

**How to Cite:**

Basha, M. A., & Kishk, E. A. G. (2022). Acne from the adolescent patient's beliefs and misconceptions: A review. *International Journal of Health Sciences*, 6(S4), 8057–8065. <https://doi.org/10.53730/ijhs.v6nS4.10407>

## Acne from the adolescent patient's beliefs and misconceptions: A review

**Mohammed A. Basha**

MD, Dermatology Andrology and STDs Department, Faculty of Medicine, Menoufia University, Menoufia, Egypt  
Email: [mohammedbasha@yahoo.com](mailto:mohammedbasha@yahoo.com)

**Elham A. Gaber Kishk**

M.B.B. Ch, Dermatology Andrology and STDs Department, Faculty of Medicine, Menoufia University, Menoufia, Egypt  
Corresponding author email: [Dr.elhamkishk\\_1988@yahoo.com](mailto:Dr.elhamkishk_1988@yahoo.com)

**Abstract**---Objective: The purpose of this review was to present an overview of how teenagers and young adults understand and perceive acne and its risk factors. The quality of life and self-esteem may be substantially impacted by acne. Acne vulgaris (acne) is a common chronic skin disease and affects over 90% of teenagers worldwide, acne vulgaris is a multifactorial condition characterized by comedo formation, changes in the pattern of keratinization inside the pilosebaceous follicles, an increase in androgen-influenced sebum production, *Propionibacterium acnes* (P. acnes) growth, and the development of perifollicular inflammation. The oily secretion of the sebaceous glands known as sebum, which contains wax esters, sterol esters, cholesterol, di- and triglycerides, and squalene, gives the skin a shiny appearance and is widely known to have a significant role in the development of acne. Despite being common, there are numerous misunderstandings about acne vulgaris that are shared by the general population, acne patients, and even health care professionals.

**Keywords**---acne, beliefs, comedones, misconceptions, scars.

### Introduction

Acne vulgaris (AV) is one of the commonest dermatological challenges faced by the youth. It lasts several years, running a chronic course with complications such as scarring. The fact that this occurs most commonly on the face, leads to profound psychological implications that cause emotional trauma and affect a person's quality of life. Anxiety and depression are common issues arising from this [1]. Typical sites for acne include face, chest, and upper back with appearance of

comedones. Inflamed lesions are characterized by red papules, pustules, and often subcutaneous cysts. Scarring, sometimes keloid formation, can occur even after the inflammation settles [2]. Acne is a chronic condition that, in more severe cases, may result in permanent scarring and disfigurement. It can also have a profoundly detrimental influence on patients' health and cause long-term psychological comorbidities [3]. Although the disease is well-known throughout the world, patients may not always fully know it, and there are still many misconceptions and misunderstandings regarding its nature, course, causes, and treatment [4]. Acne is certainly not a fatal condition; however, it may result in significant psychological comorbidities including depression due to scarring and permanent disfigurement if not treated quickly enough [5]. Such comorbidities can be overcome and managed, and scar disfigurement can be avoided, enhancing patient wellbeing and lowering additional healthcare costs. These goals can be met by raising significant and organised awareness through regional and international information campaigns using treating physicians, the Internet, social media, and education [6].

### **Etiology**

The skin is the largest organ in the body and one of its primary roles is to protect the body from harmful elements that can cause contact dermatitis, chemical depigmentation, connective tissue diseases, skin cancer, and acne. These noxious elements include ultraviolet radiation, toxic chemicals, or prolonged or repeated exposure to water [7]. Clinically, acne is caused by both endogenous factors like androgen and external variables. Environmental exposures play a significant role in the exogenous causes of acne, which can result in a variety of environmental factors-induced acne, such as chloracne caused by dioxins, coal tar acne, cigarette smoking, and ultraviolet (UV) radiation [8]. Four main factors cause acne: 1) abnormal hyperkeratinization of the pilosebaceous duct with comedo formation caused by increased androgens; 2) an increase in sebum production from the enlarged sebaceous gland caused by increased androgens; 3) colonization and proliferation of the duct with bacteria, most commonly *P. acnes*; and 4) an inflammatory response caused by the immunological activity of *P. acnes* [9].

### **Psychological impact of AV**

Along with acne, having acne scars is a risk factor for suicide and also may be linked to poor self-esteem, depression, anxiety, altered social interactions, body image alterations, embarrassment, anger, lowered academic performance and unemployment [10]. Studies have also shown that the psychological impact of acne appears to affect more females than males [11]. Facial appearance has an important role in self-perception, as well as in the interaction with others; face lesions cause a significant impact in women's quality of life (QOL) [12]. The psychological impact of acne is generally significant and largely underestimated; stress during professional and private life, anxiety and sleep quality, in particular, have a reciprocal relationship with disease susceptibility and severity [13]. The degree of impairment in QOL significantly increased with increase of clinical severity of acne, with presence of post acne hyper pigmentation and scarring. In a study in Middle East, 23% of acne female students reported that they had

difficulty in sports because of acne; while, a study among Scottish students found that 10% of acne sufferers avoided swimming and other sports because of embarrassment [14]. The management of adult female acne should encompass not just medical treatment of the symptoms, but also a comprehensive, holistic approach to the patient as a whole, her individual lifestyle factors and the impact of acne on her quality of life [13].

### **Knowledge and attitude of adolescent about acne vulgaris**

In 2010, Gokdemir et al. [15] evaluated Turkish patients' knowledge about acne. Nearly a quarter of all respondents had limited awareness of acne, and 74% put off seeing a physician for more than a year. The physician and the Internet were the two primary sources of information. 80% of respondents thought acne could be treated, but 38.3% said it may remain longer than six months. 67% of respondents believed that the information they received about acne from the Internet or their doctors' sources was insufficient.

In 2011, Poli et al. [16] reported that the majority of respondents believed that frequent washing would reduce acne and that gender, being overweight, eating dairy products, and physical exercise did not affect acne. Additionally, it was believed that eating sweets and snacks, smoking, sweating, not washing, touching or squeezing areas, consuming fatty foods, makeup, pollution, and menstruation all contributed to the worsening of acne. Even while 69.3% of respondents agreed that acne should be treated, a total of 80.8% believed it to be a typical adolescent phase rather than a disease.

In 2013, Fahri and Bouadjar [17] in Algeria, concluded that scars were considered by more than 75% of respondents as the greatest problem, followed by negative side effects of acne treatment and chronicity of the disease (both 70%). More than 60% of respondents never sought out information despite feeling they had insufficient knowledge on the nature or causes of acne. In 2014, Ganga and Harish [18] found that 82% of students surveyed believed that stress aggravates acne and that acne makes the person feel depressed. In 2015, a survey by Su et al. [19] among Singaporean undergraduates, the top five variables estimated to contribute to acne are stress (86.5%), inadequate cleanliness (65.0%), hormones (59.7%), menstruation (48.7%), and inherited factors (43.6%). Most participants were aware that acne is not infectious (82.2%).

In 2015, a survey conducted in Lithuania by Karciauskiene et al. [20] revealed that individuals with severe acne frequently knew more about the disease and its treatment than those with mild acne. Hormones (65.3%), food (69%), and inadequate cleanliness (64.5%) were the three main factors mentioned as acne causes. The three biggest sources of information concerning acne were parents (76.3%), magazines (35.5%), and friends (29.3%). Only 7.2% of the respondents had a prescription for acne medication.

In 2017, Al-Natour [21] surveyed male Saudi Arabian students and found that 58.9% of them thought acne was a temporary condition that didn't need treatment. Only 13.1% of students were aware that acne is a chronic condition and that treatment may take years. 52 % of respondents thought that acne might

heal after the first or a few visits to the doctor. Television/radio (47.7%), friends (45.6%), and the internet (38%) were the main information sources, whereas just 23.4% mentioned school as a source of information. In 2018, Ibrahim [22] observed that severe forms of acne can lead to deformation of the skin, scarring, which can lead to a decrease in human self-esteem, social difficulties and psychological suffering.

In 2018, Mohamed et al. [23] in Egypt, the majority (91.1%) of studied students had poor knowledge about acne. Also, it was found that 61.9% of studied students had positive attitude. More than two fifth of studied students didn't know causes of acne, while 13.9%, 15.1%, 16.5%, 12.7%, 3.6 and 20.2% of them stated that genetic factor, poor hygiene, germs and bacteria, touching face by hair and hands, hormonal and cosmetic use respectively.

In 2019, Tavecchio et al. [24], approximately 75% of patients declared that acne has a negative influence on their self-esteem and relationships; furthermore, 87% of patients stated that acne limits their social life. Finally, 65% of patients declared that they are under treatment, but only in 20% of cases the treatment was prescribed by a dermatologist. In addition, the mothers of patients considered pollution (78%) as the most important etiological factors of acne. In 2020, Markovic et al. [25] in Serbia, girls significantly more frequently believed that lack of sleep aggravate acne, whereas boys significantly more frequently reported sweating, exercise, and dairy foods that aggravate acne.

In 2021, Đurović et al. [26], demonstrated that factors most often believed to aggravate acne were inadequate face washing (85%), hormones (84%), sweets (82%), greasy food (72.6%), makeup (71.2%), and stress (67.8%). Overall, the most prevalent acne ameliorating factors were cosmetic treatment (80.4%), increased water consumption (77.6%), a diet change to a healthier food choice (77.4%), and being on school holidays (62.2%). Girls reported more frequently that genetics, stress, sweets consumption, inadequate face wash, and makeup are acne exacerbating factors, whilst cosmetic treatment, increased water consumption, smoking, and being on school holidays are acne ameliorating factors. Boys more frequently considered the benefit of losing weight. In 2022, Li et al. [27] showed a statistically significant association between short-term exposure to air pollutants and acne patients.

### **Common misconceptions about acne nature**

#### **Acne vulgaris is a minor transitory condition that doesn't need medical awareness**

The typical signs and symptoms of acne vulgaris include soreness, irritation, and pain. Since the majority of patients only have mild condition, they only see acne as a minor and unimportant issue [28]. In a study in Saudi Arabia, 19.3% of participants viewed acne as a cosmetic problem only, but not a medical problem [29]. Even though the physical symptoms are typically not severe, acne is quite visible and is linked to psychological problems including depression and anxiety. Acne also makes people feel more embarrassed and is linked to a lower quality of life [30]. Of the 2036 adolescents that studied by Savo et al. [31], 23.1% thought

it's a cosmetic problem, and less than 10% thought acne is a normal condition for their age. Poli et al. [32] reported that 80.8% of a population of 852 adolescents did not believe acne to be a disease, but rather a normal phase of adolescence. Uslu et al. [33] reported that 59% of respondents thought acne was not a disease. Brajac et al. [34] found that acne was considered as a trivial and transitory condition by 52% of the acne patients and 44% of the family physicians.

### **Misconceptions concerning belief about causes or worsening factors for acne**

#### **Acne vulgaris is caused by dietary variables including chocolate and fatty foods**

According to previous studies, the majority of respondents stated that nutrition was the most aggravating element, with high-glycemic-index foods, such as chocolate and fast food, being the most prevalent triggering cause [1, 35]. Many acne patients feel that eating salty and spicy meals contributes to the development of acne. However, neither salty nor spicy foods were linked to disease duration or severity [36]. 72.6% of respondents believed that greasy food considered among the most causes on acne [26]. One of the remarkable findings of a study by Yorulmaz and Yalcin [37], there was 62.3% of the study population considered high water intake as an ameliorating factor for acne. However, it is well-known that there is not any scientific proof about this relationship.

#### **Acne vulgaris is caused by uncleanliness**

Blackheads (open comedones) are typical lesions of acne vulgaris, and their dark appearance is typically thought to be caused by dirt deposition. Many people, including patients and medical students, feel that thorough face washing is an effective treatment for acne due to the perceived relationship with facial hygiene [28].

Actually, blackheads are not the result of dirt buildup; rather, they are the result of the oxidation of open comedones. There is no evidence to support a link between acne and maintaining clean facial skin. Although there are many facial washing regimens for acne patients were marketed, it's not apparent how effective the majority of these solutions [28, 38]. Đurović et al. [26] observed that 85.0% of study respondents believed that inadequate face washing as an exacerbation factor of acne.

### **Misconceptions concerning treatment**

#### **Sunlight is beneficial in acne treatment**

The authors of a Saudi Arabian study that discovered a rise in new acne cases at a hospital dermatology clinic during the winter months came to the conclusion that this was because UV light has a beneficial effect on acne during the warmer months [39]. However, they don't provide any information on waiting times, referral patterns, or other variables that could undermine this finding. In other study, it has been discovered that acne improves in one third of participants in the summer, worsens in another third, and stays the same in the other third of

subjects [40]. A study in eight hospitals in Australia revealed that 12.3% of nurses and 20.3% of doctors recommend sunlight as an acne treatment [41]. In fact, there is little data that sunlight may treat acne. Although it may make acne appear less visible, tanning has little impact on acne lesions [39].

### **Acne vulgaris recovers rapidly after treatment**

In a systematic review about views and experiences of people with acne vulgaris, the perception of acne is transient. People with acne frequently appeared to think of their condition as transient and not needing long-term care. Because they believed their acne was caused by puberty or other underlying causes/triggers, study participants frequently appeared to have little initial concern over their acne because they expected to "grow out of it." People expected treatment to cure their acne rather than control it, according to studies, indicating that they did not regard their disease as requiring long-term management, which has consequences for starting and maintaining treatment [42].

### **Conclusion**

Despite the increasing availability of information regarding acne on the Internet, the lack of knowledge about acne vulgaris has potentially severe consequences and should not be ignored. Misconceptions about acne vulgaris, revolve around the disease nature, etiology, and treatment, were reviewed in this article, and they are all highly prevalent among the general public. To eliminate the myths regarding acne vulgaris, interventions in health support, medical education, and research are necessary.

### **Acknowledgement**

The authors are particularly grateful to Department of Dermatology, Andrology and STDs, Faculty of Medicine, Menoufia University for giving the support and facilities to complete this work.

No Funding

No conflict of interest

### **References**

1. Al-Ameer, A. M., & Al-Akloby, O. M. (2002). Demographic features and seasonal variations in patients with acne vulgaris in Saudi Arabia: a hospital-based study. *International journal of dermatology*, 41(12), 870-871.
2. Alanazi, M. S., Hammad, S. M., & Mohamed, A. E. (2018). Prevalence and psychological impact of Acne vulgaris among female secondary school students in Arar city, Saudi Arabia, in 2018. *Electronic physician*, 10(8), 7224-7229.
3. Al-Hammadi, A., Al-Ismaily, A., Al-Ali, S., Ramadurai, R., Jain, R., McKinley-Grant, L., & Mughal, T. I. (2016). Topical, biological and clinical challenges in the management of patients with acne vulgaris. *Sultan Qaboos University Medical Journal*, 16(2), 152-160.

4. Al-Hoqail, I. A. (2003). Knowledge, beliefs and perception of youth toward acne vulgaris. *Saudi medical journal*, 24(7), 765-768.
5. Al-Natour, S. H. (2017). Acne vulgaris: Perceptions and beliefs of Saudi adolescent males. *Journal of family & community medicine*, 24(1), 34-43.
6. Bagatin, E., Freitas, T. H. P. D., Rivitti-Machado, M. C., Ribeiro, B. M., Nunes, S., & Rocha, M. A. D. D. (2019). Adult female acne: a guide to clinical practice. *Anais brasileiros de dermatologia*, 94(1), 62-75.
7. Brajac, I., Bilić-Zulle, L., Tkalčić, M., Lončarek, K., & Gruber, F. (2004). Acne vulgaris: myths and misconceptions among patients and family physicians. *Patient education and counseling*, 54(1), 21-25.
8. Claudel, J. P., Auffret, N., Leccia, M. T., Poli, F., & Dréno, B. (2018). Acne and nutrition: hypotheses, myths and facts. *Journal of the European Academy of Dermatology and Venereology*, 32(10), 1631-1637.
9. Claudel, J. P., Auffret, N., Leccia, M. T., Poli, F., & Dréno, B. (2020). Acne from the young patient's perspective. *Journal of the European Academy of Dermatology and Venereology*, 34(5), 942-947.
10. Dreno, B., Bagatin, E., Blume-Peytavi, U., Rocha, M., & Gollnick, H. (2018). Female type of adult acne: Physiological and psychological considerations and management. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*, 16(10), 1185-1194.
11. Đurović, M. R., Janković, J., Đurović, M., Spirić, J., & Janković, S. (2021). Adolescents' beliefs and perceptions of acne vulgaris: A cross-sectional study in Montenegrin schoolchildren. *PLOS ONE*, 16(6), 1-12.
12. El Darouti, M. A., Zeid, O. A., Abdel Halim, D. M., Hegazy, R. A., Kadry, D., Shehab, D. I., & Saleh, M. A. (2016). Salty and spicy food; are they involved in the pathogenesis of acne vulgaris? A case-controlled study. *Journal of cosmetic dermatology*, 15(2), 145-149.
13. Fabbrocini, G., Annunziata, M. C., D'Arco, V., De Vita, V., Lodi, G., Mauriello, M. C., & Monfrecola, G. (2010). Acne Scars: Pathogenesis, Classification and Treatment. *Dermatology Research and Practice*, 1(1):1-13
14. Farhi, D., & Bouadjar, B. (2013). Acne in Algeria: a survey. In *Annales de Dermatologie et de Venereologie* 140(5):387-389.
15. Ganga, P., & Harish, B. (2014). Acne Vulgaris: knowledge and attitude among Nepali school students. *Int J Nurs Res Prac*, 1(1), 29-33.
16. Gfesser, M., & Worret, W. I. (1996). Seasonal variations in the severity of acne vulgaris. *International journal of dermatology*, 35(2), 116-117.
17. Gokdemir, G., Fisek, N., Köşlü, A., & Kutlubay, Z. (2011). Beliefs, perceptions and sociological impact of patients with acne vulgaris in the Turkish population. *The Journal of dermatology*, 38(5), 504-507.
18. Harrison, S., Hutton, L., & Nowak, M. (2002). The Risks of Everyday Life: An investigation of professional advice advocating therapeutic sun exposure. *Australian and New Zealand journal of public health*, 26(2), 108-115.
19. Hayashi, N., Miyachi, Y., & Kawashima, M. (2015). Prevalence of scars and "mini-scars", and their impact on quality of life in Japanese patients with acne. *The Journal of dermatology*, 42(7), 690-696.
20. Herliah, A., Baso, Y. S., Hidayanty, H., Syarif, S., Aminuddin, A., & Bahar, B. (2022). Effect of web-based she smart education models on adolescent girl's knowledge, attitudes, and practice about obesity. *International Journal of Health & Medical Sciences*, 5(1), 50-55. <https://doi.org/10.21744/ijhms.v5n1.1832>

21. Hui, R. W. (2017). Common misconceptions about acne vulgaris: A review of the literature. *Clinical Dermatology Review*, 1(2), 33-36.
22. Ibrahim, A. H. Epidemiology Study of Cutibacterium (Propionibacterium) Acnes in Zakho City, Iraq Kurdistan Region. In *IOP Conference Series. Materials Science and Engineering*, 454(1):1-5.
23. Ip, A., Muller, I., Geraghty, A. W. A., Platt, D., Little, P., & Santer, M. (2021). Views and experiences of people with acne vulgaris and healthcare professionals about treatments: systematic review and thematic synthesis of qualitative research. *BMJ open*, 11(2), 1-12.
24. Kang, L., Liu, J., An, R., Huang, J., Huang, H., & Yi, Q. (2015). Depression in patients with facial acne vulgaris and the influential factors. *Journal of Central South University. Medical Sciences*, 40(10), 1115-1120.
25. Karciauskiene, J., Valiukeviciene, S., Stang, A., & Gollnick, H. (2015). Beliefs, perceptions, and treatment modalities of acne among schoolchildren in Lithuania: A cross-sectional study. *International journal of dermatology*, 54(3), 70-78.
26. Kaushik, M., Gupta, S., & Mahendra, A. (2017). Living with acne: belief and perception in a sample of Indian youths. *Indian journal of dermatology*, 62(5), 491-497.
27. Law, M. P. M., Chuh, A. A. T., Lee, A., & Molinari, N. (2010). Acne prevalence and beyond: acne disability and its predictive factors among Chinese late adolescents in Hong Kong. *Clinical and Experimental Dermatology: Clinical dermatology*, 35(1), 16-21.
28. Li, X., Cao, Y., An, S. J., Xiang, Y., Huang, H. X., Xu, B., ... & Cai, T. J. (2022). The association between short-term ambient air pollution and acne vulgaris outpatient visits: a hospital-based time-series analysis in Xi'an. *Environmental Science and Pollution Research*, 29(10), 14624-14633.
29. Linauskiene, K., Isaksson, M., & Malinauskiene, L. (2020). Heavy metals and the skin: Sensitization patterns in Lithuanian metalworkers. *Contact dermatitis*, 83(6), 450-457.
30. Liu, P. F., Hsieh, Y. D., Lin, Y. C., Two, A., Shu, C. W., & Huang, C. M. (2015). Propionibacterium acnes in the pathogenesis and immunotherapy of acne vulgaris. *Current Drug Metabolism*, 16(4), 245-254.
31. Machiwala, A. N., Kamath, G., & Vaidya, T. P. (2019). Knowledge, belief, and perception among youths with acne vulgaris. *Indian Journal of Dermatology*, 64(5), 389-391.
32. Markovic, M., Soldatovic, I., Bjekic, M., & Sipetic-Grujicic, S. (2020). Adolescents' self-perceived acne-related beliefs: from myth to science. *Anais brasileiros de dermatologia*, 94(1), 684-690.
33. Mohamed, A., Ibrahim, H., El Magrabi, N., & El-aty, A. (2018). Knowledge and Attitude of Adolescent Students About Acne Vulgaris at Secondary Schools in Assiut City. *Mansoura Nursing Journal*, 5(2), 27-36.
34. Poli, F., Auffret, N., BEYLOT, C., Chivot, M., Faure, M., Moyse, D., ... & Dréno, B. (2011). Acne as seen by adolescents: results of questionnaire study in 852 French individuals. *Acta dermato-venereologica*, 91(5), 531-536.
35. Poli, F., Auffret, N., Beylot, C., Chivot, M., Faure, M., Moyse, D., & Dréno, B. (2011). Acne as seen by adolescents: results of questionnaire study in 852 French individuals. *Acta dermato-venereologica*, 91(5), 531-536.
36. Savo, I., Jorgaqi, E., Vasili, E., Mishtaku, S., Demaj, D., & Jafferany, M. (2020). Treatment-seeking behavior, knowledge and beliefs about acne

- vulgaris among adolescents: A cross-sectional study in high school students in Tirana, Albania. *Dermatologic Therapy*, 33(4), 1-6.
37. Su, P., Chen Wee Aw, D., Lee, S. H., & Han Sim Toh, M. P. (2015). Beliefs, perceptions and psychosocial impact of acne amongst Singaporean students in tertiary institutions. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*, 13(3), 227-233.
  38. Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2022). Post-pandemic health and its sustainability: Educational situation. *International Journal of Health Sciences*, 6(1), i-v. <https://doi.org/10.53730/ijhs.v6n1.5949>
  39. Tavecchio, S., Barbareschi, M., & Veraldi, S. (2019). What Italians think about acne: results of a survey on 2.327 patients and 2.327 mothers. *Giornale Italiano di Dermatologia e Venereologia*, 155(5):642-645.
  40. Uslu, G., Şendur, N., Uslu, M., Şavk, E., Karaman, G., & Eskin, M. (2008). Acne: prevalence, perceptions and effects on psychological health among adolescents in Aydin, Turkey. *Journal of the European Academy of Dermatology and Venereology*, 22(4), 462-469.
  41. Vilar, G. N., Santos, L. A. D., & Sobral Filho, J. F. (2015). Quality of life, self-esteem and psychosocial factors in adolescents with acne vulgaris. *Anais brasileiros de dermatologia*, 90(1), 622-629.
  42. Yang, Y. S., Lim, H. K., Hong, K. K., Shin, M. K., Lee, J. W., Lee, S. W., & Kim, N. I. (2014). Cigarette smoke-induced interleukin-1 alpha may be involved in the pathogenesis of adult acne. *Annals of dermatology*, 26(1), 11-16.
  43. Yorulmaz, A., & Yalcin, B. (2020). Myths, perceptions and practices in acne: a study on adolescents and young adults. *Current Health Sciences Journal*, 46(2), 111-116.
  44. Zaidi, Z. (2009). Dispelling the myths and misconceptions of acne. *JPMA. The Journal of the Pakistan Medical Association*, 59(5), 264-265.