

Prevalence, Awareness and Psychological Impact of Acne Vulgaris among University Students

Ashraf Abdelfatah Deyab^{1*}, Ali Faraz², Salah A Abdelrahim¹, AbdulRahman¹, Atif Ali Bashir¹, Yousef Alfaleh³, Khaled Abdullah Enayat Almutairi³

¹Department of Pathology, Faculty of Medicine, Majmaah University, Majmaah, Kingdom of Saudi Arabia

²Department of Microbiology, Faculty of Medicine, Majmaah University, Majmaah, Kingdom of Saudi Arabia

³Faculty of Medicine, Majmaah University, Majmaah, Kingdom of Saudi Arabia

ABSTRACT

Background: Acne is a common, irritating chronic skin disease among adolescent age group worldwide. Despite good number of studies discussing and debating his skin condition, still there are serious psychosocial concerns, gap in knowledge and lack of awareness among acne patients.

Methods: This is observational, cross sectional, institutional-based study to find out prevalence, awareness and psychological impact of acne among students in Majmaah University, conducted between January-April 2018.

Results: The study showed that 56% of the university students had some form of acne. More than three quarter of the participants were less aware and had poor level of knowledge of the disease's etiology and aggravating factors. 61% of the students had belief that folk medicine contributes positively in acne management. 84.6% of both male and female students responded that acne had obvious negative effects on the life of the affected and there is a social stigma associated with it.

Conclusion: Acne is a well-known and prevalent irritating skin disease among Majmaah university students, affecting both sexes. Our study found out very poor level of awareness and knowledge about etiology and associated aggravating factors of acne. Furthermore, strong association of acne with severe psychological impact is also evident among (85.6%) of participants. More comprehensive health education about acne needed to be spread among University students and community, addressing the gap in knowledge, required for proper management of acne and to reduce the negative psychosocial impact of the disease among this age group.

Key words: Acne, Prevalence, Psychological impact

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Corresponding author: Ashraf Abdelfatah Deyab

e-mail ✉: ashrafdeyab@hotmail.co.uk

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INTRODUCTION

Clear and beautiful skin is important indicator of youthfulness and good health of an individual. The first thing we notice about the personality of an individual is his skin. At this time and age, young people are loudly announcing their youth and beauty through their faces. In contrast, any change from ideal looks and appearance is looked upon negatively [1]. Acne (Acne vulgaris) is a long-standing chronic skin disease that involves

occlusion and/or inflammation of pilosebaceous units in the skin [2]. It presents as inflammatory and/or non-inflammatory lesions, affecting mostly the face but also the back and chest.

This condition affects 9.4% of the global population, which makes it one of the most prevalent diseases around the world especially [3]. Although it is a common condition, accurate information about acne can be scarce and despite major advancements in the field of dermatology, so far only limited information about this irritating condition are available and provided to adolescent age group. This situation is reflected in the level of knowledge and awareness about this condition among the youth.

The use of self-medication for acne is common in university students; based on their limited pharmacological knowledge and influence of senior students. Irrational use of antimicrobials and other misuse of non-prescription drugs is commonly observed phenomenon. This inappropriate use of drugs can lead to antimicrobial resistance and other various adverse effects. Awareness about the use of drugs, risk of adverse effects and antimicrobial resistance among students will help reduce self-medication and subsequently it will also improve outcome of the disease [4]. Psychological and social scars left by the disease, are far more devastating and irreparable than the physical scars. Young people experience considerable psychological trauma and stigma as a result of this disease. The scarring from the disease can cause distress, depression and suicidal tendencies 1 Uhlenhake et al. concluded three times higher rate of depression among acne patients as compared to general population [5].

There are many myths and misconceptions about what this condition is and how to treat it. This study is proposed to determine the extent of awareness and attitude among young adults, particularly university students, towards acne as it is one of the most common irritating skin condition with significant psychological effects. Only a few published studies on acne among university students had been conducted in the past. Conducting a study about acne is strongly indicated due to its complications and negative psychosocial affects not only among university students but our youth as a whole. Such educational interventions are effective in understanding the nature of the disease presentation, and its complications, thereby raising awareness among the patients and acting as positive interaction tool to clear misconceptions related to the disease. A study conducted by Sahar, et al. shows that misconceptions of acne are common among Saudi young adults, and health education approach is needed to upgrade the awareness and recognition of acne [6]. There is high incidence of acne among the Saudi youth as is reflected by many studies carried around KSA. A study done in the central region of Saudi Arabia among university students showed that the incidence was as high as 56.2%, affecting both genders [7]. In the background of such high incidence of acne among young generation in

Saudi Arabia, conducting such surveys acts as positive interaction tool to raise awareness and clear myths about the disease.

METHODOLOGY

This is observational, cross-sectional, institutional-based study to find out prevalence awareness and psychological impact of acne among University students. The study was conducted at Majmaah University, Al Majmaah, KSA. Al Majmaah is a city and a governorate in Al Riyadh Province, Saudi Arabia. This study was conducted among male and female students, who registered at colleges of the University. Stratified cluster-Sampling was considered to select certain colleges, which were taken as medical and non-medical colleges. Selection was simple random sampling and included those registered for current academic year.

Sample size of this study was calculated by the following formula:

$$n = Z^2 \times pq / d^2 = Z^2 P(1-P) / d^2$$

Where, n=Sample size, Z=Standard deviate, P=Prevalence, Q=1-p, d=Error accepted.

The prevalence (P) calculated as 56.2%.

With reference to above mentioned formula and other studies done previously we decided that the size of the study sample should be around 227.

The total duration including data collection was six months including the data collection and processing. A pretested, well-designed preformed questionnaire was used to collect data for assessing Prevalence, knowledge, awareness, practices, misconception and psychological impact of acne among university students. All the data was entered and analyzed by computer using the SPSS software version 20 and statistical analysis was done. Ethical approval for this study was obtained from the Deanship of Scientific Research, Majmaah university under the number of project: [Approval No: MUREC-Jan 03|COM-2018/1]. Participation verbal consent from the participant was assured. They were briefed about the aim and objective of the study and the advantage to them as well as to the community due to their participation. They were also informed that all the information was kept purely confidential and was used only for the purpose of statistical analysis. All students

who registered at university night-courses and attending courses conducted by the College of community services were excluded. Also any study participants who voluntarily refused to participate in the study were excluded.

RESULTS

This study was conducted at 227 student's male and female university students at different academic levels of Majmaah University, Saudi Arabia. All participants agreed to fill out the questionnaire as explained to them with no evidence of missing data. There were more male students than the female students with Male: Female ratio as 1.6:1 (Table 1). The number of students found to have acne is 127 (56%), 72 (51.8%) are male students and 55(62.5%) are female students. Table 2 shows that the level of knowledge about acne among male and female

students is below average, which is unexpected at their academic level. Multiple organized questions elicited response from the participants, along with predefined scale, designed for analysis of knowledge and awareness of students about acne. More than 75% of students denied any knowledge of etiology and associated risk factors of acne. 63.4% students based believed that acne is not treatable skin disease. Table 3 shows 95.6% of students have good attitude and practice towards acne by seeking medical consultation frequently. In addition 61.7% of the students have positive beliefs in folk medicine as an alternative therapy against acne. Interestingly, Table 4 demonstrates student's reflection of psychological impact of acne. 84.6% of students from both male and female sections gave positive response that acne has obvious negative effects on patients.

Table 1: Prevalence of Acne Vulgaris among university students (n=227).

Do you suffer from Acne?	Gender		Overall	P
	M No. (%)	F No. (%)		
Yes	72 (51.8%)	55(62.5%)	127 (56%)	0.009
No	67 (48.2%)	33(37.5%)	100 (44%)	
Overall	139	88	227	

Table 2: Level of Knowledge about acne's etiology and risk factors (n=227).

Characteristic	No.	Percent
Related to the nature of food		
Yes	14	6.1
No	213	93.9
Hormonal effects		
Yes	51	22.5
No	176	77.5
Genetic causes		
Yes	53	23.3
No	174	76.7
Bacterial infections		
Yes	52	22.9
No	175	77.1
Medications		
Yes	3	1.3
No	224	98.7
Aggravated by use of cosmetics		
Yes	10	4.4
No	217	95.6
Aggravated by exposure to heat and sun		
Yes	5	2.2
No	222	97.8
Related to the nature of the skin		
Yes	20	8.8
No	207	91.2
Is there any definite treatment?		
Yes	144	63.4
No	83	36.6
Don't know	19	8.4

Table 3: Practice and beliefs of acne patients towards Acne vulgaris (n=227).

Characteristic	No.	Percent
Consultation of a dermatologist		
Yes	217	95.6
No	10	4.4
Negative Impact of taking over-counter medication		
Yes	196	86.3
No	31	13.7
Acne will resolve without medical intervention		
Agree	31	13.7
Disagree	96	42.3
Neutral	100	44
Folk medicine will solve the problems of acne without use of medication		
Yes	140	61.7
No	87	38.3
Effect of using cleanser without prescription for removal of acne		
Positive effect	47	20.7
Negative effect	156	68.7
No effect	24	10.6
Removal of acne by squeezing		
Agree	3	1.3
Disagree	224	98.7

Table 4: Level of the psychological impact associated with acne (n=227).

Characteristics	Gender		Overall	P
	M No. (%)	F No. (%)		
Fear of mixing with others				
Yes	34 (24.5)	17 (19.3)	51	0.661
No	51 (36.7)	35 (39.8)	86	
Neutral	54 (38.8)	36 (40.9)	90	
Is appearance of acne has negative effect on patient's				
Yes	108 (77.7)	84 (95.5)	192	<0.001
No	31 (22.3)	4 (4.5)	35	
Acne affect marriage				
Yes	39 (28.1)	16 (18.2)	55	0.239
No	61 (43.9)	44 (50)	105	
Not sure	39 (28.1)	28 (31.8)	67	

DISCUSSION

A total of 227 university students from male and female sections participated in our study, of which 127 (56%) suffered from Acne vulgaris. Of those affected, 51.8% were male students and 62.5% were female students. In kingdom of Saudi Arabia, a review of the published research, on prevalence of acne shows a high prevalence rate of the disease among Saudi youth. Our result matches and are comparable to studies published locally e.g. Al Robaee et al. calculated the same prevalence rate among Qaseem University students [7]. A study done among adolescents of Riyadh city observed a prevalence of 68.2% [8]. In Jazan province, in the South of the country, the prevalence rate among high school students was 65.1% with more females (71%) than males (60%) [9]. Similarly a study conducted in western

region of Makkah, showed that the prevalence of the disease among female adolescent patients attending 3 hospitals was 56.6% [10]. In contrast, there is significant difference from the world wide prevalence of 73.4% among this age group [11].

Our study reflects very poor level of knowledge and awareness of acne among university students, analyzed based on well-defined scale. Three quarters (75%) or more of university students show lack of knowledge about acne's causation and associated aggravating factors. Several studies have found a potential link between nature of food and acne. Convincing evidence has shown that acne is aggravated by food with high glycemic index, whereas role of dairy and chocolate in acne flare ups remains to be elucidated [12]. 93.9 % participants of our study reported a negative link between food and acne.

Acne is associated with a multifactorial pathogenesis. It is proven now that acne has positive correlation with colonization by bacterium *Propionibacterium acnes* [13]. Other contributing risk factors including hormonal abnormalities (role of androgens) and genetic predispositions play a key role in acne pathogenesis. Many environmental factors aggravate acne flare ups and break outs including medications, stress, sunlight, and application of cosmetics [14].

Majority of the participants (75%) in our study dismissed the role of these key contributing factors in causation of acne. This is in contrast to a similar study by Hulmani, et al. whereby 40% of the participants had good knowledge about the causes and aggravating factors of acne e.g. acne flare ups by use of cosmetics (41%), squeezing/picking/rubbing (83%), and commonly found in oily skin (67%) [15]. Furthermore, most of the acne patients in our study showed a favorable attitude and good practice towards the disease by seeking early medical advice. 86.3% of the study subjects were aware about the negative impact of nonprescription medication, which is in sharp contrast to data published among Indian patients [15]. This difference can be easily explained by certain variables like research setting and type of participants.

Patients suffering from Acne vulgaris often turn to folk remedies e.g. various herbs and plants. 61% of the subjects in our study also had a belief that folk medicine contributes positively in acne management. However, there is scarce evidence in literature to support the use of such remedies. Further large scale studies should be carried out to prove their effectiveness [16].

Majority of study subjects pointed out that the appearance of acne has strong negative psychological impact on the patients. Of these 77.7% were males and 95.4% were female. The most prevalent psychosocial issue was embarrassment and feeling unattractive. Only 24.2% of study subjects claim that acne can negatively affect their chance of getting marriage, whereas study by Hazarika, et al. concluded that 75% of female acne patients were apprehensive about their future in getting appropriate matches in arranged marriages [17]. These findings are generally comparable with published report by Oakley, et al. focused on strong association of

acne with poor academic performance, social withdrawal /relationship building and causation of depression [18]. Tallab, et al. report on acne showed that 49% of the study subjects had negative psychological impact of acne on their self-image [19]. Al Robaee, et al. documented that severe acne with marked disfiguring has severe psychological consequences [7]. Interestingly, other way round study conducted by Al-Hoqail, et al. showed that three quarters of the sample studied considered psychological conditions contribute to occurrence of acne [20].

CONCLUSION

Acne is common and prevalent skin irritating disease among Majmaah university students, affecting both genders. Our study found very poor level of awareness and knowledge of etiology and associated aggravating factors of acne. Furthermore, strong association of acne patients with severe psychological impact is evident. More comprehensive health education about acne needed to be spread among University students and community, addressing the gap in knowledge required for proper management of acne and to reduce the negative impact of the disease among this age group.

It is hoped this study will draw attention of the health care providers and leadership towards bridging the gap in knowledge and raising the awareness in dealing with this skin condition which is associated with serious financial, social and psychological consequences.

RECOMMENDATION

This study provides adequate atmosphere for participants and others who are less aware and have misconceptions about the acne's etiology and risk factors. Spread of knowledge and awareness about this condition will create road map and protocols for control and proper management of acne. The positive practices and good attitude in dealing with this skin disease should be encouraged. More future researches are needed to address gap in knowledge and clear misconceptions regarding Acne vulgaris among youth and adolescents.

LIMITATIONS

Participation of the study population is purely voluntary so there were some of the participants who refused the study and also some students did not want to participate in the study.

Administrative communication obstacles with a few colleges create some difficulties in collecting the data from eligible students registered in their colleges. This could also affect the overall result of the study.

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