

## A Review on Dermatological Disorders in Pediatrics

**Nayana P. Kunderi,**

Department of Pharmacy Practice,  
Sarada Vilas College of Pharmacy,  
Mysore, Karnataka, India.

**Dr. Beulah Milton,**

Department Of Pharmacy Practice,  
R R College of Pharmacy, Bangalore,  
Karnataka, India.

**Pruvthi Thakur,**

Department Of Pharmacy Practice,  
R R College of Pharmacy, Bangalore,  
Karnataka, India.

### ABSTRACT

*Skin diseases are most common form of infections occurring in people of all ages. Skin disorders due to its ugliness and associated hardships are one of the hardest ailments to get accustomed to especially when it is located in a place that is difficult to conceal like the face, even with makeup. Most of the skin infections treatment takes long time to show their effects. The skin conditions are prevalent across all parts of the world. In this article we have discussed briefly regarding various skin disorders in children like Dermatophytosis, Pityriasis, vesicolor Pyodermas, Pediculosis capitis, Scabies, Viral warts, Acne vulgaris, Atopic eczema, Seborrheic eczema, Keratosis pilaris, Angular cheilitis, Vitiligo, Alopecia areata, Psoriasis.*

### SKIN DISORDERS

↓  
Infective Skin Disorders Dermatophytosis  
Pityriasis Versicolor Pyodermas Pediculosis  
Capitis Scabies Psoriasis Viral Warts

↓  
Non infective Skin Disorders Acne  
Vulgaris Atopic Eczema Seborrheic  
Eczema Keratosis pilaris Angular  
cheilitis Vitiligo Alopecia areata

#### Dermatophytosis:

Dermatophytosis, more commonly known as ringworm, is a fungal infection of the skin. Ringworm is a misnomer. The infection isn't caused by a worm. It's caused by a fungus. Ringworm infection can affect both humans and animals. The infection initially presents itself with red patches on affected areas of the skin and later spreads to other parts of the body. The infection may affect the skin of the scalp, feet, groin, beard, or other areas. Dermatophytosis is superficial fungal infections of keratinized tissues that are caused by a group of fungi called dermatophytes. These fungi belong to the genera Epidermophyton, Microsporum and Trichophyton. Dermatophytes are classified as anthropophilic (human), geophilic (soil) or zoophilic (animal) according to their normal habitat. Dermatophytes from each of these three groups can cause infection in humans, but their reservoirs have important epidemiological implications for infection, including the infected site and the distribution of the infection. [3]

#### Pityriasis versicolor:

Pityriasis versicolor is a common yeast infection of the skin, in which flaky discolored patches appear on the chest and back/Pityriasis versicolor, sometimes called tinea versicolor, is a common condition that causes small patches of skin to become scaly and discolored. Pityriasis versicolor (PV) is a superficial mycosis, affecting the superficial layer of stratum corneum. [4] The causative organism is Malassezia furfur, a yeast-like lipophilic fungus. Previously the mycelial form was called either P. Ovale or P. orbicular P.V., consequently, is more common in the tropics than in temperate zone.

### **Pyodermas:**

Any pyogenic infection of the skin; may be primary, as impetigo, or secondary to a previously existing condition. Pyoderma gangrenosum A rare, ulcerating skin disease in which the skin is infiltrated by neutrophils. It is often found in people with other underlying illnesses, such as inflammatory bowel disease, rheumatoid arthritis, or some hematological malignancies. Pyoderma is defined as any purulent skin disease and represents infections in the epidermis and dermis (eg. impetigo contagiosa, bullous impetigo, ecthyma, erysipelas, cellulitis, etc.) or in hair follicles (eg. folliculitis, furunculosis etc.). The majority of these skin infections are caused by *Staphylococcus aureus* (*S. aureus*) and Group A *Streptococcus* (GAS). Pyoderma is important not only because of its local effects as a skin infection, but more importantly because the primary pathogen underlying skin infection may be GAS. GAS infections of the skin are believed to be an important factor in acute post streptococcal glomerulonephritis (APSGN) and acute rheumatic fever (ARF).<sup>[6,7]</sup> A variety of precipitating factors like hot humid climate, poverty, overcrowded living condition, malnutrition, poor hygiene have always been implicated in the development of pyoderma.

### **Pediculosis capitis:**

Head lice infestation (also known as pediculosis capitis, nits, or cooties) is the infection of the head hair and scalp by the head louse (*Pediculus humanus capitis*). Itching from lice bites is common. Head lice are small, wingless insects that infest the human scalp. They are the most common of the 3 human lice species. Head lice infestation is also called pediculosis capitis. The human head louse, *Pediculus humanus capitis*, is a common public health concern, especially in children. It is an obligate holometabolous ectoparasite that spends its complete life cycle in hair on a human head.<sup>[8]</sup> Transmission occurs mainly by direct person-to-person contact or by instruments such as shared combs, pillows and hats. Head lice infestation may also lead to psychological distress and may disrupt learning performance in schoolchildren.

### **Scabies:**

It is a contagious skin disease marked by itching and small raised red spots, caused by the itch mite, called *Sarcoptes scabiei*. The presence of the mite leads to intense itching in the area of its burrows. The urge to scratch may be especially strong at night. Scabies is an intensely pruritic, highly contagious skin infestation caused by the arachnid mite *Sarcoptes scabiei* variant *hominis*. Scabies transmission occurs through direct and prolonged contact, and possibly through sharing contaminated clothing or bedding. Infestation causes intense pruritus, particularly at night, often causing sleep disruption. Excoriation of lesions can lead to secondary bacterial superinfections<sup>[13,14,15]</sup>, therefore treating an infestation early during the disease process may prevent bacterial superinfection and scabies transmission to close contacts, and treating scabies in a community leads to a concurrent reduction in rates of pyoderma.

### **Viral warts:**

A wart is a small, rough growth resembling a cauliflower or a solid blister. It typically occurs on humans' hands or feet but often in other locations. Warts are caused by a viral infection, specifically by one of the many types of human papillomavirus (HPV).

Skin diseases are a common cause of morbidity, especially among school children, worldwide. It is considered to be the second most common cause for medical consultation for children. Human papilloma virus (HPV) has been associated with a broad spectrum of diseases that ranges from asymptomatic latent infection to warts to squamous cell carcinoma. This virus affects mucosal and cutaneous cells of immunocompetent as well as immunocompromised patients.

### **Acne vulgaris:**

Acne vulgaris (or simply acne) is a long-term skin disease that occurs when hair follicles become clogged with dead skin cells and oil from the skin. Acne is characterized by areas of blackheads, whiteheads, pimples, and greasy skin, and may result in scarring.

Acne vulgaris is a chronic inflammatory disease of the pilosebaceous follicles, common in adolescents, characterized by comedones, papules, pustules, cysts, nodules, and occasionally scars. Acne vulgaris is a chronic skin condition which results in post inflammatory hyperpigmentation, scarring, cysts and keloid formation. There are many factors which may influence the prevalence of acne vulgaris. The onset of acne is usually in adolescence, earlier in girls than in boys, due to the earlier onset of puberty in girls. Acne resolves by the mid twenties or earlier.

The peak incidence and severity occur between fourteen and seventeen years in females; and sixteen and nineteen years in males, where 40% and 35% in these age groups are affected respectively. The genetic component of acne has been confirmed by the very high incidence in monozygotic twins. Racial variations have a marked influence on the incidence of acne.

#### **Atopic eczema:**

Atopic eczema (or atopic dermatitis) means the repeated inflammatory skin manifestations of atopy. It is a chronic, pruriginous, inflammatory dermatosis that evolves in the form of flare-ups. It is a complex multifactor disease that combines two types of anomalies:- an alteration in the epidermal barrier (filaggrin deficit), which makes the skin dry and abnormally sensitive to any type of aggression - a tendency to be sensitive to IgE allergens.

Atopic eczema is a chronic relapsing condition that is commonly seen in primary care. It is characterised by itching and redness of the skin and is most prevalent in early childhood. Health professionals may often regard it as a trivial problem that will go away, and it may be overshadowed by other related conditions, such as asthma.<sup>[25]</sup> However, the symptoms of eczema range from a small mildly irritating patch to a more widespread and painful rash, which can be physically extrusive and painful and may persist for many years.

#### **Seborrheic eczema:**

Seborrheic dermatitis/Seborrheic eczema (American spelling is *seborrheic*) is a common, chronic or relapsing form of eczema/dermatitis that mainly affects.

A common disorder of the skin, seborrheic dermatitis is characterized by the development of erythematous patches with yellow-gray scales that appear most often appear on the face, scalp, upper chest, and back. In adolescents and adults, it usually presents as scalp scaling (dandruff) or as mild to marked erythema of the nasolabial fold during times of stress or sleep deprivation. Seborrheic dermatitis and pityriasis capitis (cradle cap) are common in early childhood. According to one survey of 1,116 children. The overall age- and sex-adjusted prevalence of seborrheic dermatitis was 10 percent in boys and 9.5 percent in girls.

#### **Keratosis pilaris:**

Keratosis pilaris is a common, harmless skin condition that causes dry, rough patches and tiny bumps, usually on the upper arms, thighs, cheeks or buttocks. The bumps generally don't hurt or itch. Keratosis pilaris is often considered a variant of normal skin. It is a common skin condition that looks like small goose bumps, which are actually dead skin cells that build up around the hair follicle.

Keratosis pilaris (KP) is an autosomal dominant disorder that is classically characterized by keratinous plugs in the follicular orifices and varying degrees of perifollicular erythema. In general, KP is frequently cosmetically displeasing but medically harmless. The sites of predilection are the extensor surfaces of the upper arms (92%), thighs (59%) and buttocks (30%).<sup>[28]</sup> The classically described histopathology is distention of the follicular orifice by a keratinous plug that may contain one or more twisted hairs.

#### **Angular cheilitis:**

Angular cheilitis is a common inflammatory condition affecting the corners of the mouth or oral commissures. Depending on underlying causes, it may last a few days or persist indefinitely. It is also called angular stomatitis and cheilosis. Cheilitis is defined as a condition in which your lip becomes inflamed and irritated. Angular is defined as a corner or angle. So angular cheilitis is inflammation and irritation within the mouth corners. Angular cheilitis is an inflammatory condition that occurs in 1 or both angles of the mouth. This condition typically presents with erythema, painful cracking, scaling, bleeding, and ulceration at the corners of the mouth. Angular cheilitis can occur spontaneously but more often develops in those who wear oral dentures and appliances, those who are required to wear masks as part of their occupation, and in some small children— particularly those who slobber and use pacifiers.

#### **Vitiligo:**

Vitiligo is a disease that causes the loss of skin color in blotches. The extent and rate of color loss from vitiligo is unpredictable. It can affect the skin on any part of your body. It may also affect hair, the inside of the mouth and even the eyes. Normally, the color of hair, skin and eyes is determined by melanin. Vitiligo occurs when the cells that produce melanin die or stop functioning. Vitiligo is an acquired hypomelanotic disorder of the skin resulting from loss of functional melanocytes.<sup>[32]</sup> Vitiligo may considerably influence a patient's health related quality of life and psychological well-being. Vitiligo is characterized by achromatic patches of different shapes and sizes.

The true etiopathogenic mechanism of vitiligo is still unknown (autoimmune, neurogenic, autotoxic and oxidative stress) [33]. Currently it is considered an autoimmune disease. [34] Recently, new classifications and nomenclatures have been suggested (The Vitiligo Global Issues Consensus Conference - VGICC), based on clinical features: segmental vitiligo (SV) and non-segmental vitiligo (NSV). The latter including the variants generalized, acrofacial and universal vitiligo. [35]

### **Alopecia areata:**

Alopecia areata is a sudden loss of hair especially of the scalp or face in circumscribed patches with little or no inflammation. Patchy baldness that typically begins with rapid hair loss on discrete areas of the scalp and sometimes progresses to complete baldness and even loss of body hair. The characteristic diagnostic finding is short, broken hairs called 'exclamation point' hairs. It affects both males and females and, most often, children and young adults. It seems to be caused by an autoimmune mechanism, wherein the body's own immune system attacks the hair follicles and disrupts normal hair formation. Alopecia areata (AA) is a common, clinically heterogeneous, immune-mediated, non-scarring hair loss disorder. [36–38] The disease may be limited to one or more discrete, well-circumscribed round or oval patches of hair loss on the scalp or body, or it may affect the entire scalp (alopecia totalis) or the entire body (alopecia universalis). [36,37] In AA, CD4+ and CD8+ T-cells violate the immune privilege of the anagen hair follicle, leading to loss of the growing hair shaft. [36,38,39]

### **Psoriasis:**

Psoriasis is a common skin condition that changes the life cycle of skin cells. Psoriasis causes cells to build up rapidly on the surface of the skin. The extra skin cells form thick, silvery scales and itchy, dry, red patches that are sometimes painful. Psoriasis is a persistent, longlasting (chronic) disease. Psoriasis is an inherited papulosquamous disorder with a variable clinical spectrum. Psoriasis is a common chronic inflammatory skin disease with a strong genetic basis, characterized by complex alteration in epidermal proliferation and differentiation. Childhood psoriasis is a well-recognized entity, but its true prevalence is not known. Psoriasis can be a life-altering disease with a potentially profound impact on physical, emotional and social functioning and overall quality of life in children. The psychosocial impairment, in addition to the physical affliction that can result from psoriasis, is a reminder that early recognition and management of psoriasis in children and adolescents is crucial.

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