

# ACNE: History, Reality and Legends

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## ABSTRACT:

Acne is a common problem in adolescents and young adults. Acne and its associated problems with self-esteem and social inhibition represent a figurative "rite of passage" for as many as 80 percent of adolescents and young adults.

Because having acne can have a major impact on a teenager's quality of life, impartune the patients how they feel about their acne and what expectations they have from treatment at baseline provides a foundation for assessing improvement during the course of therapy. Understanding this relationship can help clinicians develop strategies to improve treatment compliance. Patient education is essential. Edification about acne, its pathogenesis and probable effect, over and above prerequisites for ongoing management, is necessary. Generally, held viewpoints surrounding acne need to be logically conversed with both the patient and their family. The patient is well served by physicians who dispel the myths surrounding acne and provide accurate information about how acne develops. Drinking soda or eating chocolate does not cause acne, nor is acne the result of being unclean, and it cannot be whashed or scrubbed away. Patients need to be counsel that acne may appear to worsen in the early weeks of therapy, but tolerance strategies will lessen the potential irritation. Instructions about the application of medications and general skin care (eg, using only the hands for facial washing; using a mild synthetic cleanser) should be provided to all patients starting acne treatment.

**Key Word:** Acne.

## INTRODUCTION

This article describes the epidemiology and natural history of acne and discusses the widespread etiological folklore and stance surrounding acne.

Acne is a polymorphic disease with non-inflammatory and inflammatory facets and a wide gamut of sternness<sup>1-4, 51, 52</sup>. The severe inflammatory blueprints tend to be those that most recurrently scar and therefore necessitate early intercession. The pattern of ailment, relative severity, allocation, and patient's societal status will manipulate appropriate management. However, effective management also comprises of patient education about acne, its natural history, and dispelling acne myths.

Acne is very common in adolescence. Its prevalence have been estimated at 95-100% in boys aged 16-17 years and 83-85% in girls.<sup>1-4</sup> Acne begins as a non-inflammatory comedonal condition, and then evolves to the mildly inflammatory papular and pustular acne before proceeding to the extra inflammatory nodulocystic lesions<sup>51</sup>. Each phase seems to be separated by 2-3 years.<sup>5,6</sup> It becomes more frequent

and harsh, reaching its peak between 14-17 years in females and 16-19 years in males.<sup>1,55</sup>

Atypical epoch presentation does occur in acne. Neonatal and infantile acne usually occurs in males in their first 12 months of life and lasts for 3-4 years.<sup>7,8</sup> Often a family history of acne is present in these patients. Early age development of comedonal acne, in females at least, appears reductive of later, more severe disease<sup>9</sup>.

Acne will mostly resolve by 23-25 years of age, but at 40 years of age 1% of men and 5% of women exhibit acne lesions.<sup>10</sup> Women may also develop acne for the first time, or redevelop acne, in their median to tardy 20s<sup>11</sup>. One cram reviews 200 patients with acne aged 25-55 years (mean age, 35.5 years), with the majority being women (76%). Among this cohort, inflammatory lesions with mild to moderate severity and scarring predominated. Persistent acne was present in most of the patients, although 18.4% of women and 8.3% of men had onset of acne after 25 years of age. Most patients (82%) had not responded to multiple courses of oral antibiotics, and approximately one-third of the

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patients had experienced a relapse after treatment with one or more courses of isotretinoin. 85% of the women experienced a premenstrual flare up of their acne.<sup>12,53</sup>

### Prototype of clinical disease:

Acne is most often a polymorphic ailment,<sup>13</sup> nevertheless; the patient and practitioner will perhaps note two foremost patterns of disease. The first pattern is that of fundamentally noninflammatory disease, which be apt to be an early segment often perceived in the peri-pubertal age assemblage. There is increased oil production on the face, torso, back and shoulders. This may be accompanying with an increase in pores, stomas, blackheads or open comedones. Occasionally non-inflammatory whiteheads or closed comedones will also be seen, premonitory of other more noteworthy provocative disease.

The second clinical pattern of this inflammatory disease is that tends to lead to more pockmark or scarring. This may span the full breadth from papules, pustules, nodules and cysts and any combination of these above-mentioned signs. Post-inflammatory macular disease may follow resolution and these may be red or hyperpigmented, representing a component of postinflammatory change. Severe forms of inflammatory acne such as nodular cystic disease, with its entire potentially destructive sequel, often occur later in predisposed individuals.

The different patterns of disease, their relative severity and distribution, and the patient's social circumstances, will influence management. For all patients, it is important. This article portrays the epidemiology and natural history of acne and discusses the common etiological folklore and viewpoints surrounding acne. Acne is a polymorphic disease with non-inflammatory and inflammatory facet and a wide continuum of severity: The severe inflammatory blueprints tend to be those that most frequently scar and therefore necessitate early intrusion. The pattern of malady, relative severity, distribution, and patient's societal circumstances will persuade apposite management. **However,** effectual management also includes patient edification about acne, its natural history, and driving out acne myths.

### Etiological beliefs:

The patient will often abide beliefs about the etiology of their acne,<sup>14-16</sup> and often well meaning associates

and relatives will worsen the problem by attributing guilt to the patient.

This will often worsen the demeanor of low self esteem, triviality and self hatred that the disease already provoked. In one study, 74% of patients waited more than 1 year before seeking medical attention for their acne<sup>16</sup>. Earliest line management used by patients were over-the-counter cleansers, acne rinse and washes and similar products. Commonly patients as causes for their acne implicated diet (32%), poor skin hygiene (29%), and infection (18%). Issues most habitually believed to aggravate acne were stress (71%), grime or dirt (62%), heat/high temperatures and moisture and humidity (54%), make up stuff and cosmetics (46%), exercise and sweating (45%), and diet (44%). Information on acne was attained primarily from family physicians, mass media, friends and associates, and family, but was largely believed to be inadequate. Acne was believed to be curable by almost half the patients with anticipated treatment duration of less than 6 months. Before treatment is undertaken, education about the disease, its pathogenesis and likely outcome, as well as requirement for ongoing treatment, is required.

Commonly held beliefs surrounding acne, need to be rationally discussed with the patient (and their family), thereby minimizing the patient's sense of guilt or blame for the disease if successful treatment is to prevail. There is some difficulty with totally debunking these perceptions, as definitive literature may not exist to do so.<sup>17,54</sup>

### Diet:

No direct association has been found between acne and diet.<sup>18,19</sup> In scrupulous, no effect has been established between chocolate, dairy products, shellfish, or fatty victuals.<sup>20</sup> There are some unorthodox studies,<sup>21,22</sup> with disparagement of studies looking at diet and acne, and some screening exogenous fatty acids can end up in sebaceous gland intense output.

Baseless perceptions are broadly held (even among final year medical undergraduates) of the significance of diet and acne<sup>23</sup>. A difference in the prevalence of acne between non-westernized and fully modernized societies has been noted?<sup>4</sup> Diet has been suggested to be an issue, but numerous other ecological influences are also at play.

**Weight:**

Weight loss and the use of metformin are both associated with lesser plasma insulin levels and reduce androgen levels. Insulin-like growth factor levels are reported to be eminent in acne.<sup>25,26,52</sup> With hyperinsulinaemia, there may be an increase in androgen production, resulting in an encouragement of sebaceous glands. It may be that in a small subset of corpulent acne patients, hyperinsulinaemia may stimulate endogenous androgen production resulting in progression or deterioration of acne. For this cohort of acne patients, a weight loss diet may be indicated.<sup>27,55</sup>

**Sexual activity:**

There are several misapprehensions concerning erratically too little or too much sexual activity and acne.

First, that too much sex or masturbation may deteriorate acne. Second that in some way when females begin having a regular sex life, their acne will be improved. Although acne is coupled up with androgen metabolism at the level of the sebaceous glands, there emerges no basis to either of these rather strange extrapolations. Acne is occurring at a similar stage as sexual adventure and this may be a plausible reason for the uninformed to associate the two. One may also possibly gaze at the advantageous effect of oral contraceptives on acne as a plausible elucidation for progress associated with the beginning of sexual activity in females. The only correlation between sex and acne that appears sustaining in the literature is that of a decreased excellence of life and sexual contentment among women who suffer from polycystic ovary syndrome and acne.<sup>28</sup>

**Dirt and infection:**

There are probably four reasons why patients believe that washing their acne will help.

First, they distinguish that open comedones or blackheads are full of dirt. The black color of open comedones is experienced not to be serene of any extraneous dirt. It was primarily thought to be consequence of oxidation of fats; however, melanin staining has been incriminated by some,<sup>29</sup> but refuted by others.<sup>30</sup>

Second, extreme sebum production does transpire in most acne patients.<sup>31-33</sup> This surface oil is apparent as

dirty, and washing away these oils from the skin will stop pores blocking and decrease acne. These exterior lipids have diminutive to do with acne production, and while it is true that pores do get functionally blocked, this is at a depth well beyond washing techniques, and attempts at scrubbing and obsessive washing will add nothing to management.

Third, patients believe that acne is an infection and that they are infectious to others. Although *Propionobacterium acnes* is imperative in the expansion of the disease from simple comedones to full blown inflammatory gash, it is a secondary trend once the disease has been initiated. The pertinent bacterium is an obligate anaerobe living in the oxygen free environment of the pilosebaceous apparatus and beyond any influence of surface washing. Finally, is the use of antibiotics. It is useful to explain to patients that we are using antibiotics as to a large extent for their anti-inflammatory effects as for their bacteriostatic or bactericidal effects. Whatever the motive, this belief in the need for cleanliness is remarkably widely held<sup>16,15,19</sup> and most patients will resort to cleansing products long before consulting a remedial practitioner.<sup>16</sup>

**Hair and hairstyles:**

Asymmetrical or sporadic shampooing does not prejudice to acne. Leaving the hair long, greasy, or wearing the hair over the face as well has no verifiable effect. One case report did suggest that the excessive combing and brushing of hair might lead to acne exacerbation.<sup>34</sup> This is recommended to be a type of mechanical acne of which numerous variety exist.<sup>35</sup>

**Sunlight and solariums:**

Although there has been little substantiation that sunlight has any steadfast advantageous effect on acne,<sup>36</sup> and yet fewer so for the role of solariums, there has been a renaissance of interest in this area. Rarely, acne may worsen with sunlight.<sup>37</sup> Whichever positive effect must be weighed against the possible long term carcinogenetic effects of ultraviolet exposure. However, visible light may be somewhat benign and useful in management by stimulating the natural porphyrins produced by *P. acnes*. Blue and other longer wavelengths may induce a toxic effect on the bacteria inducing their annihilation and dwindling the clinical disease.<sup>38,39</sup> This may be augmented by the use of exogenous porphyrins utilizing photodynamic therapy.<sup>40,41</sup>

**Curing acne:**

There is a widespread belief that acne is curable and that a course of antibiotics is all that is required. Patients will often make statements such as: 'the treatment didn't work because when I stopped the tablets the acne came back again' or, 'the acne only improved but didn't completely disappear'. It must be made clear that continued treatment is required and that there is no cure (although isotretinoin may cause long term remission of the disease).

**Cosmetics:**

Some years ago many cosmetics contained comedogenic agents that blocked follicular structures and induced comedonal disease on the cheeks of females. There are still preparations that contain comedo genic substances such as isopropyl myristate. However, as most manufacturers now produce reasonably noncomedogenic products, cosmetics are now an uncommon cause for acneiform conditions<sup>42-45</sup>.

**Sweating:**

There is some indirect evidence that sweating or humid environments may induce acne.

Tropical acne was a significant problem during World War II and was presumably due to partial poral obstruction. Similar acne flaring in humid environs presumably operates via a similar mechanism.<sup>46,47</sup>

**Stress:**

A study of 215 graduating medical students showed that 67% believed that stress plays a role in acne exacerbations.<sup>23</sup> Anxiety was also thought to be an exacerbating factor by 74% of patients and their relatives.<sup>48</sup> There is also evidence that stress may exacerbate acne during examinations<sup>49</sup>. It has also been noted that treatment with biofeedback mechanisms is useful in some acne sufferers.<sup>50</sup>

**CONCLUSION:**

Acne is a polymorphic ailment with non-inflammatory and inflammatory characteristics and a ample variety of severity. The pattern of disease, relative harshness and distribution, and the patient's societal circumstances will manipulate the remedy. Before treatment is embarked on, edification concerning acne, its pathogenesis and probable result, as well as prerequisite for enduring cure, is required. Frequently

held viewpoints surrounding acne necessitate to be lucidly conversed among the patient and their kin.

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