

Prevalence, knowledge, beliefs and psychosocial impact of acne in University students in Central Saudi Arabia

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ABSTRACT

Objectives: To describe the prevalence of acne among Qassim University students, and to evaluate the knowledge, beliefs, and its psychosocial impact on them.

Methods: We observed 717 students (381 males, and 336 females), at Qassim University Medical clinics during February and March 2005. We interviewed and examined the subjects for the presence of acne. After confirming the diagnosis, we asked the patients several questions about acne, history, knowledge, perceptions, beliefs, and its psychosocial impact on them. We performed statistical analysis using the chi-square test with a 5% significance level.

Results: We found 56.2% of the students to have acne. The difference between both gender was statistically insignificant, and 47.9% of patients suffered from acne for more than one year. Of those who sought medical advice, 40.3% had their consultation within 3 months of the disease onset, and 58.9% of patients sought medical

advice as a self-decision. Fifty-six percent believed they have an adequate knowledge of acne, and the most common source of information was newspapers. The most believed factor responsible for acne was hormones, and the most aggravating factor was stress. In 46% of patients, acne had no, or minimal effect on their self-image and in most of the patients (73%) it had no or minimal effect on their relationships.

Conclusion: Acne is a common skin disease among Qassim university students, affecting both gender. We need health education in our community to encourage people to seek appropriate help for skin problems. We require further community based research to evaluate the effectiveness of such educational interventions in understanding the natural history, pathogenesis and the sequelae of acne, increasing help-seeking behavior, and improving the awareness of patients about acne.

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Acne vulgaris remains one of the most common diseases to afflict humanity,¹ with over 90% of males and 80% of females affected by the age of 21 years.^{2,3} Small, non-inflamed acne lesions may not be more than a slight nuisance but, in individuals with more severe inflammatory disease, pain, social embarrassment, and both physical and psychological scarring can be life altering.⁴ Although there is substantial literature on the basic science, clinical features, psychosocial impact, and treatment of acne, there is a paucity of information on the knowledge and understanding

of patients about their condition. Such information can lead to development of awareness and educational programs to increase patients understanding of their condition, as well as a patient-based cognitive model to enhance adaptation, coping mechanisms, and compliance with treatment.⁵

Methods. This is a descriptive cross-sectional study in which all questions were related to the objectives mentioned above. A total of 717 students,

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aged between 18-24 years were examined for the presence of acne, 381 (53.1%) were male and 336 (46.9%) were female, at Qassim University medical clinics during March and April 2005. Subjects were interviewed and examined by the investigator under good lighting conditions for the presence of acne. After confirming the diagnosis, patients were asked several questions on disease history, their understanding, perceptions, and beliefs about acne and its psychosocial impact on them. A grading system based on Gollnick and Orfanos⁶ was used: grade 1 was facial involvement with comedones and fewer than 10 inflammatory lesions, grade 2 was facial involvement with comedones and 10-20 inflammatory lesions, grade 3 was inflammatory lesions at trunk with or without facial involvement, and grade 4 was inflammatory lesions with nodules and presence of scars at face or trunk. Statistical analysis was performed using the Chi-square test with a 5% significance level. We used Statistical Package for Social Sciences Version 11 for data analysis.

Results. More than half of the 717 examined students (56.2%) were found to have acne. Out of these patients, 50.6% were males and 49.8% were females. The gender differences were statistically insignificant ($p>0.05$). According to the predefined grading system, 51.4% of acne patients had grade I, 31.8% had grade II, 9.9% had grade III and 6.9% had grade IV. The most common site affected was the face, and the least affected was the back, and 35.8% of males and 63.3% of females suffered for ≥ 3 years. Seventy-three percent of males and 75.9% of females sought medical advice for treatment of their condition. The difference between males and females patients regarding seeking medical advice was statistically insignificant ($p>0.05$). Of those

who sought medical advice, 40.3% had their consultation within 3 months of the disease, 37.5% sought advice after 3 months of their disease but less than one year, and only 22.2% waited more than one year before consultation. Among those who sought medical advice, 39.1% consulted dermatologists, 33% consulted general practitioners, 19.9% consulted pharmacists, 2.4% took the advice from traditional healers, and 5.7% took the advice from other sources, for example, friends, books and media. Among those who consulted a dermatologist, the results showed that females were more likely to consult a dermatologist than males (62% versus 38%). However, males were found to more likely consult general practitioners than females (60.2% versus 39.8%). The difference between males and females regarding the general practitioners and dermatologist consultation was statistically significant ($p<0.05$). When patients were asked about those who motivated them to seek medical consultation, 58.9% of them explained that it was a self-decision, while parents and family members motivated 13.5% of patients. The role of friends in patient's motivation to treat acne was minimal at 22.6%. Five percent of patients were motivated by media (television and newspapers). Fifty-nine percent of students, (48.9% male and 51.1% females) believed that they have adequate knowledge regarding acne, and the difference between both was found to be statistically insignificant ($p>0.05$). Patients identified that the most common source of their information on acne was newspapers, television, physicians, schoolteachers, friends, pharmacist, and Internet, which played a very small role as a source of information. Other sources of information, for example, radio and books, constituted only 2.3% (**Table 1**). No patients identified that parents were a source for their information. The difference between male and female patients regarding their source of

Table 1 - Sources of information on acne.

Source of information	Number of patients (%)		
	Male	Female	Total
Schools	40 (19)	12 (5.5)	52 (12.1)
Newspapers	45 (21.4)	108 (49.1)	153 (35.6)
Television	45 (21.4)	68 (30.9)	113 (26.3)
Friends	15 (7.1)	20 (9.1)	35 (8.1)
Physicians	45 (21.4)	8 (3.6)	53 (12.3)
Pharmacist	10 (4.8)	0	10 (2.3)
Parents	0	0	0
Internet	0	4 (1.8)	4 (0.9)
Others	10 (4.8)	0	10 (2.2)
Total	210 (100)	220 (100)	430 (100)

The percentages in this table were calculated vertically

Table 2 - Factors believed by patients to cause acne.

Believed causes	Number of patients (%)		
	Male	Female	Total
Poor skin hygiene	39 (19.1)	23 (11.6)	62 (15.4)
Diet	19 (9.3)	59 (29.6)	78 (19.4)
Infection	20 (9.8)	4 (2)	24 (6)
Hormones	97 (47.5)	81 (40.7)	178 (44.2)
Genetic	10 (4.9)	21 (10.6)	31 (7.7)
Others	19 (9.3)	11 (5.5)	30 (7.4)
Total	204 (100)	199 (100)	403(100)

The percentages in this table were calculated vertically

information was very significant for newspapers (21.4% versus 49.1%) ($p < 0.05$) and for physicians (21.4% versus 3.6%) ($p < 0.05$). Patients believed that the factors responsible for acne causation were hormones, diet, poor skin hygiene, genetic, infection, and others, for example, drugs, cosmetic and dust (Table 2). When the patients were asked about factors that could aggravate acne, 41.7% identified that stress was the most responsible aggravating factor. Other aggravating factors believed by patients included change of weather (15.9%), diet (15.1%), dirt (12.7%), drugs (10.2%) and lesions manipulation (4.4%). The majority of the patients (85.4%) believed that acne is a treatable disease. Seventy-four percent believed that acne is a disease that needs a short-term treatment while the rest believed that it requires long-term therapy, and 13.2% of patients believed that acne is a serious condition. Patients were asked about the impact of acne on their self-image and about their relationship with family and friends. The result showed that 46.1% of the patients had no or minimal effect of acne on their self-image, 33% had moderate effect on their self-image and 20.9% showed that acne had severe effect on their self-image, with 3.4% of male and 37.7% of female patients had severe effect on their self-image, and the difference was found to be statistically significant ($p < 0.05$). Seventy-three percent of patients had no or minimal effect on their relationships. The relation between the effect of acne on patient's self-image and on patient's relationship with family and friends on one hand, and its severity on other hand was found to be statistically insignificant ($p > 0.05$).

DISCUSSION. There are few studies on the knowledge, beliefs, and perceptions of patients on the causes, aggravating factors and sources of information in patients with acne.⁵ This study confirms that acne is a common problem among young Saudi students, affecting 56.2% of the students, (53.5% of males and 59.2% of females). The prevalence of acne observed in this study is similar to the study conducted by Al Hoqail⁷ on Saudi school students, where the prevalence of acne was 53.3%, and higher than that reported in other studies conducted on the Saudi population, where the prevalence rates were 5.45-12.75%.⁸⁻¹¹ The difference of acne prevalence observed in this study, and Al Hoqail's study⁷ and the others⁸⁻¹¹ may be due to the methodological variation. Like Al Hoqail,⁷ we measured the acne prevalence among the young healthy students, while in the other studies, they calculated the acne prevalence from patients with different age groups and with general skin diseases who attended dermatology clinics. On the other hand, international studies report the prevalence rates of acne in the range of 17-90%.^{2,12-18} This study showed that female patients consulted

dermatologists more than males. We expect females to be more health conscious and sensitive regarding their skin, and we expect their health seeking behavior to reflect this consciousness. Sixty percent of patients in this survey sought medical advice as a self-decision, as reported in other studies.^{5,19} Interestingly, we found that parents did not contribute in advising their sons and daughters to seek medical advice for their disease. This observation indicates the inadequacy of health education and the importance of educating the public regarding the early seeking of medical advice for acne. Tan et al⁵ reported that the most cited sources of information were family physician (71%), magazines (44%), television (44%), parents (31%) and friends (28%). In a community-based survey, the cited sources of information were television (74%), parents (61%), friends (47%) and magazine 39%.^{13,17} This study and other studies confirmed the importance of mass media to educate the people about the disease. Friends constituted only a small proportion as a source of information for our patients; this observation lessens our justified fear of distributing wrong knowledge and misconceptions about acne. We expect peer influence to be higher than any other source of information particularly during the vulnerable age group of adolescence. Tan et al,⁵ and Pearl et al¹³ noted that hormones were believed to be the most important etiologic factor and stress was the most frequent aggravating one. In a study carried out on Saudi students, Al Hoqail⁷ found that the most believed cause of acne was diet. Rasmussen and Smith²⁰ found that the most believed factors were stress and anxiety. Tallab¹⁹ found that the hormonal imbalance and dirt were the commonly believed causes for acne, and that stress and diet were the most common believed aggravating factors. This study is similar to other studies^{5,7,19,20} in confirming the misconceptions regarding acne causation, being mainly about diet. This wrong belief may lead to nutritional deficiencies in some patients, if they restricted their diet to non-nutritious elements. Thirty-six percent of patients believed that acne is an acute disease. This result may lead to poor compliance in some patients since treatment of acne may continue for years. Tan⁵ found that 76% of his patients expected cure in 6 months, while Rasmussen and Smith²⁰ found 35% of patients expected improvement within 4 months. In this study, we found that 46.1% of patients had no association between acne and patient's self-image, while 20.9% showed that acne had severe effect on their self-image, 3.4% of male and 37.7% of female patients had severe impact of acne on their self-image. This difference was statistically significant ($p < 0.05$). Tallab¹⁹ found that 49% of patients had severe psychological acne impact on their self-image. However, Al-Hoqail⁷ and Layton et al²¹ found a correlation between acne and psychological impact. Conversely, Tan et al,⁵

Krowchuk et al,²² Lasek and Chren²³ found no association between acne and patient's life.

In conclusion, acne is a common skin disease affecting both gender. We need health education in our community to encourage people to seek appropriate help with skin problems. Liaison between dermatologist and other health professionals would ensure the provision of accurate and up to-date information about treatment for skin conditions, and also facilitate referral for medical advice. A severe disfiguring disorder may accompany acne, and may lead to severe emotional difficulty, therefore, we should stress effective treatment and prompt referral to specialized dermatology services for severe or resistant cases. We require an educational program for the public, particularly for adolescents and school students to fill the gap in their knowledge regarding acne and to improve their healthy behavior as well as to lessen the psychosocial impact of the disease on the patients and to improve help seeking behavior. After implementation of educational interventions, we need further research in different community settings to evaluate the effectiveness of these programs in increasing understanding of acne, help-seeking behavior, and awareness of patients.

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