

# Integrating Biomedical and Psychosocial Approaches: A Case Study of Adult Nocturnal Enuresis and Obsessive-Compulsive Disorder

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## Abstract

Nocturnal enuresis (NE) and obsessive-compulsive disorder (OCD) can profoundly affect psychological and social health, and their co-occurrence presents complex therapeutic challenges. This case study focuses on Mr. R, a 21-year-old with lifelong NE and adolescent-diagnosed OCD, exploring the psychosocial factors and family dynamics influencing his conditions. Despite interventions like psychoeducation and cognitive behavioral therapy, Mr. R's significant anxiety persists, tied to symptoms of both disorders. This case illustrates the difficulties in treating comorbid NE and OCD, underscoring the necessity for integrated treatment approaches that consider both psychological impacts and physiological manifestations. The study also emphasizes the importance of supportive family dynamics in managing chronic health issues, suggesting a need for further research into specific interventions that effectively target the nexus of somatic and mental health symptoms.

## Introduction

Nocturnal enuresis, commonly referred to as bed-wetting, is a prevalent condition that typically resolves by adolescence. However, persistent nocturnal enuresis into adulthood can significantly impact an individual's social and psychological health (Hunsballe & Hansen, 2018). Despite advancements in understanding the pathophysiology of nocturnal enuresis, including the roles of genetic, hormonal, and bladder storage and signaling issues, many cases remain refractory to conventional treatments such as behavioral interventions and medications (Austin et al., 2016).

Obsessive-Compulsive Disorder (OCD) is a chronic psychiatric condition characterized by intrusive thoughts and compulsive actions, which can severely disrupt daily functioning and quality of life. The disorder is associated with abnormal activity in cortico-striato-thalamo-cortical circuits and is often resistant to first-line therapeutic interventions, making management particularly challenging (Shephard et al., 2021; Goodman et al., 2021). The comorbidity of nocturnal enuresis and OCD is not uncommon and poses unique challenges. The presence of OCD can exacerbate the psychosocial impact of nocturnal enuresis due to increased stress and anxiety, further complicating treatment approaches (Visser-Vandewalle et al., 2022). Moreover, the stigma associated with both conditions can lead to significant psychological distress and impair social interactions, as noted in studies exploring the epidemiology and impact of OCD (Ruscio et al., 2010).

## Keywords:

Nocturnal enuresis, Obsessive-compulsive disorder, Psychosocial factors, Family dynamics, Integrated treatment.

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This case study examines the intricate relationship between nocturnal enuresis and OCD in an adult, exploring the role of family dynamics and psychological interventions in managing these conditions. The intersection of these disorders provides a valuable lens through which to understand the broader implications of chronic health issues on mental health and the importance of a holistic treatment approach.

#### Case Report

Mr. R, a 21-year-old male, has been affected by nocturnal enuresis. He was diagnosed with Obsessive-Compulsive Disorder (OCD) during adolescence. Mr. R reported enuresis beginning at the age of 5 years that has continued up to his current age, associated with numerous psychological symptoms characterized by fear and anxiety about his condition (Ruscio et al., 2010; Shephard et al., 2021). By age 15, Mr. R's bedwetting problem was starting to make him feel scared and nervous—partly due to negative reinforcement from family members. Remarks from his mother and sister, such as "How can he live on his own?" and "What about his job and marriage?" only further escalated his anxieties and fears about the future.

Mr. R reported symptoms of OCD where he would walk in a particular way because he believed that any other pattern of walking would lead to dangerous outcomes (Visser-Vandewalle et al., 2022). By age 20, he felt that family dynamics played a significant role in exacerbating his sexual and religious intrusive thoughts, which worsened his OCD. Family dynamics were a crucial aspect of his psychological experience. His enuresis was met with concern mixed with frustration by family members, who tried to enforce control in every possible way. The family had taken him to the temple five times for spiritual intervention between the ages of 18 and 20.

At 21, Mr. R generalized his fear of making mistakes to everyday tasks, doubting his ability to function correctly, which led to constant worry about potentially sending inappropriate messages to female classmates. The intervention included psychoeducation for the family about OCD, encouraging them to avoid directive behavior regarding Mr. R's bed-wetting. Despite these efforts, he never experienced fewer than two enuretic episodes per month. Cognitive Behavioral Therapy (CBT) was provided but had no significant effect on his condition.

#### Discussion

The coexistence of nocturnal enuresis and OCD in adult patients like Mr. R presents unique clinical challenges, necessitating an integrated treatment approach. Research by Goodman et al. (2021) emphasizes the potential of neuromodulation therapies in OCD, suggesting a possible overlap in neurobiological pathways between OCD and nocturnal enuresis that could be targeted simultaneously. This is further supported by innovations in treatment modalities for enuresis, such as those discussed by Hunsballe & Hansen (2018), where tailored behavioral and pharmacological interventions adapt to patient-

specific physiological cues, potentially offering a dual benefit for patients suffering from both conditions.

#### Biomedical Interventions

Neuromodulation therapies have shown promise in treating OCD by targeting abnormal brain circuits. Techniques such as transcranial magnetic stimulation (TMS) and deep brain stimulation (DBS) can modulate the neural activity in areas implicated in OCD, potentially alleviating symptoms (Shephard et al., 2021). Given the neurobiological overlap suggested between OCD and nocturnal enuresis, these neuromodulation techniques could be explored as a treatment for refractory cases of nocturnal enuresis as well. This dual approach might address both conditions more effectively than traditional treatments alone.

Pharmacological treatments for nocturnal enuresis often include medications such as desmopressin, which mimics the antidiuretic hormone vasopressin, reducing urine production at night (Austin et al., 2016). For OCD, selective serotonin reuptake inhibitors (SSRIs) are commonly prescribed to manage symptoms. Combining these pharmacological approaches with neuromodulation could potentially offer a comprehensive treatment strategy for patients like Mr. R.

#### Psychosocial Interventions

The impact of family dynamics on the psychological health of individuals with nocturnal enuresis and OCD cannot be overstated. The stigma and stress associated with these conditions can exacerbate symptoms, making family support crucial for successful management (Ruscio et al., 2010). Psychoeducation for family members, as implemented in Mr. R's case, is vital to ensure that family dynamics do not contribute negatively to the patient's condition. Understanding the nature of OCD and nocturnal enuresis helps family members provide appropriate support without reinforcing negative behaviors.

Cognitive Behavioral Therapy (CBT) is a well-established treatment for OCD, focusing on changing maladaptive thought patterns and behaviors (Visser-Vandewalle et al., 2022). While CBT was attempted in Mr. R's case, its limited success suggests that more tailored or intensive interventions may be necessary. Incorporating elements of family therapy to address dysfunctional dynamics and promote healthier interactions could enhance the effectiveness of CBT.

#### Integrative Approaches

An integrative treatment approach for comorbid nocturnal enuresis and OCD should consider both the biological and psychosocial aspects of these conditions. For instance, combining neuromodulation with pharmacological treatments and CBT could address the multifaceted nature of these disorders. Studies have shown that multi-modal treatments can be more effective than single-modality approaches, particularly for complex cases with comorbid conditions (Hunsballe & Hansen, 2018).

In Mr. R's case, a tailored treatment plan that integrates biomedical and psychosocial interventions could potentially lead to better outcomes. For example, initiating neuromodulation therapy to target neural circuits involved in both OCD and nocturnal enuresis, while concurrently providing pharmacological treatment and CBT, may offer a more comprehensive approach. Additionally, involving family members in the therapeutic process through psychoeducation and family therapy can enhance support and reduce stigma, contributing to improved overall well-being.

#### **Long-Term Management and Support**

Chronic conditions like nocturnal enuresis and OCD often require long-term management strategies. Continuous monitoring and adjustment of treatment plans are necessary to address changing symptoms and needs. Regular follow-up appointments with healthcare providers can help ensure that interventions remain effective and are adapted as necessary.

In addition to medical and psychological treatments, lifestyle modifications can also play a significant role in managing nocturnal enuresis. These might include establishing regular sleep patterns, reducing fluid intake before bedtime, and using bedwetting alarms to condition the body to wake up before an episode occurs (Austin et al., 2016). For OCD, maintaining a structured routine and engaging in activities that reduce stress can help manage symptoms.

Support groups for individuals with nocturnal enuresis and OCD can provide a sense of community and shared understanding, reducing feelings of isolation. These groups can also offer practical advice and emotional support, which are invaluable for individuals dealing with chronic conditions.

#### **Research and Future Directions**

Despite advances in understanding and treating OCD and nocturnal enuresis separately, there remains a significant gap in research addressing their comorbidity, especially in adult populations. Future studies should focus on longitudinal assessments of integrated neuromodulation therapies and their impact on life quality and symptom severity in such comorbid cases. Additionally, expanding the scope of psychosocial interventions to include wider community resources could further enhance treatment outcomes and patient well-being.

Further research into the neurobiological mechanisms underlying the comorbidity of nocturnal enuresis and OCD is essential. Understanding these mechanisms can inform the development of targeted treatments that address the root causes of both conditions simultaneously. For instance, exploring the role of specific neurotransmitters and brain circuits in both nocturnal enuresis and OCD could lead to new pharmacological and neuromodulation therapies that are more effective.

Research should also investigate the long-term outcomes of integrative treatment approaches. Studying the effects of combined

neuromodulation, pharmacological treatments, and CBT over extended periods can provide valuable insights into their efficacy and sustainability. Such studies can help identify the most effective treatment protocols and inform clinical practice guidelines.

In addition to biomedical research, more studies are needed on the psychosocial aspects of managing comorbid nocturnal enuresis and OCD. Investigating the impact of family dynamics, social support, and stigma on treatment outcomes can inform the development of comprehensive psychosocial interventions. Understanding these factors can help healthcare providers design interventions that address the unique needs of individuals with these comorbid conditions.

#### **Conclusion**

The case of Mr. R illustrates the complex interplay between nocturnal enuresis and Obsessive-Compulsive Disorder (OCD), highlighting the challenges and implications of managing such comorbid conditions in adulthood. This case underscores the necessity for an integrated approach that encompasses both advanced medical treatments and comprehensive psychosocial interventions.

Innovations in treatment, such as neuromodulation therapies and AI-driven medical devices, show promise in addressing the underlying physiological and neurobiological aspects of these conditions simultaneously (Goodman et al., 2021; Hunsballe & Hansen, 2018). Moreover, the role of family dynamics in the management of chronic conditions is crucial, as family members can significantly influence treatment outcomes through support and understanding.

Moving forward, it is imperative that medical research continues to explore and develop treatments that address the multifaceted nature of comorbid mental health conditions. Expanding the scope of psychosocial support to include community resources and ensuring that families are equipped with the necessary education to support their loved ones are vital steps towards improving patient outcomes.

This case study serves as a call to action for healthcare providers to adopt a more holistic and personalized approach to treating individuals with nocturnal enuresis and OCD, ensuring that both the physical symptoms and psychological impacts are effectively managed.

#### **Ethical Considerations**

Mr. R's case was reviewed with careful attention to ethical considerations, including the confidentiality of his identity and informed consent for the case study publication. All personal identifiers have been removed or altered to protect Mr. R's privacy.

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