is particularly pronounced in children with combined daytime and nighttime symptoms, coexisting lower urinary tract symptoms, or persistent urinary incontinence. Longitudinal evidence suggests that negative psychosocial effects may persist into adolescence, even after partial or complete resolution of urinary symptoms.

## **Conclusions**

Urinary incontinence in children has a meaningful and multidimensional impact on mental health and quality of life and should not be regarded solely as a transient developmental problem. Comprehensive and interdisciplinary management strategies that address both urinary symptoms and psychosocial well-being are essential to improve overall outcomes and support healthy emotional and social development in affected children.

## **Key words:**

urinary incontinence; children; mental health; quality of life; psychosocial functioning

### **1. Introduction**

Urinary incontinence in children is a common and clinically relevant condition that affects both physical functioning and psychosocial well-being. According to the definitions proposed by the International Children's Continence Society (ICCS), urinary incontinence is defined as the involuntary loss of urine during the day and/or night in children aged five years and older, in the absence of congenital or acquired neurological abnormalities [1]. This definition encompasses a heterogeneous group of conditions, including nocturnal enuresis, daytime urinary incontinence, and lower urinary tract symptoms (LUTS), which may occur independently or coexist in the same patient [2–4].

Epidemiological studies indicate that nocturnal enuresis is one of the most common urinary disorders in childhood. Its prevalence is estimated at approximately 10–15% among children aged 7–8 years and decreases progressively with age, although a substantial proportion of affected individuals continue to experience symptoms into adolescence [5,6]. Daytime urinary incontinence and LUTS are also frequently reported in

pediatric populations, particularly in younger children, and are often associated with functional bladder disorders such as overactive bladder or voiding postponement [4,7]. Although urinary incontinence is not a life-threatening condition, it is increasingly recognized as a chronic health problem that may persist over time and significantly interfere with daily functioning and family life [2,3].

Traditionally, urinary incontinence in children has been regarded as a benign and self-limiting developmental issue. However, accumulating evidence suggests that its impact extends far beyond somatic symptoms. Children affected by urinary incontinence frequently experience embarrassment, shame, and fear of stigmatization, which may lead to avoidance of social interactions, school activities, sports participation, and overnight stays outside the home [8–10]. These experiences can negatively influence emotional development, peer relationships, and self-esteem during critical stages of childhood and adolescence [8, 9, 26].

In recent years, increasing attention has been paid to the relationship between urinary incontinence and mental health. Clinical and population-based studies have demonstrated higher rates of emotional and behavioral problems among children with nocturnal and daytime urinary incontinence compared with their continent peers [15–18]. Moreover, longitudinal data suggest that the psychosocial consequences of urinary incontinence may persist into adolescence, even after partial or complete resolution of urinary symptoms, indicating potential long-term effects on psychological well-being and social functioning [21,22].

Given the high prevalence of urinary incontinence in pediatric populations, its heterogeneous clinical presentation, and its substantial impact on quality of life and mental health, a comprehensive synthesis of current evidence is warranted. Understanding urinary incontinence as a biopsychosocial condition rather than a purely somatic disorder is essential for improving clinical management and long-term outcomes in affected children.

### **Aim**

The aim of this narrative review is to summarize and synthesize current evidence regarding the impact of urinary incontinence in children on mental health and quality of life. Particular emphasis is placed on psychosocial functioning, emotional well-being, behavioral outcomes, and long-term consequences extending into adolescence.

## **2. Research materials and methods**

### **2.1. Study design**

This article is a narrative (non-systematic) review of the literature addressing urinary incontinence in children and its impact on mental health and quality of life. A narrative review approach was chosen to allow for a broad and integrative discussion of clinical, psychological, and social aspects of urinary incontinence, which may not be fully captured within the constraints of a systematic review.

### **2.2. Literature search strategy**

A literature search was conducted using the PubMed database. The search strategy included combinations of the following keywords: *urinary incontinence, nocturnal enuresis, daytime urinary incontinence, lower urinary tract symptoms, children, adolescents, quality of life, mental health, psychological, and psychosocial*. Articles published primarily in English were considered.

### 2.3. Eligibility criteria

Studies were eligible for inclusion if they:

- involved pediatric populations (children and/or adolescents),
- addressed nocturnal enuresis, daytime urinary incontinence, or LUTS,
- assessed quality of life, mental health, psychological functioning, or psychosocial outcomes,
- were published in peer-reviewed journals.

Both population-based and clinical studies were included. Articles focusing exclusively on adult populations or on neurological or structural causes of urinary incontinence were excluded.

### 2.4. Data synthesis

The selected literature was analyzed qualitatively. Findings were grouped thematically according to type of urinary incontinence, domains of quality of life, mental health outcomes, and long-term psychosocial effects. Due to heterogeneity in study design and outcome measures, a quantitative meta-analysis was not performed.

## 3. Research results

### 3.1. Types of urinary incontinence in children

Urinary incontinence in children represents a heterogeneous group of conditions with diverse pathophysiological mechanisms, clinical presentations, and prognostic implications. According to the terminology and classification proposed by the International Children's Continence Society (ICCS), urinary incontinence is categorized into nocturnal enuresis, daytime urinary incontinence, and lower urinary tract symptoms (LUTS), which may occur separately or coexist in the same patient [1,3,4].

Nocturnal enuresis is defined as intermittent urinary incontinence during sleep in children aged five years and older. It is further classified into monosymptomatic nocturnal enuresis (MEN), characterized by the absence of daytime LUTS, and non-monosymptomatic nocturnal enuresis (non-MEN), in which nocturnal wetting coexists with daytime urinary symptoms [1,2,7]. Epidemiological data indicate that nocturnal enuresis is one of the most common pediatric urinary disorders, affecting approximately 10–15% of children aged 7–8 years, with prevalence decreasing progressively with age [5,6].

Daytime urinary incontinence refers to involuntary urine leakage during waking hours and is frequently associated with functional bladder disorders, such as overactive bladder, voiding postponement, or dysfunctional voiding [4]. Children with daytime incontinence often present with urgency, increased voiding frequency, holding maneuvers, and occasional fecal comorbidity, which may further complicate clinical management [3,14]. Daytime urinary incontinence is considered particularly burdensome, as urinary leakage occurs in social and school settings, directly affecting daily functioning and peer interactions.

Lower urinary tract symptoms encompass a broad spectrum of storage and voiding disturbances, including urgency, increased or decreased voiding frequency, hesitancy, weak urinary stream, and incomplete bladder emptying [4]. LUTS may be present in both nocturnal and daytime forms of urinary incontinence and are increasingly recognized as important contributors to symptom persistence and psychosocial burden [30]. Population-based studies have demonstrated that LUTS are common in childhood and adolescence and are associated with a higher prevalence of emotional and behavioral problems [30].

Importantly, different types of urinary incontinence often coexist, and mixed clinical presentations are frequently observed. Children with combined daytime and nighttime symptoms tend to experience more severe impairment and a higher risk of comorbid conditions, including constipation, sleep disturbances, and behavioral difficulties [21–23].

Urinary and bowel dysfunction may also occur in the context of other chronic conditions and eating disorders in adolescents, further complicating psychosocial functioning and quality of life [24].

This clinical heterogeneity highlights the need for individualized assessment and management strategies, as well as careful consideration of psychosocial consequences in each subtype of urinary incontinence.

### **3.2. Impact of urinary incontinence on quality of life**

Urinary incontinence has a substantial negative impact on the quality of life of affected children, influencing multiple domains of daily functioning. Quality of life (QoL) in pediatric patients with urinary incontinence is commonly assessed using both generic and condition-specific instruments, such as the Paediatric Incontinence Questionnaire (PinQ), KINDL, and PedsQL. These tools consistently demonstrate significantly lower QoL scores in children with urinary incontinence compared with healthy peers [8,10–14].

Impairments extend beyond physical discomfort and include emotional well-being, social relationships, self-esteem, and family functioning. Children with urinary incontinence frequently report feelings of embarrassment, shame, and fear of disclosure, which may lead to avoidance of social activities, school participation, sports, and overnight stays outside the home [8,9,10]. In condition-specific assessments using the PinQ, emotional functioning and self-esteem are among the most severely affected domains, underscoring the psychological burden associated with urinary symptoms [8,11].

Reduced quality of life has also been reported in children with specific subtypes of daytime urinary incontinence, such as urge incontinence and voiding postponement, with particularly low scores observed in domains related to emotional well-being and self-perception [26].

Social functioning represents another critical aspect of reduced quality of life. Children with urinary incontinence often experience difficulties in peer relationships and concerns about being teased or stigmatized by classmates. Studies focusing on nocturnal enuresis have demonstrated that impaired friendships and reduced participation in peer activities significantly contribute to overall QoL deterioration [9,25]. Importantly, these social limitations may persist even in children with relatively mild urinary symptoms, suggesting that perceived social consequences can outweigh objective symptom severity [11].

Family life and parental well-being are also adversely affected by childhood urinary incontinence. Parents of affected children frequently report increased stress, sleep disruption, and emotional strain related to caregiving demands and concern for their child's well-being [10,25,28]. Some studies indicate that parental assessments of reduced quality of life may be more pronounced than children's self-reports, highlighting differences in perception between caregivers and affected children [11,26]. This discrepancy underscores the importance of including both child- and parent-reported outcomes in clinical practice and research.

The degree of quality-of-life impairment varies depending on the type and severity of urinary symptoms. Children with combined daytime and nighttime incontinence, coexisting LUTS, or bowel dysfunction tend to exhibit the greatest QoL impairment [8,26,28]. Daytime urinary incontinence, in particular, is associated with more pronounced limitations in school functioning and social participation, as urinary leakage occurs in public and less controllable settings [4,26].

Overall, evidence from case-control and population-based studies consistently confirms that health-related quality of life is significantly reduced across emotional, social, and school domains in children with urinary incontinence [5,12,13]. These findings emphasize that urinary incontinence should not be regarded merely as a benign developmental issue, but rather as a condition with meaningful and multidimensional consequences for children's quality of life.

### **3.3. Impact on mental health and psychosocial functioning**

Urinary incontinence in children is strongly associated with a wide range of psychological and psychosocial difficulties. Numerous clinical and population-based studies have demonstrated that children with both nocturnal and daytime urinary incontinence exhibit a higher prevalence of emotional and behavioral problems compared with their continent peers [15–18]. These difficulties may manifest as internalizing symptoms, such as anxiety and depressive mood, as well as externalizing behaviors, including hyperactivity, oppositional behavior, and conduct problems.

Anxiety-related symptoms are among the most frequently reported mental health issues in children with urinary incontinence. Fear of wetting episodes, concern about being noticed by peers, and anticipation of negative social reactions contribute to heightened levels of social anxiety and emotional distress [9,29]. Several studies have shown that children with enuresis score significantly higher on anxiety and depression scales than healthy controls, indicating a clinically relevant psychological burden [17,29]. Reduced self-esteem and persistent feelings of shame further exacerbate these emotional difficulties, particularly in older children and adolescents [9,21].

Elevated levels of social anxiety and depressive symptoms have also been reported in children diagnosed with enuresis, further supporting the association between urinary incontinence and internalizing mental health problems [29].

Behavioral and neurodevelopmental disorders are also more prevalent in children with urinary incontinence. Population-based studies have consistently reported increased rates of attention-deficit/hyperactivity disorder (ADHD) and other behavioral problems among children with daytime wetting and enuresis [15–18]. In a large national cohort study, children with enuresis were found to have significantly higher

odds of being diagnosed with ADHD, anxiety disorders, depressive disorders, and other psychiatric conditions compared with non-enuretic children [18]. These comorbidities may negatively affect treatment adherence and clinical outcomes if not appropriately recognized and managed [15].

The relationship between urinary incontinence and mental health appears to be bidirectional. Longitudinal studies suggest that psychological stress, adverse life events, and pre-existing emotional problems may increase the risk of developing urinary incontinence, while persistent urinary symptoms may, in turn, contribute to the onset or worsening of mental health problems [19,20]. This reciprocal interaction underscores the importance of considering both psychological and urological factors in the assessment and management of affected children.

Psychosocial functioning in everyday life is often significantly impaired in children with urinary incontinence. Difficulties in peer relationships, social withdrawal, and avoidance of group activities are commonly reported, particularly in children with more severe or persistent symptoms [9,10]. Qualitative studies have highlighted feelings of embarrassment, secrecy, and loss of control as central themes in children's lived experiences of urinary incontinence, emphasizing the profound emotional impact of the condition beyond measurable symptom severity [10].

Overall, available evidence indicates that urinary incontinence in children is closely linked to compromised mental health and psychosocial functioning. These findings highlight the need for routine psychological screening and a holistic, interdisciplinary approach to care that addresses both urinary symptoms and associated emotional and behavioral difficulties.

### **3.4. Long-term psychosocial consequences**

Longitudinal studies indicate that the psychosocial impact of urinary incontinence in childhood may persist into adolescence and early adulthood, even when urinary symptoms partially or fully resolve. Evidence from large population-based cohort studies suggests that children with a history of persistent or recurrent urinary incontinence are at increased risk of long-term emotional and social difficulties compared with their continent peers [21,22].

Adolescents who experienced urinary incontinence during childhood often report lower self-esteem, impaired peer relationships, and increased vulnerability to internalizing symptoms, such as anxiety and depressive mood [21]. These difficulties may result from prolonged exposure to stigma, repeated experiences of embarrassment, and chronic stress during critical periods of psychosocial development. Importantly, studies indicate that negative psychosocial outcomes are more pronounced in individuals with persistent symptoms or combined daytime and nighttime incontinence [22].

Trajectories of urinary incontinence across childhood appear to play a crucial role in determining long-term outcomes. Children with chronic or relapsing patterns of urinary incontinence are more likely to present with ongoing bladder and bowel symptoms in adolescence, which are associated with poorer psychosocial functioning and reduced quality of life [22]. In contrast, children whose urinary symptoms resolve earlier tend to exhibit fewer long-term adverse psychosocial effects.

Qualitative and follow-up studies further suggest that the emotional consequences of childhood urinary incontinence may extend beyond measurable psychiatric symptoms. Adolescents and young adults frequently describe lingering feelings of shame, heightened sensitivity to social evaluation, and avoidance of certain social or intimate situations, even after symptom resolution [10]. These findings underscore that urinary incontinence can have lasting effects on self-concept and social confidence.

Taken together, longitudinal and qualitative evidence indicate that urinary incontinence in childhood should not be regarded as a transient developmental issue without long-term consequences. Instead, it represents a condition with potential enduring psychosocial effects, particularly when symptoms are persistent or insufficiently addressed. These findings reinforce the need for early, comprehensive, and interdisciplinary approaches that consider not only symptom resolution but also long-term psychological well-being.

#### **4. Discussion**

The findings of this narrative review indicate that urinary incontinence in children is a complex condition with significant implications for mental health and quality of life. Although traditionally regarded as a benign and self-limiting developmental issue, current evidence demonstrates that both nocturnal and daytime urinary incontinence are associated with substantial psychosocial burden affecting emotional well-being, social functioning, and family life.

One of the most consistent observations across the reviewed studies is the marked reduction in quality of life among children with urinary incontinence. Impairments are evident across multiple domains, including emotional functioning, self-esteem, peer relationships, and school participation. Importantly, these negative effects are not limited to children with severe or persistent symptoms. Even mild forms of urinary incontinence may result in disproportionate psychosocial distress due to fear of stigmatization, embarrassment, and loss of control. This highlights the subjective burden of urinary incontinence, in which perceived social consequences may outweigh objective symptom severity.

The association between urinary incontinence and mental health problems further emphasizes the need for a holistic understanding of the condition. Children with urinary incontinence exhibit higher rates of anxiety, depressive symptoms, and behavioral difficulties compared with their continent peers. Externalizing problems, such as attention-deficit/hyperactivity disorder and conduct difficulties, appear to be more prevalent in children with daytime urinary incontinence, whereas internalizing symptoms, including anxiety and low mood, are more prominent in older children and adolescents. These patterns suggest that psychological vulnerability may vary according to age, symptom type, and developmental stage.

A key issue emerging from longitudinal research is the bidirectional relationship between urinary incontinence and mental health. Psychological stress, adverse life events, and pre-existing emotional problems may increase the risk of developing urinary symptoms, while persistent urinary incontinence may exacerbate or trigger mental health problems. This reciprocal interaction may contribute to symptom persistence and complicate treatment if psychological factors are not adequately addressed. Consequently, failure to recognize comorbid mental health difficulties may negatively affect treatment adherence and long-term outcomes.

The long-term psychosocial consequences of childhood urinary incontinence represent another important aspect highlighted in this review. Adolescents with a history of persistent or recurrent urinary incontinence are at increased risk of ongoing social difficulties, reduced self-confidence, and emotional distress, even after partial or complete symptom resolution. These findings suggest that the psychological impact of urinary incontinence may extend beyond the active phase of the disorder and influence self-concept and social functioning during critical periods of identity development.

From a clinical perspective, these findings underscore the importance of early identification and comprehensive management of urinary incontinence in children. Assessment should extend beyond urological symptoms to include routine screening for psychological distress, behavioral problems, and quality-of-life impairment. An interdisciplinary approach involving pediatricians, urologists, psychologists, and mental health professionals may be particularly beneficial for children with persistent symptoms or evident psychosocial difficulties.

In addition to symptom-oriented treatment, psychosocial interventions and family-centered approaches appear to play a crucial role in improving outcomes [27]. Recent studies suggest that targeted health education and parental support may significantly improve quality of life in children with nocturnal enuresis and reduce psychosocial burden within the family [27]. These findings highlight the importance of involving caregivers in the therapeutic process and addressing parental stress, expectations, and coping strategies.

Several limitations of this review should be acknowledged. As a narrative review, it does not provide a quantitative synthesis of effect sizes, and the included studies vary in design, outcome measures, and populations. Many studies rely on parent-reported outcomes, which may not fully capture the child's subjective experience. Nevertheless, the consistency of findings across clinical, population-based, and qualitative studies strengthens the overall conclusions and supports the relevance of urinary incontinence as a biopsychosocial health problem in childhood.

## **5. Conclusions**

Urinary incontinence in children is a common condition that extends beyond urological symptoms and has a meaningful impact on mental health and quality of life. Available evidence demonstrates that both nocturnal and daytime urinary incontinence are associated with emotional distress, reduced self-esteem, difficulties in peer relationships, and impaired social and school functioning. These consequences may occur even in children with relatively mild symptoms and can persist into adolescence, particularly when urinary problems are chronic or inadequately managed.

The psychosocial burden of urinary incontinence is multifactorial and influenced by symptom type, severity, comorbid conditions, and developmental stage. Children with combined daytime and nighttime symptoms, lower urinary tract symptoms, or coexisting bowel dysfunction appear to be at greatest risk of quality-of-life impairment and psychological difficulties. Importantly, the relationship between urinary incontinence and mental health is bidirectional, with psychological factors both contributing to and resulting from urinary symptoms.

These findings highlight the necessity of a comprehensive and interdisciplinary approach to the assessment and management of urinary incontinence in pediatric populations. Clinical care should not focus solely on symptom control but should also include routine evaluation of psychological well-being and quality of life. Early identification of psychosocial difficulties, family-centered interventions, and collaboration between medical and mental health professionals may help reduce long-term emotional and social consequences.

In conclusion, urinary incontinence in children should be recognized as a condition with significant psychosocial implications rather than a transient developmental issue. Addressing both somatic and psychological aspects of the disorder is essential for improving overall well-being and supporting healthy emotional and social development in affected children.

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### **Conflict of interest**

The authors declare there are no conflicts of interest.

### **AI Statement**

Artificial intelligence tools were used solely as assistive instruments in the preparation of this manuscript. AI support was applied to improve academic language clarity, coherence, and stylistic consistency, as well as to assist in the organization of the narrative structure. All scientific content, interpretation of the literature, and final conclusions were determined by the authors. The use of AI did not replace human judgment at any stage of the research process.

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