

HAS ACNE URBAN BIAS?

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Summary

The school boys of Class VIII and X from urban and rural schools were surveyed for presence of acne lesions. Acne was found to be significantly more frequent and more severe in urban boys than rural ones ($P < 0.05$). There was no difference in the two groups as regard to the age, height, weight, skinfold thickness (SFT) and haemoglobin (Hb) level. Some other factors which might be responsible for this significant bias of acne for urbanites are discussed.

Acne vulgaris, a disorder of pilo-sebaceous origin, is widely distributed amongst the adolescent population of the world. Most workers agreed that the disease is almost universal in the adolescent Caucasian population^{1,2,3}. There is limited data showing the comparative prevalence of acne among the people of same race and origin living in different environments.

Acne vulgaris used to be unknown among Eskimos but it is now fairly commonly seen amongst teenager population of urbanite Eskimos⁴.

It was our impression that acne vulgaris was less severe and less frequent in rural than in urban population in India. This study was conducted to get epidemiological evidence in support of this observation.

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Material and Methods :

One hundred and three male students of class VIII and X of a school from a rural area about 20 kms. away from the city and 120 male students of the same classes from an urban school were examined for the presence of acne lesions. The acne bearing areas were particularly examined. The lesions of acne were graded from I to IV⁵. The age, height and weight of the boys having acne lesions were recorded; the subscapular skin fold thickness, was measured by Herpenden skin caliper. The hemoglobin (Hb) levels of the children were estimated with Sahli's haemometer. The data thus obtained were tabulated and statistical calculations were done.

Results :

Acne lesions of grade I as well as of grade II were seen significantly more frequently in urban school boys than in those from rural areas. No student from either group showed acne lesions of grade III or more. Though the majority of boys in both the groups had grade I lesions, milder form of acne was seen to be more common in the village group. When the figures were

expressed in the form of ratio (grade I: grade II), the value for urbanites was 7:2 in comparison to 6:1 for rural population. The differences were found significant statistically ($P < 0.05$) (Table-I).

TABLE 1
Distribution of acne among urban and rural school boys

Parameter	Urban		Rural	
	No.	% of total	No.	% of total
Students without acne lesions	75	62.5	81	78.6
Students with acne lesions of Grade I	35	29.2	19	18.4
Students with acne lesions of Grade II	10	8.3	3	2.9
Total students examined	120		103	

$$X^2 = 7.49; \text{ df} = 2; P < 0.05$$

Though the mean age of the boys from rural school was higher than that of the urban ones, the mean value for weight, height, SFT, and Hb of these were lower than that for the urban school boys. However, the differences were found insignificant statistically (Table II).

TABLE 2
Comparison of age, height, weight, SFT and Hb of urban and rural school boys having acne.

Parameters	Type of population	Total No. of observation	Range	Mean	S. D.	't' value
1. Age (in yrs.)	Urban	45	13-17	14.93	1.19	
	Rural	22	13-18	15.59	1.56	1.46*
2. Height (in cm)	Urban	45	138-178	162.82	8.76	
	Rural	22	142-174	158.92	7.18	1.923*
3. Weight (in kg.)	Urban	45	30-71	45.84	9.33	
	Rural	22	33-59	43.95	7.52	0.890*
4. S. F. T. (in mm)	Urban	45	4.6-15.0	7.46	2.07	
	Rural	22	5.0-13.0	6.73	1.74	0.756*
5. Hb. (in gm/dl)	Urban	44	12.6-16.0	14.24	0.85	
	Rural	22	13.0-15.6	13.94	0.66	1.578*

*Not Significant ($P > 0.05$)

Discussion :

Acne vulgaris was found to be more common in urban school boys when compared to rural ones in the Varanasi area. In spite of the small number of cases, the difference in the prevalence of acne on the 2 groups was significant statistically ($P < 0.05$).

This observation is not a new one as Schaefer⁴, a non-dermatological observer, had reported the increased incidence of acne vulgaris in urbanite Eskimos, seen readily amongst the teenagers in the streets of Inuvik, Frobisher Bay, and Cambridge Bay as against Eskimos leading a nomadic life to whom acne was unknown. He called acne the disease due to civilisation meaning urbanisation and blamed "pop, chocolate and candies" for the increased incidence. In the present study, the dietary factors could not be blamed as the eating habits in the two groups were found to be of no significant difference.

It has been reported that severity and frequency of acne increased with age¹. However, in our series of rural boys in whom the incidence of acne was lower than in the urban boys, the mean age was higher.

Though mean values for height, weight, SFT and Hb were found to be

higher side for urbanites, the difference in the values was not significant. So this cannot be considered to be contributory to the bias of acne among the urbanites, at least in our series.

The use of cosmetics can not be attributed as a factor responsible for higher prevalence of acne in urban boys in our study as the use of cosmetic is not popular in the area among the age group of males who were the subjects of the present study. On the contrary, the village boys apply mustard oil on face and oils in general are known to be mildly comedogenic⁶.

Increased chances of exposure to the pollutants of industrialisation may be a factor contributing to a higher prevalence of acne among urbanites. The protective effect of long exposure to

sun of the rural boys cannot possibly be disregarded.

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