

## A Study on Factors Influencing Acne among the Medical Students of Bangladesh

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### Abstract

It was across sectional study to explore the factors responsible for Acne among the undergraduate medical students in Z.H. Sikder Women's Medical College, Dhaka. In this study, it revealed that 34,38% of respondents were suffering from acne where habit of smoking (32%) , using of cosmetics (36%), taking of fast food (82%) & taking of less water (36%) & premenstrual flare up (66%) are responsible for aggravating & influencing factors for acne. This study further shown that majority (83.63%) of the respondents are suffering from acne in face, 58.18% in pimple stage, 60.00% in grade IV & 38.18% in grade III. BMI has no influence for the causation of acne as it occurs most (66.45%) in the group where BMI is within normal range from 20-24. Among the respondents, scar present in 36% & hyper pigmentation in 24% as they did not maintain personal hygiene properly.

Keywords: Acne, Awareness, Perception, Personal hygiene, Fast food etc.

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### Introduction

Acne vulgaris is a chronic disorder of sebaceous glands mainly affecting the adolescent's population (85%). It is an inflammatory disease of pilosebaceous units; characterized by seborrhea; open and closed comedones; papules and in more severe cases nodules, pseudo cysts and scarring<sup>1</sup>. Its prevalence among medical students varies from 56% to 62% among a group of Portuguese medical students<sup>2</sup>. There are some wrong beliefs & misconceptions about acne not only in the general population but also among the medical students. A French study on acne in adolescents concluded that gender, excess weight, eating dairy products & physical activities did not influence acne, at the same time frequent washing could improve acne. Eating chocolate & snacks, smoking cigarettes, sweating, not washing, touching/squeezing spots, eating fatty food, using make-up, pollution & menstruation were thought to worsen acne. The majority (80.8%) did not believe acne is a disease but 69.3% agreed that it should be treated by physician<sup>3</sup>. Green & Sinclair in their study on medical graduates of University of Melbourne, Australia found that 67% students identified stress, 25% claimed poor hygiene and 41% incriminated diet<sup>4</sup>. Another study in Turkey indicated that there is an urgent need for education about etiopathogenesis, potential complications and importance of effective treatment for acne due to the deficient knowledge and wrong beliefs despite high prevalence<sup>5</sup>. Similar results were also found in Riyadh, Saudi Arabia<sup>6</sup>. Also, Acne is associated with psychological burden, patients experience with depression, anxiety, increase suicidal tendency and low self-esteem and impact on quality of life due to involvement of cosmetically important areas<sup>2</sup>. Acne vulgaris has some social bad effect. It causes disfiguration of the face which may lead to delay in marriage & suffer from psychological problems which may disturb in social harmony.

## Materials and Methods

This descriptive type of cross sectional study was conducted to explore the knowledge, beliefs and perceptions, the clinical presentations of acne vulgaris and to find out influential factors among the female medical students of third year, fourth year & final year undergraduate students of Z. H. Sikder Women's Medical College, Dhaka attending the dermatology departmental postings were included in this study with a sample size of 320 by using random sampling method. Data were collected from both acne and non-acne sufferers by trained volunteers by interviewing the female medical students using pre-designed, pre-tested, semi-structured interviewer administered questionnaire & check list in English. The study period was from January/15 to December/16. A detailed history of Acne and clinical examination was carried out for each student including medical and family history, information about the extent and site of involvement, aggravating factors like use of cosmetics, potent topical steroid, drug intake, dietary history, stress, nature of menstruation, premenstrual flare up, sun exposure, seasonal variation were obtained. Clinical assessment of each student including types of lesions, area of distribution and grading of acne were done. Only the students were included in this study after obtaining verbal consent.

Acne vulgaris was graded by using a simple grading system as follows<sup>7</sup>.

Grade 1 - comedones, occasional papules

Grade 2 - papules, comedones, few pustules

Grade 3 - predominant pustules, nodules, abscess

Grade 4 - mainly cysts, abscess, widespread scarring

Height and weight measurement were also taken. Body mass index was graded as 1= < 20, grade II =20 -24, grade III=25 - 29 and grade IV= >\_30<sup>8</sup>. Gynecological history of student was noted. Hormonal imbalances were assessed with obesity, alopecia, hirsute and menstrual irregularity. Stress was evaluated through a subjective assessment of its association with aggravation of acne.

## Results

320 students were taken part in this study. The prevalence rate of acne among the participated medical students was 34.38% (table-I). The mean age of the students was 22 years, varied from 18 - 25 years.

Table-I: The prevalence of acne among respondents.

Number of participants	Affected with acne (%)	Not affected with acne (%)
320	110 (34.38)	210 (65.62)

Table-II: Distribution of respondents with acne according to BMI (n=110).

Sl. No.	BMI	Frequency
01	< 20	22 (20%)
02	20 - 24	72 (65.45%)
03	25 - 29	10 (9.09%)
04	≥ 30	06 (5.45%)
Total		110

Table-III: Clinical lesions of acne among respondents (n=110).

Sl. No.	Clinical types	Number of students with acne
01	Papules	64 (58.18)
02	Comedones	32 (29.09)
03	Pustules	20 (4.59)
04	Nodules	10 (0.90)
05	Cysts	08 (0.90)
06	Abscess	06 (5.45)
07	Scarring	06 (5.45)

Table-IV: Sites of the acne lesions (n=110).

Sites of acne lesions	Number of students
Face	92 (83.63%)
Forehead	10 (09.09%)
Chest	04 (03.64%)
Back	04 (03.64%)

Table-V: Clinical stage of acne among respondents (n=110).

Clinical grading	Number of students with acne
Grade 1	42 (38.18%)
Grade 2	16 (14.54%)
Grade 3	08 (7.27%)
Grade 4	44 (60.00%)

Table-VI: Factors aggravating / influencing acne (n= 110).

Variables	Students with acne
Use of cosmetics	36 (32.73%)
Use of topical steroid	18 (16.36%)
Intake of steroid	12 (10.90%)
Premenstrual flare up	66 (60.00%)
Taking of fast food	82 (74.54%)
Habit of smoking	12 (10.90%)
Taking of less water	32 (29.09%)

Pie chart for complications of acne (Figure-1).

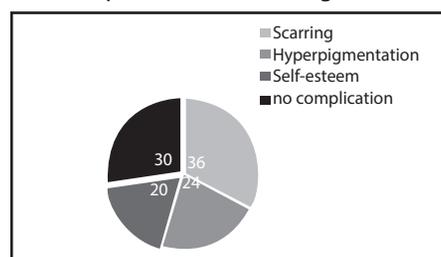


Figure-1: Complications of acne

## Discussion

In this study, the prevalence of acne vulgaris among medical students was 34.38%, it is less to prevalence among Portuguese medical students varied from 56% to 62%<sup>2</sup> & also less to medical students of Sindh, Pakistan (55.9%) A study on KAP on Acne of the medical students of Sindhu, Pakistan revealed that 67.0% of the affected

believed it to be relieved by frequent face washing and that they should seek treatment & as to the cause, 21.7% students believed that here dietary factors and 20.1% thought environmental factors are the major cause of acne. In diet, soft drinks (29.2%) were considered the major exacerbating factor. The most significant emotional impact of acne on medical students was embarrassment (26.2%)<sup>9</sup>. Green & Sinclair in their study on medical graduates of University of Melbourne, Australia found that 67% students identified stress, 25% claimed poor hygiene and 41% incriminated diet<sup>10</sup>. Another study of aged from 14-16 years in United Kingdom revealed that washing of face frequently would help acne, 79% incriminated poor hygiene and 11% greasy food to be the causative factors of acne<sup>11</sup>.

In our study it revealed that habit of smoking (32%), using of cosmetics (36%), taking of fast food (82%) & taking of less water (36%) & premenstrual flare up (66%) are responsible for aggravating & influencing factors for acne. It further shown that majority (83.63%) of the respondents are suffering from acne in face, 58.18% in pimple stage, 60.00% in grade IV & 38.18% in grade III. BMI has no influence for the causation acne as it occurs most (66.45%) in the group where BMI is within normal range from 20-24. Among the respondents, scar present in 36% & hyper pigmentation in 24% as they did not maintain personal hygiene properly.

From the study of prevalence of acne among the medical students of our sample compared to the study of Green & Sinclair in their study on medical graduates of University of Melbourne and KAP on Acne of the medical students of Sindhu, Pakistan revealed that in our country the prevalence of acne among Medical Students are less than the above mentioned countries.

#### Conclusion

Motivational interventions to be placed for overcoming the misconception & belief about of acne.

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