

Pediatric Psychodermatology and Trichotillomania: Update on Strategies for Effective Treatment

Nicholas S. Doss-Hom¹, Kelly Frasier², Leonard B. Goldstein^{3*}

¹Lewis Katz School of Medicine at Temple University, Philadelphia, PA, USA.

²Nuvance Health/Vassar Brothers Medical Center, Poughkeepsie, NY, USA.

³A.T. Still University School of Osteopathic Medicine in Arizona, Mesa, AZ, USA.

*Corresponding Author: Leonard B. Goldstein, A.T. Still University School of Osteopathic Medicine in Arizona, Mesa, AZ, USA.

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Abstract:

This review serves as an update to our previous work on psychodermatology, a rapidly expanding sub-specialty that explores the intersection of dermatologic and psychiatric disorders. Since the initial publication, few developments have emerged in the management of key conditions such as delusions of parasitosis, trichotillomania (TTM), onychophagia, excoriation disorder, and body dysmorphic disorder, many of which frequently coexist with mood disorders. Specifically, TTM, classified under "Obsessive-Compulsive and Related Disorders" in the DSM-5, continues to present distinct challenges, especially in pediatric populations. Our updated review highlights the importance of a multidisciplinary approach involving dermatologists and mental health professionals, with a focus on integrating habit reversal therapy (HRT), cognitive behavioral therapy (CBT), and newer pharmacological treatments. As data on optimal treatment strategies remain limited, this paper emphasizes the necessity of individualized care to enhance patient outcomes, reflecting the evolving landscape of psychodermatology since our initial analysis.

Key words: psychodermatology; dermatopsychology; trichotillomania; mental Health; treatments in psychodermatology

Introduction

Trichotillomania (TTM), also known as Hair-Pulling Disorder, is a self-induced disorder leading to hair loss due to pulling, rubbing, or twisting of the hair. It is seen as a body-focused repetitive behavior, and is listed in the DSM-5 under the category of "Obsessive-Compulsive (OCD) and Related Disorder" [1]. Children with this disorder of impulse control are driven by an underlying need to reduce tension or stress by pulling hair. Skin and hair conditions are common in children, and it is known to cause significant psychological distress for both the child and their families. Mental health distress and disorders have become more prevalent in children, particularly during the COVID-19 pandemic, with almost two-thirds reporting long-term issues [1]. While it is recognized that skin and hair conditions can impact the well-being of children and cause psychological distress, it is now being recognized that psychological distress in children can lead to skin and hair issues [2]. Children with TTM and OCD share some phenotypic traits and may lie along the same clinical spectrum of impulse control and inhibition of repetitive behaviors; however, there are also symptomatic differences which make the syndrome unique. This article will discuss available updates to psycho-

dermatology in pediatric dermatology and address both the visible skin conditions that pediatric patients may present with via TTM and internal psychological aspects of the disorder.

Discussion

Psychodermatology, also known as dermatopsychology or psychocutaneous medicine, represents a subspecialty focussing on the intersection of dermatologic conditions and psychological factors [3]. This overlap should be understood as bidirectional where dermatologic conditions can affect psychiatric conditions and vice versa [3,4]. Some examples of dermatologic conditions affecting mental health are acne, atopic dermatitis, psoriasis, chronic urticaria, and prurigo which have been linked to anxiety, depression, and body dysmorphism [4, 5]. In much the same way, the manifestation of stress in patients is correlated with worsening appearance of coexisting skin conditions [6,7]. Additionally, some of the most commonly diagnosed psychodermatologic conditions remain delusions of parasitosis, trichotillomania, onychophagia, excoriation disorder, and body dysmorphic disorder [8]. Diagnosis and

treatment of these conditions is an active area of research but most agree that a multi-disciplinary team involving behavioral health specialists as well as dermatologists should work to employ a combination of psychological and psychopharmacological therapy when necessary. Given the limited research pertaining to the efficacy of psychopharmacologic options such as serotonin reuptake inhibitors (SSRI) and antipsychotics, psychotherapy such as CBT is often firstline [9]. However, in clinical practice, patients may refuse referral to psychiatry, and it is recommended that dermatologists are familiar with at least one SSRI and one antipsychotic to effectively manage patients in this scenario [8]. Despite this, habit reversal therapy (HRT) and cognitive behavioral therapy (CBT) remain the most efficacious treatments, consistently showing the best outcomes in managing psychodermatological conditions. Their integration into patient care continues to be critical, even as pharmacological options are explored. The rise of psychodermatology in pediatric dermatology represents an opportunity to address not only cutaneous pathology but also encourage patient participation in multifaceted treatment regimens [3,10].

TTM has an estimated prevalence of 1-3% of the pediatric population [11]. This presents either as an automatic action without the patient's awareness or as focused hair pulling that occurs in response to negative emotional states [12]. Clinically, dermatologists can find patchy hair loss with irregular borders, broken hairs, and concurrent areas of regrowth primarily over the frontoparietal region with some distributions including hair on the limbs and chest. This condition is highly comorbid with psychiatric disorders where approximately 55% of TTM patients develop a mood disorder over their lifespan [12,13]. Mood disorders seen alongside TTM commonly include anxiety, major depression, and bipolar disorder. Additionally, some patients have also been found to present with skin-picking and nail-biting disorders [12]. Some cases will involve trichophagia leading to trichobezoar and rarely Rapunzel syndrome which can lead to gastrointestinal obstruction necessitating surgical intervention [12,14,15,16]. While endoscopic examination in all patients with trichotillomania is important, some patients may go undiagnosed with TTM further emphasizing the need for early diagnosis and effective management to prevent the development of trichobezoar or rapunzel syndrome.

Treatment for TTM, especially in children, is limited. The most common treatments are HRT and CBT [10]. However, even among these approaches, multidisciplinary teams should be flexible with their treatment plans and willing to try individualized methodology. In a recent case series involving patients referred for compulsive hair pulling, patients were provided psychodermatology sessions with a pediatric clinical psychologist at least every 2-3 months over the course of 3 years which allowed for individualized plans to be developed for each patients' triggers [11]. One patient who enjoyed looking at the roots of hair strands was recommended to pull the stems from a cress plant which satisfied her triggers through mimicking the act of the hair pulling, representing just one-way individualized therapy can be implemented for patients [11]. Other than therapy modalities in the pediatric population, there are currently no controlled clinical trials for pharmacologic options such as minoxidil, corticosteroids, N-acetyl cysteine (NAC), tofacitinib, and selenium sulfide in the treatment of TTM [10]. Since the publishing of "Advances in Psychodermatology: Pediatric Trichotillomania", there have been reports of TTM improving with different pharmaceutical treatments. One 13 year old boy with coexisting obsessive compulsive disorder and attention deficit hyperactivity disorder achieved elimination

of TTM symptoms with a 2400 mg daily dose of NAC [17]. These findings are consistent with previous reports that identify doses of 450-3000 mg as being potential effective therapeutic doses, though clinical trials are still needed [17]. In another recent report, an 8 year old girl with TTM and concurrent bipolar disorder was successfully treated utilizing topiramate monotherapy [13]. This study concurs with past cases utilizing topiramate and highlights its possible efficacy as well as marks the first known case of successful monotherapy [13]. More research insights are needed to identify the true therapeutic use of medications like NAC and topiramate in pediatric patients as either part of therapy centered regiment or even as part of a primarily pharmacologic approach.

In addition to NAC and topiramate, other pharmacological and behavioral approaches have gained attention, albeit with limited new research in pediatric trichotillomania (TTM) over the past year. Emerging evidence has pointed to the potential role of glutamatergic agents beyond NAC in addressing compulsive hair-pulling behaviors [18]. Some studies have explored memantine, an NMDA receptor antagonist, as a treatment option in adult populations, with recent anecdotal reports suggesting that it may hold promise for pediatric patients as well [19]. Furthermore, advancements in digital health have begun to influence behavioral interventions. The use of mobile apps and wearable devices for habit tracking and monitoring urges to pull hair has shown early success in improving adherence to habit reversal therapy (HRT) among children [19]. These technologies allow real-time feedback and data collection, fostering greater patient engagement and collaboration between patients, caregivers, and healthcare providers. As these digital tools continue to develop, they may complement traditional behavioral therapies, providing a more holistic approach to managing pediatric TTM. However, larger studies are needed to confirm the efficacy of these emerging treatment modalities.

Conclusion

Psychodermatology is a rapidly evolving field that demands a multidisciplinary approach, with close collaboration between dermatologists and behavioral health professionals, especially given the frequent comorbidity of psychodermatologic conditions with mood disorders. Despite the growing recognition of this specialty, advancements in treatment—particularly for pediatric patients—have not kept pace. Therapy-based interventions, such as habit reversal therapy and cognitive behavioral therapy, remain first-line recommendations, while pharmacologic options like N-acetylcysteine and topiramate show promise but require evidence from proposed controlled clinical trials. Psychodermatologic conditions like trichotillomania are complex, necessitating individualized treatment plans and tailored psychotherapy in the absence of comprehensive, evidence-based pharmacologic guidelines. Future research should focus on developing targeted pharmacological interventions, assessing the efficacy of combined therapies, and exploring digital health tools to enhance patient engagement, with a particular emphasis on advancing pediatric treatment options.

Conflicts of Interest:

The authors of this publication declare there are no known conflicts of interest associated with this publication, and there has been no financial support for this work.

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