

Knowledge and Practices towards Acne Vulgaris among Acne patients in a tertiary care hospital, Dina Nath, Pakistan

ZAHIDA PERVEEN¹, MADIHA ZULFIQAR², ALMAS RAZA³, SHAISTA UMBREEN⁴, ZARTAJ LIAQAT⁵, MARIYAM SAEED⁶, NAHEED HUMAYUN SHEIKH⁷, SYED ZEESHAN HAIDER NAQVI⁸.

^{1,3}Assistant Professor, Department of Dermatology, Pak Red Crescent Medical College/ Teaching Hospital, Lahore

²Assistant Professor, Department of Dermatology, Abu Ummara Medical and Dental College/Ali Fatima Hospital

^{4,6}Senior Registrar, Department of Dermatology, AIMC/Jinnah Hospital Lahore

⁵Assistant Professor, Department of Dermatology, Avicenna Medical College and Teaching Hospital, Lahore

⁷Professor, Department of Community Medicine, Pak Red Crescent Medical College/ Teaching Hospital, Lahore

⁸Associate Professor of Microbiology, Institute of Molecular Biology and Biotechnology (IMBB), The University of Lahore

Correspondence to Dr. Zahida Perveen, Email: dr_zahida25@yahoo.com, Mob: 03164564311,

ABSTRACT

Aim: To determine the incidence, knowledge and practices in patients with acne vulgaris.

Study design: Observational (Cross sectional)

Place and duration of study: Department of Dermatology, Pak Red Crescent Teaching Hospital, Dina Nath, Kasur from 1st Aug, 2021 to 31st Jan 2022.

Methodology: A total of 121 patients fulfilling the inclusion criteria were included in the study, written informed consent was taken on spot and responses were recorded on a pre-formed questionnaire. Data was then entered and analyzed using SPSS version 21 software and a P value of < 0.05 was considered statistically significant.

Results: Out of 121 patients, 85(71%) were females and 35(29%) were males. 55(45%) patients had good knowledge and 66(55%) patients had poor knowledge. Among those having poor knowledge, 57% belong to 12-20 age group, 57% belong to female gender and 75% having poor knowledge were illiterate with a P-value of 0.02 which is statistically significant. Major source of information was family and friends in 65(54%) patients, followed by internet in 28(23%) patients. 78% related acne with burning in epigastrium. 40% participants were in favor of using traditional medicine and 28% consulted specialist in 1 year

Conclusion: Results of this study conclude that people with Acne in this part of Punjab have very poor knowledge regarding different aspects of Acne and its management. This leads to malpractice and poor management of Acne and is causing harm to the patient's wellbeing. Educational programs and community-based health awareness programs should be arranged to impart knowledge and to remove the misconceptions regarding the Acne and its management.

Keywords: Acne Vulgaris, Propionibacterium Acnes, Knowledge, Practices.

INTRODUCTION

Acne vulgaris is a chronic inflammatory skin condition characterized by open and closed comedones, papules, pustules, cysts, nodules and scars. It occurs due to excess sebaceous gland activity, follicular epidermal hyper proliferation, microbial colonization (Propionibacterium acnes) and inflammation. In particular, the Gram-positive anaerobic bacterium Propionibacterium acnes is a major resident of the normal human skin microbiota and dominates pilosebaceous units¹. P. acnes are most abundant in the sebaceous gland-rich sites of the skin, which includes the face and upper trunk, suggesting potential mutualistic effects that extend beyond the skin². It is common disease affecting 9.4% of the world population. According to previous studies, prevalence rate of acne vulgaris in Pakistan is 5%. It is a very common condition with a prevalence rate of around 91% in adolescent males and 79% in adolescent females³.

Studies involving twins have shown that acne is highly heritable; with genetic factors attributing 81% of the population variance⁴. Various studies have been done on etiopathogenesis of acne vulgaris demonstrating role of diet, hormonal factors, sunlight exposure, stress and genetic factors. Diet has also increased evidence role in the progression of acne. Diets with high glucose levels, protein consumption and dairy products (skim milk). Acne is associated with an intense negative impact on mental health, which includes increased prevalence of mood disorders, psychiatric hospitalizations, school absenteeism, unemployment, and suicidality⁵. It is believed that chocolate has been considered always an aggravation factor of acne, but the data evident for supporting its negative impact on the skin is very limited. However, it has been observed by dermatologists that new pimples appear in a few days after ingestion of chocolate⁶. In menstrual cycle, acne is reported most frequently as period-related hormonal breakouts --

are presents in the peri-menstrual phase^{7,8}. It is reported that acne is triggered or start worsening by different mechanisms of stress. There is a correlation between the stress and acne. According to the severity of stress levels and behavioral interventions the therapeutic approaches could be manipulated⁹. Although a common disease, there is lack of knowledge and there are many false beliefs and misconceptions in patients towards acne vulgaris so it holds major significance in treatment outcomes of acne patients. Very few studies have been conducted in Pakistan to assess cause, knowledge, beliefs and practices in patients with acne vulgaris¹⁰.

This study is being conducted in a remote area of Punjab with low socioeconomic status of the general population and there is a lack of local data. Gathering this data will help us to better understand the mindsets of the public in this part of Punjab and will help us to better guide and address the concerns of our patients, thus improving the compliance of patients to treatment and improving the treatment outcomes for the patients of acne vulgaris in general.

METHODOLOGY

This descriptive study was conducted using the non-consecutive purposive sampling technique at Department of Dermatology, Pak Red Crescent Teaching Hospital, Dina Nath Kasur, from 1st August 2021 to 31st January 2022. Sample size was calculated as 121 using previous reference studies, by keeping the confidence interval (CI) at 95% and 4.5% margin of error. After approval from Institutional Review Board and Ethical Committee and taking informed consent, a total of 121 patients fulfilling inclusion criteria were enrolled in the study. The diagnosis of Acne Vulgaris was made clinically by presence of any of the following skin lesions, 1- Comedones, 2-papules, 3-pustules, 4-cysts, 5-nodules and 6-acne scars by an experienced dermatologist.

Inclusion criteria included any patients aged between 12-40 years of either gender and exclusion criteria included patients with drug induced acneiform eruptions and those with any systemic

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diseases. Data was collected using a pre-tested, fully structured questionnaire with open and closed ended questions. Questionnaire was administered in local language after obtaining verbal consent. Data was entered in SPSS version 21 and numerical variables such as age and literacy rate were presented as means and Standard Deviation and categorical variables such as gender and knowledge of patients were analyzed as frequency and percentage. For Categorical Variables, the Chi-Square test was applied. A P-value of less than 0.05 was considered statistically significant.

RESULTS

The study was conducted on 121 patients of Pak Red Crescent Medical College/Teaching Hospital, Dina Nath.86 (71%) were females whereas 35(29%) were males. Mean age of patients in this study was 19 with SD of 3.3years.Majority of them 76 (63%) belonged to age group 12-20 years whereas 45(37%) belonged to 21-30 years of age group. Educational status of the patients participating in the study is show in Table-1. Regarding knowledge about causes and aggravating factors, majority of patients 65 out of 121(54%) are having poor knowledge while 46% patients are having good knowledge. Among those having poor knowledge, 57% belong to 12-20 age group (with a P-value of 0.2 and chi-square value 1.23), 57% belong to female gender having a P-value of 0.08 and 75% having poor knowledge were illiterate with a P-value of 0.02 which is statistically significant. As far as knowledge regarding causes of Acne is concerned (Table 2).

Table 1: Knowledge score about causes and aggravating factors with respect to age, gender and educational status

Age in year	Total	Good knowledge	Poor knowledge
12-20	76 (63%)	43%	57%
21-30	45 (37%)	49%	51%
Gender			
Male	35 (29%)	52%	48%
Female	86 (71%)	43%	57%
Educational Status			
Illiterate	4 (3%)	25%	75%
Primary	15 (12%)	27%	73%
Secondary	32 (27%)	28%	72%
Higher Secondary	36 (30%)	58%	42%
Graduation	34 (28%)	56%	44%

Table 2: Knowledge about causes and aggravating factors in patients with acne vulgaris

Data	Yes	No
Is acne an infection?	11(9%)	110(91%)
Is Acne an Inherited disease?	20(17%)	100(83%)
Is Acne contagious?	26(22%)	94(78%)
Acne is Aggravated by		
Eating oily food	89(74%)	31(26%)
Chocolates	81(67%)	40(33%)
Cosmetics	61(51%)	59(49%)
Facials	49(41%)	71(59%)
Summer season	94(78%)	26(22%)
Stress	36(30%)	84(70%)
Hormonal imbalance	55(46%)	65(54%)
Poor hygiene	82(68%)	38(32%)
burning stomach	94(78%)	26(22%)
Squeezing	89(74%)	31(26%)

Major sources of information in these patients were, family and friends in 65(54%) patients, followed by internet source in 28 (23%) patients, television in 16(13%) patients and beauticians in 14(12%) patients. Regarding general practices, results are shown in Table 3. Almost 60(50%) patients visited general practitioner in first 6 months to seek advice and 17(14%) patients visited in 7 to 12 months while there was huge delay in visiting a dermatologist. Only 32(28%) visited dermatologist in 1 year time period, 57(47%) consulted between 1-2 years and 30(25%) consulted even after 2 years.

Table 3: Percentage Prevalence with respect to Practices of acne patients towards acne vulgaris

Remedies	Yes	No
Use of Aloe vera gel	55(46%)	65(54%)
Applying Garlic on lesions	7(6%)	113(94%)
Applying Turmeric on lesions	9(8%)	111(92%)
Others	45(37%)	76(63%)
Repeated Face wash	68(56%)	53(44%)
Drinking excess water	77(64%)	43(36%)
Use of skin cleansers	100(76%)	41(34%)
Use of Betnovate cream	48(40%)	72(60%)
Use of Whitening cream	38(31%)	83(69%)

DISCUSSION

Acne is a very common skin condition that affects adolescents throughout the world. There are many factors causing this condition but increased excretion of sebum, the colonization of sebaceous ducts with Propionibacterium acne leads to inflammation and causes acne. There are a lot of misconceptions about acne. There is still lack of knowledge among people regarding acne. In this study, we found that females(63%) were more affected by acne than males (37%). These results were similar to a study conducted in Rawalpindi, Pakistan where 70% acne patients were females but in contrast to a study conducted in India where equal numbers of both genders suffered from acne.¹¹ Majority of them (63%) belonged to age group 12-20 years whereas 37% belong to 21-30 years of age group. A similar study conducted in Bahawalpur where 64% patients were between 15-20 years of age¹⁰. In India where 44% of the acne patients were of age 15-19 years¹². As far as source of information is concerned, our study revealed family friends (54%) to be the most common source of information, followed by Television(13%), Internet (23%) and Beautician (12%).

A study done by Tahir showed half of the patients got information from parents/friends, 18% from T.V and 14% from beauticians¹⁶ while Jerry et al showed one thirds patients got information from friends, 17.5% from T.V and 1.6% from beauticians. Regarding educational status, 3% patients were illiterate, 12% had primary education, 27% secondary, 30% higher secondary and 28% were graduates in our study, however another study done by Naima showed 17% graduate 55% matric and 13% illiterate¹⁰. Assessment of knowledge about causes and aggravating factors among study participants showed that out of 121 participants (45%) had good knowledge and (55%) had poor knowledge which is in contrast to the study conducted by Naima, which showed (86%) patients had good knowledge and (14%) had poor knowledge¹⁰. Results of Indian study done by Hulmani also comes in contrast to our study where 72% of acne patients had good knowledge about causes and aggravating factors of acne¹³.

Regarding assessment of knowledge about causes and aggravating factors of acne in our study, majority of the patients 74% considered oily food and 67% considered chocolate to be the cause of acne which was nearly similar to a study in India where 70% believed oily food to be the main causative factor¹². In Saudi Arabia where 52% considered oily food and 80% reported chocolate to be the cause of acne¹³. In our result 74% patients believed that squeezing is aggravating factors of acne, which is similar to the study conducted in India is 83%¹². Hulmani believed that squeezing, picking and rubbing were aggravating factors of acne which was very different from studies conducted in Pakistan 62%, Nepal (37%) and France (75%)^{10,14,15}.

In our study 30% patients reported that chronic stress might be a cause of acne. Studies done by Naima showed that 56% and Darwaish from Saudia Arabia revealed that 50% of the patients considered stress to be a cause of acne which is in contrast to our study. Our study showed that 41% patients believed that facials and 51% of the patients considered cosmetic use as aggravating factor which is similar to the studies conducted by Darwaish (53%) and Naima (56%) patients reported aggravation of acne by

cosmetics^{10,13}. On the contrary, a study conducted in India that (41%) and in Pakistan (16%) of patients showed lesser number of participants considering cosmetic use as an aggravating factor in Acne^{12,16}. In our study 17% of the patients believed that acne is a hereditary disease which is in contrast with the study where 38% genetic association was reported by patients in a study conducted by Tan¹⁷.

As far as attitude and practice towards acne is concerned, 63% of our patients visited local doctors and among those visiting dermatologist 28% visited in 1st year, 47% visited in 2nd year and 25% visited in 3rd year of illness which reflected a huge time period in seeking specialist advice. In our study 56% patients believed frequent washing of face would cure acne. Rehman showed that 75% of patients believed that face washing is the cure of acne¹⁷. In our study 40% patients use steroids for the treatment of acne whereas different medications were practiced by 74% patients in a study done by Hulmani while 53% patients practiced topical steroids for treatment of acne Rehman which is similar to our study^{11,17}. Sixty eight percent patient in our study believed that bad hygiene is believed to be the aggravating factor whereas in contrast to a study done by Brigitte showed more than 40% population believing that bad hygiene to be the most common causes of acne¹⁸. In our study majority of the patients (78%) believed that acne is caused by burning stomach and 22% thinks that it is a contagious disease. There is no data generated on these myths.

CONCLUSION

It is concluded that the present study showed patients suffering from acne vulgaris in this part of world had poor knowledge and practice accordingly which is unfavorable. Educational programmes and community-based health awareness programmes should be arranged to improve attitude and minimize the malpractices done by acne patients.

Conflict of interest: Nil

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