

## THE PREVALENCE OF ACNE VULGARIS IN THE RURAL POPULATION OF JHAJJAR DISTRICT REGION

Sonal Bansal<sup>1</sup><sup>1</sup>Associate Professor, Department of Dermatology, World College of Medical Sciences Research and Hospital, Jhajjar, Haryana, India

Received : 15/04/2024  
 Received in revised form : 20/05/2024  
 Accepted : 01/06/2024

**Keywords:**  
*Acne vulgaris, prevalence & Jhajjar district.*

Corresponding Author:  
**Dr. Sonal Bansal,**  
 Email: reachsonal7@gmail.com

DOI:10.47009/jamp.2024.6.3.172

Source of Support: Nil,  
 Conflict of Interest: None declared

*Int J Acad Med Pharm*  
 2024; 6 (3); 840-842



### Abstract

**Background:** Different nations and ethnic groups have varied rates of acne. Open and closed comedones, erythematous papules and pustules, and in more severe cases, nodules, deep pustules, and cysts are the typical symptoms that affect teenagers and young adults. The study's objective is to determine how common acne vulgaris is among people living in the Jhajjar district's rural areas. **Materials and Methods:** This present study was conducted in the department of Dermatology, World College of Medical Sciences Research and Hospital, Jhajjar. The institute's ethical board granted the study its ethical clearance before its inception. We chose 76 people at random from the Jhajjar district's rural area to be the study population. **Results:** In the study population, we found that 36.84% of people had acne. Acne was more common in women (48.64%) than in men (25.64%). **Conclusion:** The district of Jhajjar has a 36.84% rural population prevalence. In comparison to males, females are more likely to have acne.

## INTRODUCTION

In India, the fourth most frequent reason for patients between the ages of 11 and 21 to see a doctor is acne, a skin condition that is highly common among teenagers. According to estimates, acne affects 9.4% of people worldwide, with teenagers having the highest frequency.<sup>[1]</sup> The burden of disease associated with acne vulgaris is distributed globally and has been steadily increasing over time.<sup>[2]</sup> Furthermore, a growing body of epidemiological evidence indicates that a significant proportion of people suffer from acne, with women being more commonly affected than males. Different nations and ethnic groups have varied rates of acne.<sup>[3,4]</sup> Open and closed comedones, erythematous papules and pustules, and in more severe cases, nodules, deep pustules, and cysts are the typical symptoms that affect teenagers and young adults.<sup>[5]</sup> Data from population-based epidemiological studies of acne are crucial for estimating the disease's social burden, community distribution, and psychological and social effects—particularly for the adolescent age group.<sup>[6]</sup> Therefore, we designed the study to determine the prevalence of acne vulgaris among the people living in the Jhajjar district's rural districts.

## MATERIALS AND METHODS

This present study was conducted in the department of Dermatology, World College of Medical Sciences Research and Hospital, Jhajjar. The institute's ethical board granted the study its ethical clearance before it could begin. We chose 76 people at random from the Jhajjar district's rural area to be the study population. Every participant provided written consent after being fully briefed. Acne was diagnosed based solely on clinical observation, and no laboratory testing was done to support the diagnosis. The patients were assessed for acne presence, area and severity; lesions seen were classified as mild, moderate, or severe based on the American Academy of Dermatology's grading system.

**Mild acne:** characterized by the absence of nodules and the presence of a few papules and pustules interspersed with comedones.

**Moderate acne:** characterized by a few nodules and a large number of papules and pustules.

**Severe acne:** characterized by a large number of nodules and a large number of papules and pustules. The patients' age, sex, when their acne first appeared, and other demographic information were recorded. Each patient provided a thorough history of their acne, including information about when the acne first appeared, how long it lasted, how much discomfort they were experiencing, if they had pus

drainage or not, etc. After being collated, the data underwent statistical analysis.

The data was statistically analyzed using SPSS version 22.0 for Windows. The significance of the data was assessed using the Student's t-test and the Chi-square test. Statistical significance was predetermined for p-values less than 0.05.

## RESULTS

The age-based prevalence of acne in the research sample. The study involved 76 patients in total. There were 12 patients (15.78%) in the 11–19 age group, 16 in the 20–29 age group (21.05%), 18 in the 30–39 age group (23.68%), 13 in the 40–49 age group (17.10%), 16 in the 50–59 age group (21.05%), and 01 in the over 61 age group (1.31%). 48 subjects (63.15%) in the study group did not have acne, while 28 subjects (36.84%) did. Based on the individual's sex, [Table1,2] displays the prevalence of acne in the study group. We found

that the prevalence of acne was 48.64% in females and 25.64% in males.

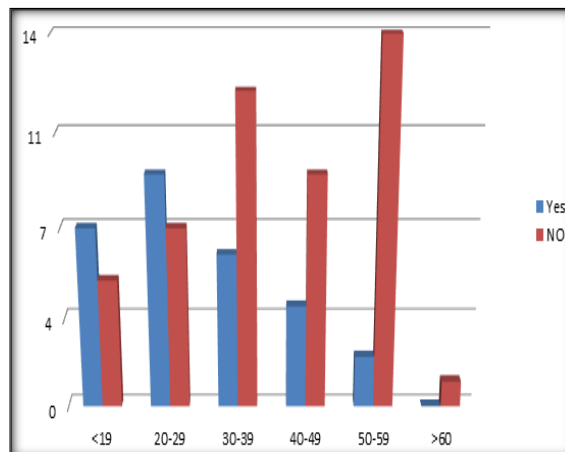


Figure 1: shows the acne prevalence in the study group according to age groups.

Table 1: Acne prevalence in the study group according to age groups.

Age groups in years	Prevalence of acne		Total
	Yes (n=28)	No (n=48)	
11-19	7(25.0%)	5(10.41%)	12(15.78%)
20-29	9(32.14%)	7(14.58%)	16(21.05%)
30-39	6(21.42%)	12(25.0%)	18(23.68%)
40-49	4(14.28%)	9(18.75%)	13(17.10%)
50-59	2(7.14%)	14(29.16%)	16(21.05%)
>60	0(0.0%)	1(2.08%)	01(1.31%)

Table 2: Prevalence of acne in the study group on the basis of sex of subjects

Gender	Prevalence of acne		Total
	Yes	No	
Male	10(25.64%)	38(74.35%)	39(51.31%)
Female	18(48.64%)	19(51.35%)	37(48.68%)

## DISCUSSION

We assessed the prevalence of acne in the Jhajjar district's rural areas in the current study. In the study population, we found that 36.84% of people had acne. Acne was more common in men (25.64%) than in women (48.64%). Upon comparison, we discovered that the outcomes lacked statistical significance. When the results were contrasted with those of earlier research, they showed consistency. Li D et al. conducted a comprehensive estimation of the prevalence of acne in Mainland China and measured the correlation between the condition and age, gender, and geography. Using preset search phrases, they combed electronic databases to find pertinent research publications released between January 1, 1996, and September 30, 2016. Using Note Express software, we identified recurring outcomes and assessed the research for inclusion. The data was extracted by two impartial reviewers, and then Comprehensive Meta-Analysis software version 2.0 was used for statistical analysis. In order to determine the overall pooled prevalence and combine categories for subgroup analyses, a random effects model was used. These categories included

gender (males and females), region (Northern and Southern China), and age (primary and secondary students: 7–17 years old; undergraduates: 18–23 years old; overall: no limits of age). This meta-analysis comprised 25 relevant studies. 39.2% was the total pooled prevalence rate for acne. The prevalence rates by gender were 35.7% for females and 39.7% for males; by age group, the rates were 10.2% overall, 50.2% for primary and secondary students, and 44.5% for undergraduates; by region, the rates were 34.2% for Northern China and 46.3% for Southern China. There were statistically significant relationships between acne and the predictors of age, gender, and area. They came to the following conclusions: males had greater prevalence rates of acne than females, and acne was more common in Southern China than in Northern China. In Mainland China, primary and secondary students showed higher prevalence rates than undergraduate students. For late adolescents (15–19 years old), Lynn DD evaluated the worldwide burden of the disease associated with acne vulgaris and gave a summary of the epidemiology, pathophysiology, and available treatments for acne in this demographic. Disability-adjusted life year rates (per 100,000 people) at the geographic region

level linked to acne vulgaris from 1990 to 2010. Throughout the designated study period, the median percentage change in disability-adjusted life year rates were calculated for every location. They came to the conclusion that the illness burden associated with acne vulgaris is distributed globally and has been steadily increasing in prevalence among this group over time. This disorder's ongoing rise points to both unmet global dermatological needs and possible avenues for better dermatological care delivery and access. Our analysis of the literature revealed numerous opportunities for enhanced patient care.<sup>[7,8]</sup> Wu TQ et al evaluated the risk factors and prevalence of acne vulgaris in Chinese teenagers. 3163 pupils between the ages of 10 and 18 were chosen from seven schools in the Zhou Hai district of Guangdong Province. Physician examinations and self-administered questionnaires were used to gather information. The data gathered was used to calculate the prevalence of acne vulgaris. Using stepwise logistic regression, potential risk factors such as age, gender, nutrition, skin type, sleeping patterns, and use of facial makeup were examined. According to the findings, 53.5% of teenagers overall had acne vulgaris, with 51.3% of men and 58.6% of girls having the condition. Inflammatory acne affected 25.8% of both males and females collectively, and 7.1% of them had acne scarring. The prevalence and severity of acne vulgaris were found to increase with age: 15.6%, 44.9%, and 70.4% for those aged 10, 13, and 16 respectively. In girls younger than 14 and in boys older than 14, acne vulgaris was more common. Age, skin type (oily, mixed, or neutral complexion as opposed to dry skin), lack of sleep, and use of cosmetic makeup were significant risk factors for acne vulgaris. They came to the conclusion that Chinese teenagers between the ages of 10 and 18 frequently have acne vulgaris. Addressing this problem in Chinese adolescents through health education may have significant public health consequences. A study was carried out by Ismail KH et al between July 1st and November 1st, 2011.<sup>[9]</sup> Five hundred patients who visited a private clinic in Erbil City were included in a convenience sample. Every subject provided verbal informed permission. This study made use of the Cardiff Acne Disability Index (CADI). The 510 patients in the sample (173 males and 337 females) had a male to female ratio of 0.41:1 and an average age of 20.08 ± 4.23 years (ranging from 11 to 36 years). The average age of the males was 18.62 ± 3.19 and the ladies were 20.83 ± 4.49 years, with standard

deviations. The findings showed a substantial correlation between age and quality of life impairment, with female patients experiencing higher levels of impairment (47.2%) compared to male patients (37.6%). The QOL impairment and acne grading were significantly correlated. They found that acne had a detrimental impact on people's quality of life, with women experiencing the effects more than men, people in the 21–25 age range experiencing the effects more than those in other age groups, and the degree of quality of life impairment increasing with the grade or "severity" of acne.<sup>[10]</sup>

## CONCLUSION

In summary, given the constraints of the research, we deduce that 36.84% of Jhajar district population lives in rural areas. Females are more likely than males to have acne.

## REFERENCES

1. Pochi PE, Shalita AR, Strauss JS, Webster SB, Cunliffe WJ, Katz HI, et al. Report of the consensus conference on acne classification. Washington, D.C., March 24 and 25, 1990. *J Am Acad Dermatol* 1991; 24:495-500.
2. Cunliffe WJ, Gollnick H. *Acne: Pathophysiology – Clinic – Diagnosis and Therapy*. London: Martin Dunitz; 2004. p. 2-47.
3. Lewis-Jones MS, Finlay AY. The Children's Dermatology Life Quality Index (CDLQI): Initial validation and practical use. *Br J Dermatol* 1995; 132:942-9.
4. Kubba R, Bajaj AK, Thappa DM, Sharma R, Vedamurthy M, Dhar S, et al. Acne in India: Guidelines for management – IAA consensus document. *Indian J Dermatol Venereol Leprol* 2009; 75 Suppl 1:1-62.
5. Dogra S, Kumar B. Epidemiology of skin diseases in school children: A study from Northern India. *Pediatr Dermatol* 2003; 20:470-3.
6. Lello J, Pearl A, Arroll B, Yallop J, Birchall NM. Prevalence of acne vulgaris in Auckland senior high school students. *N Z Med J* 1995; 108:287-9.
7. Li D, Chen Q, Liu Y, Liu T, Tang W, Li S. The prevalence of acne in Mainland China: a systematic review and meta-analysis. *BMJ Open*. 2017;7(4):e015354. doi:10.1136/bmjopen-2016-015354.
8. Lynn DD, Umari T, Dunnick CA, Dellavalle RP. The epidemiology of acne vulgaris in late adolescence. *Adolescent Health, Medicine and Therapeutics*. 2016; 7:13-25. doi:10.2147/AHMT.S55832.
9. Ismail KH, Mohammed-Ali KB. Quality of life in patients with acne in Erbil city. *Health and Quality of Life Outcomes*. 2012; 10:60. doi:10.1186/1477-7525-10-60.
10. Wu TQ, Mei SQ, Zhang JX, Gong LF, Wu FJ, Wu WH, Li J, Lin M, Diao JX. Prevalence and risk factors of facial acne vulgaris among Chinese adolescents. *Int J Adolesc Med Health*. 2007 Oct-Dec;19(4):407-12.