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DERMATOLOGICAL CONDITIONS IN TRANSGENDER PATIENTS: A SYSTEMATIC REVIEW

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ABSTRACT

Background: Transgender and gender-diverse (TGD) individuals face unique dermatological challenges, strongly influenced by gender-affirming hormone therapy (GAHT), surgical practices, and psychosocial determinants of health. Acne, androgenetic alopecia, hidradenitis suppurativa, infectious dermatoses, and the need for hair removal procedures represent the most prevalent conditions. Beyond clinical impact, these conditions affect social functioning, stigma, and access to equitable healthcare.
Aim: To systematically review dermatological conditions in transgender patients, integrating clinical specificity with social science perspectives.
Methods: A PRISMA-guided systematic review was conducted using PubMed through 2025. Inclusion criteria: studies reporting dermatologic conditions in transgender individuals. Exclusion: non-dermatology-focused papers. Eighteen studies (PMIDs 38086516–32115126) were included. Data on incidence, pathophysiology, treatment, and social determinants of care were extracted.
Results: Testosterone therapy induced acne in 25–88% of transgender men, peaking within 6–12 months, with nodulocystic acne in up to 20%. Alopecia occurred after >2 years GAHT, mediated by dihydrotestosterone. Hidradenitis suppurativa was exacerbated by androgen exposure, with adalimumab effective in severe cases. Hair removal (laser, electrolysis) is essential pre-vaginoplasty but associated with folliculitis, scarring, and inequitable access. Transgender women demonstrated high prevalence of HPV/HIV-related dermatoses, with HIV prevalence up to 40% in some cohorts. Melanoma cases under estrogen therapy were reported, though causality remains uncertain. Psychodermatologic burden was severe, with depression affecting 40–50% of patients with visible skin disease.
Conclusion: Dermatologic care in TGD patients is medically complex and socially contextual. Interventions must integrate pathophysiologic understanding with stigma reduction, insurance coverage, and equity-focused health policy.

KEYWORDS

Transgender Health, Dermatoses, Gender-Affirming Hormone Therapy, Acne, Alopecia, Healthcare Disparities

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Introduction

Dermatology is deeply intertwined with transgender healthcare. Skin and hair are critical to gender expression in individual's daily life, and dermatologic conditions may affirm or conflict with gender identity.

The transgender individuals are those, whose gender identity and/or expression is different from assigned sex at birth, including transgender men (TM), transgender women (TW), and transmasculine and transfeminine people[1]. Although in recent years the social awareness of transgender peoples' needs is rising, there is still not enough of clear guidelines in medical fields for providing better care for those patients.

Transgender physical transformation is generally based on gender-affirming hormone therapy (GAHT) and gender-affirming surgery (GAS). The hormonal therapy includes either masculinizing doses of testosterone to induce virilization or feminizing hormones, such as estrogen and antiandrogen. Both androgen and estrogen are known to affect the skin condition. The testosterone is mainly associated with an increase in sebum production and follicular hyperkeratosis, leading to acne vulgaris and masculine hair-growth pattern. The estrogens and antiandrogens are responsible for the opposite effect on skin adnexa which includes decrease in sebum production, while the exact role in hair growth remains unclear. Estrogen therapy may also lead to excessive melanogenesis, resulting in melasma [1].

Acne, alopecia, and hidradenitis suppurativa arise as direct consequences of GAHT, while hair removal and management of cutaneous malignancy risk are essential for surgical readiness and long-term health. Globally, transgender individuals represent 0.3–0.5% of the population, yet dermatology remains underrepresented in gender-affirming care guidelines. Furthermore, dermatologic conditions amplify psychosocial stress, stigma, and healthcare inequity, affecting patients quality of life. This systematic review synthesizes clinical evidence while situating dermatologic health in the broader context of social science and policy.

Methods

This review adhered to PRISMA methodology. A PubMed search identified studies using terms: 'transgender', ,dermatological conditions', ,dermatoses', 'psychodermatology'. Studies with dermatologic outcomes in transgender patients were included while surgical-only studies without dermatologic endpoints were excluded. Two reviewers independently screened records, eventually including 18 articles. Data were extracted on incidence, pathophysiology, treatment, and psychosocial impact.

Results

The most common dermatological conditions mentioned in the included articles were divided into subsections for a better clarity.

1. Acne (Imhof et al., 2024; Imhof et al., 2020; Yeung et al., 2019; Rutnin et al., 2023; Butler et al., 2024; Lagacé et al., 2023).

Testosterone-induced acne was reported in 25–88% of transgender men, with peak onset at 6–12 months post-GAHT initiation. Pathophysiology includes androgen-driven sebaceous hyperplasia and follicular keratinization. Nodulocystic acne occurred in up to 20% of severe cases. Therapies included topical retinoids, benzoyl peroxide, doxycycline, and isotretinoin. Isotretinoin use requires contraception counseling, which creates barriers in TGD populations caused by lack of TGD-included medical procedures such as forms or contraceptive prescriptions, followed by decrease in patients' compliance that may lead to serious complications in case of pregnancy [2, 3, 4, 5, 6, 7].

2. Androgenetic Alopecia

Androgenic alopecia (AGA) occurred after >2 years of testosterone, mediated by DHT follicle miniaturization. Clinical presentation mirrored cis-gender male balding characterized by a receding hairline and hair loss on the top and front of the head. Therapies included topical minoxidil, oral finasteride, and dutasteride, though limited data exist on safety in transgender men. Hair transplantation provided permanent correction [1, 8, 9, 10].

3. Hidradenitis Suppurativa

Hidradenitis suppurative (HS) prevalence was elevated in transgender men undergoing the testosterone therapy. Dermatose exacerbation is linked to androgen stimulation of apocrine glands. Biologic therapy (adalimumab, secukinumab) demonstrated efficacy. Social impact included pain, disability, and social isolation affecting patients' quality of life and even ability to work [3].

4. Hair Removal

Laser (Alexandrite, Nd:YAG) and electrolysis were essential for vaginoplasty. Complications included folliculitis, scarring, and post-inflammatory hyperpigmentation. Multiple sessions were required, creating inequitable access due to cost and lack of insurance coverage [11].

5. Neoplasms

6. Case reports have described neovaginal squamous cell carcinoma (SCC) and other long-term complications after vaginoplasty using penile skin; isolated benign tumors such as fibroadenoma under feminizing hormone therapy have also been reported. Routine skin cancer surveillance remains prudent, but population-level excess risk has not been established [12, 13, 14].

7. Infections

HIV prevalence in transgender women reached 19–40% in global studies. Dermatologic manifestations included Kaposi sarcoma, HPV-related warts, molluscum contagiosum. Disparities in prevention (PrEP, vaccination) worsened outcomes [15].

Psychodermatological aspects of dermatoses in transgender patients

Visible dermatologic disease exacerbated gender dysphoria, depression, and anxiety. Rates of depression reached 40–50% among those with acne or alopecia. Healthcare stigma led to delayed treatment-seeking [16, 17].

Discussion

This review highlights the complex intersection of dermatological conditions and social determinants of health in TGD populations. Acne and alopecia are direct consequences of testosterone therapy that may profoundly affect self-image and social integration. HS and infectious dermatoses reveal the role of androgens and structural inequities in care. Hair removal demonstrates the blurred line between cosmetic and medically necessary procedures. Insurance exclusions and provider knowledge gaps restrict access. Policy reforms, longitudinal studies, and multidisciplinary guidelines are urgently required to improve TGD patients' quality of life and minimize the social and medical exclusion. Limitations of TGD-based studies include small cohorts and lack of prospective data.

Conclusions

Dermatological care in TGD individuals requires integration of medical specificity with social awareness. Clinical management must address acne, alopecia, hidradenitis, infectious dermatoses, and malignancy surveillance, while health systems must reduce stigma and ensure equitable access. Dermatological guidelines should be incorporated into comprehensive gender-affirming care guidelines.

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