Teenagers and acne: role of the pharmacist

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The impact of acne can be alleviated by a pharmacist who understands the condition’s emotional side-effects.

Before the advent of isotretinoin, acne vulgaris (common acne) was an ubiquitous scourge of adolescence. In the worst case, a formerly well-adjusted pre-adolescent might become the object of scorn and derision solely because of the onset of treatment-resistant acne vulgaris. Countless adults can poignantly attest to the ravages of acne through the scars they carry. Further, teasing and taunting can cause scars that may run deeper than the epidermis.

Prevalence of acne

Acne vulgaris is responsible for more dermatologist visits than any other condition. In western societies, the prevalence of acne is extremely high, with a reported incidence of 79 to 95% in adolescents. In those 25 years and older, the incidence drops to 40 to 54% for facial acne. Only 3% of men and 12% of women still have acne by middle age. In the US, studies reveal that acne is present in Whites, African-Americans, Hispanics, and Asians. Acne occurs slightly earlier in girls than in boys (age 12.1 vs 12.8, respectively).

Provoking factors

While many people do not think culture affects acne prevalence, researchers studying acne in two groups of non-westerners have found otherwise. After examining 1,200 Kitavan Islanders of Papua New Guinea (300 were ages 15 to 25) and 115 Ache hunter-gatherers of Paraguay (15 were ages 15 to 25), they failed to find a single case of acne, even in the mildest form. They conceded that some disparity in prevalence might be expected based on differing genetics in the distinct racial groups but also concluded that the magnitude of the difference made that hypothesis unlikely. Instead, the researchers speculated that environmental factors were responsible and urged further work to identify them.

The change of seasons has been traditionally thought to affect acne, with many people stating that acne worsens in the winter and improves in the summer. Exploring this truism, researchers surveyed 452 patients with acne about seasonal symptom variations. Although half of the patients noted such a variation, 56% stated that their symptoms increased in the summer, opposing the prevailing myth. However, symptoms worsened in winter for only 11%. The researchers hypothesised that factors present more often in the summer (e.g., heat, humidity, sweating) might be responsible.

Another myth with little basis is the connection between diet — particularly fried foods, chocolate, and cola drinks — and acne. While such foods might have other negative health effects, little...
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The genesis of acne

Many factors coalesce to produce acne. The so-called seat of acne is the pilosebaceous unit, which consists of a normal hair follicle, associated sebaceous glands, and the piloerector muscle apparatus. The inside of each hair follicle is lined with outer epidermal skin — not living dermis — that grows and sheds just as the outer epidermis does. At puberty, the shed skin cells, which are normally carried upward by sebaceous flow, exhibit an androgen-stimulated abnormal cohesion that prevents them from being shed as easily. As a result, the ductal lumen of the follicle narrows as it becomes plugged with cellular debris. In addition to this hypercornification, puberty-related changes cause the sebaceous glands to become multilobular and increase daily output of sebum. Unfortunately, the amount of sebum that must reach the skin surface increases just as its sole outflow channel progressively narrows.

The causative organism for acne is Propionibacterium acnes, an anaerobic diphtheroid normally present in the pilosebaceous unit. The organism remains quiescent prior to puberty, but it reacts to increased levels of sebum by proliferating and producing free fatty acids, which irritate the skin. This causes inflammatory acne, which produces papules, pustules, and nodules. If the inflammation reaches a sufficiently severe level, the skin will scar.

The initial acne lesion is the microcomedo, which evolves into a closed comedo (whitehead). As debris continues to accumulate in the follicle, the hair is lost and the pore opens. Oxidation of the pore’s upper long-term consequences. Patients with acne are often acutely embarrassed and/or highly apprehensive when consulting the pharmacist. There are several reasons for this. Firstly, acne is a disfiguring condition, constantly visible to anyone with whom the individual has face-to-face interaction. Secondly, even a minor case of acne can cause a great deal of stress, embarrassment, frustration, anger, and/or depression, since the patient cannot predict the duration of the condition, the degree of severity it will assume, or the likelihood of a favourable treatment outcome. Further, acne is often perceived by others to be a minor condition of little consequence; the patient is denied the ‘sick role’ granted freely to those with other minor conditions such as the common cold or a headache. Finally, the onset of acne coincides with the onset of puberty. Thus, just when adolescents gain a new appreciation of the opposite sex, their self-image may be marred by a condition that can cause them to enter a cycle of self-recrimination and self-doubt.

Categorising acne

Dermatologists have several methods for grading the severity of acne. One method relies on the type, number, and location of lesions and the presence of scarring. The pharmacist can use

Treatment of acne

Patients should be told that acne symptoms improve gradually, perhaps taking as long as six to eight weeks. Further, patients should not be discouraged if their acne seems to worsen for two to three weeks after treatment begins. This common flare often presages a period of slow improvement.

Patients need other advice, too. They should keep their hair away from the face, because oils can spread from the hair to the face and worsen acne. Adolescents who tan to hide acne must be informed that tanning is counterproductive due to long-term damage from sun exposure.

Numerous approaches exist for treating acne. Patients with type 1 acne may choose from several relatively mild non-prescription medications, such as benzoyl peroxide, sulfur, and salicylic acid. Patients with moderate to severe acne (types 2 to 4) or with scars already present should be referred. In one treatment taxonomy, dermatologists suggest a treatment-approach based on the acne grade at presentation. For instance, a patient with type 2 acne might be prescribed topical antibiotics (e.g., tetracyclines, erythromycin). For type 3 acne, doctors might choose an eight- to 12-week course of oral antibiotics with anti-inflammatory actions (e.g., oxytetracycline, tetracycline, doxycycline, minocycline) or erythromycin/azithromycin, possibly in addition to topical products. However, the use of some antibiotics may be limited due to resistance (e.g., erythromycin) and may require shorter courses of therapy. Type 4 acne does not respond to topical therapy; rather, doctors may prescribe systemic hormones or isotretinoin.
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Acne: A major stressor for teens

As a teen, you might think that acne is one of the worst things that can happen to you. You might struggle with breakouts and worry endlessly about how you appear to the opposite sex. Exploring acne can help you cope with the condition.

Understanding acne myths:
Because many people think diet and acne are connected, parents often scold children with acne for their food choices. Although many people believe that high-fat foods such as French fries or potato chips send fatty materials directly to the pores, there is little evidence showing that fatty foods or other traditional acne 'causes,' including chocolate, fried foods, cola drinks, produce acne. (Of course, because too much fat in the diet can be dangerous to the heart, it should be avoided.)

Also, because acne is not caused by having unclean skin, simple face washing cannot cure acne. Blackheads, which are not dirt, are caused by a reaction of skin oils to the air. Harsh scrubbing will not help and may even worsen acne. Cleaning or scrubbing 'sponges' or abrasive cleansers should be avoided.

Additionally, although some teenagers may become sexually active at about the same time as acne first appears, sexual activity does not in any way cause the skin condition.

Steps to help acne:
People with acne must not squeeze or pick acne pimples. While squeezing appears to clean pores and can be tempting, it actually aggravates acne by forcing irritating chemicals deeper into the skin, which can cause a minor blackhead to become much worse. Oil-based makeup should also be avoided, as it can plug pores. In addition, working around frying grease can worsen acne by leaving a sheen of oil on the face. This is known as fast food acne.

Choosing acne medications:
Numerous non-prescription acne medications may help mild cases of acne. Their active ingredients may include benzoyl peroxide, salicylic acid, and sulfur or sulfur/resorcinol combinations. Whichever medication you choose, you begin by using a low dose, and apply the product after cleaning the skin. Use the medicine once daily for about three days on one or two small areas. If the skin shows signs of severe sensitivity, do not continue to use the product. If the skin is unaffected, continue to apply it to the face once daily, checking for dryness or peeling. If these occur, you should apply the product only once every other day. When the dryness and peeling stop, you may choose to use the product once daily. Gradually use the medication more often until you reach the labelled number of applications daily (usually three). Do not use more than one acne product at the same time.

The range of acne products and dosage forms can be overwhelming. Consult your pharmacist for help in choosing a product that is appropriate for acne and for advice on whether you should seek the care of a doctor or dermatologist. Remember, if you have questions, consult your pharmacist.

Childhood acne

Some parents become alarmed when they see a newborn with small white facial lesions resembling acne whiteheads. These lesions are innocent and do not require any attention. Parents should not treat them, nor should they clean the lesions more vigorously or more often than the rest of the baby's skin. Acne in children beyond this stage (up to puberty) requires referral. In one case, an infant developed an acne-like condition that was caused by Pityrosporum yeasts. The condition cleared after treatment with ketoconazole.

Differential acne diagnosis

Pharmacists may be confronted with patients whose skin has broken out as a result of several non-acne conditions, all of which require referral. Rosacea is found on the cheeks, nose, forehead, and chin, and may produce papules and pustules, but it is mostly found in middle-aged patients and never produces comedones. Patients taking oral antibiotics for acne may notice a sudden onset of small pustules around the nose, chin, and cheeks that may be due to the development of Gram-negative folliculitis. After two to five weeks of therapy with topical corticosteroids, some patients develop uniformly sized flesh-coloured lesions. This steroid-induced acne requires steroid discontinuation, followed by topical products (eg benzoyl peroxide). Female patients with acne, scanty menses, and hirsutism may have polycystic ovary syndrome and need to see an endocrinologist.