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Knowledge, Attitude and Practice towards Acne Vulgaris among Acne Patients of A Tertiary Care Centre in North India-A Cross Sectional Study

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Abstract | **Original Research Article**

Background: Acne vulgaris is the most common skin condition seen by the dermatologists. It is a chronic inflammatory disease of pilosebaceous unit characterized by seborrhea, comedones, papules, pustules, nodules, cysts and in some cases scars and keloids, which persist for rest of the life. Acne is a chronic disease, involving the face affecting more than 85% of the teenagers, as well as some adults However acne is more severe in males, it lasts for a longer duration in females. Acne patients are prone to low self-esteem, low confidence and social dysfunction which may lead to anxiety, depression, obsessive compulsiveness and sometimes suicidal ideation. The objectives of this study were to access the Clinical profile and gather knowledge about their beliefs, perceptions and practices of acne patients regarding their condition and their expectations about treatment. ***Material and methods:*** A cross sectional study was conducted on the patients of acne vulgaris coming to the skin and Venereology department, MMIMSR, Mullana, Ambala, during the months of Feb and March 2017. The study population comprises of 264 patients of either sexes and above the age of 13 years. The participation was voluntary and an informed consent was taken from all such patients. A pretested questionnaire and some validated scales were used to gather information. ***Results:*** The present study indicates that more than 80% of the patients fall in mild to moderate category. Of the 264 enrolled patients, 116 (43.9%) patients found to be with mild Severity (43.9%), 104 (39.4%) patients with Moderate severity and only 33(12.5%) patients were found to have severe degree of acne vulgaris. In the present study it was found that the awareness regarding the Acne vulgaris is very high and majority of the patients participated in study. They were either consulting the doctor (about 85%) or taking over the counter drugs from pharmacist (about75%) in the form of topical ointment. ***Data analysis*:** After all the data was collected, it was tabulated and analyzed by statistical software SPSS version 20.0 and findings were compared with the previous studies to suggest suitable recommendations. ***Conclusion:*** Present study concludes that the awareness regarding the Acne vulgaris is very high in the study population however in spite of being so common and well responsive to treatment; patients had poor practice and unfavorable attitude towards the acne vulgaris occurrence and management. So it is very important to highlight the myths and provide knowledge regarding the disease to the populace.

Keywords: Acne vulgaris, clinical profile, attitude, beliefs, perceptions and practices.

INTRODUCTION

Acne vulgaris is the most common skin condition seen by the dermatologists [1]. It is a chronic inflammatory disease of pilosebaceous unit characterized by seborrhea, comedones, papules, pustules, nodules, cysts and in some cases scars and keloids, which persist for rest of the life[2]. Acne is a chronic disease, involving the face affecting more than 85% of the teenagers, as well as some adults.[3]It is known to occur in adolescent age group suggesting a hormonal influence. Acne appears earlier in females suggesting a hormonal role. However acne is more severe in males. It lasts for a longer duration in females [13]. Acne patients are prone to low self-esteem, low confidence and social dysfunction which may lead to anxiety, depression, obsessive compulsiveness and sometimes suicidal ideation [4, 5]. There are effective therapies for acne and administration of these agents can cause an improvement in quality of life and psychological health.[6] Increased awareness and early intervention for the psychological and psychiatric

sequelae of acne can benefit patients. Acne is not a trivial disease, the physical, social and psychological morbidity associated with the disease can be profound and the quality of life in sufferers can be severely impaired [7,8].

The objectives of this study were to access the Clinical profile and gather knowledge about their beliefs, perceptions and practices of acne patients regarding their condition and their expectations about treatment.

AIMS AND OBJECTIVES 1) To study the clinical profile of Acne in Patients of acne vulgaris 2) To evaluate the belief, perceptions and practices in patients of acne vulgaris 3) To assess the self-esteem and psychological impact of acne in study population

MATERIALS AND METHODS

Study area: The study was conducted on the patients of acne vulgaris coming to the skin and Venereology department, MMIMSR, Mullana, Ambala.

Study period: The study was conducted for duration of 2 months from Feb to March 2017.

Study design: Cross sectional study.

Study population

The study population comprises of 264 patients of either sexes and above the age of 13 years attending the Skin and Venereology OPD at MMIMSR, Mullana, Ambala. The participation was voluntary and an informed consent was taken from all such patients.

Inclusion criteria

Patients of acne willing to participate in the study. Patients of age group of 13 years of age and above

Exclusion criteria

Patients below the age of 13 years

Study tools

- Clinical Proforma: The patients were assessed initially based on detailed history and clinical examination and findings were recorded in the proformas and relevant investigations done.
- Questionnaire: The questionnaire used in the study was designed by Dr Brigitte[9] in a similar study conducted in France in year 2008 and supported by French National Institute for Prevention and Health Education, Social affairs Department, Ministry of Health and the School for Parents and Educators.
- Acne Cardiff Disability Scale [10]: This scale was developed by Motley and Finlay in year 1989. Later this scale was modified by them in year 1992. The scale consists of questions evaluating patients' attitude, social life, public relations, perceptions toward acne etc. The scoring range from 0 to 3 with a minimum score of 0 and maximum score of 15. The higher the score, the more the quality of life impaired.
- Rosenberg Self Esteem Scale [11]: The scale is ten items like RT scale with items answered from strongly agree to strongly disagree. Scoring range from minimum of 0 to maximum of 3. After adding total score is determined. The higher the score the higher the self-esteem.
- Global Acne Grading System: The Global Acne Grading System Methods of measuring the severity of acne include simple grading based on clinical examination, lesion counting, and those that require complicated instruments such as photography, fluorescent photography, polarized light photography, video microscopy etc[12]. It measures the severity of acne based on clinical examination and lesion counting with minimum total score of 0 and maximum total score of 40. The acne is classified as none, mild, moderate, severe and very sever based on it.

Strategy: A total of 264 patients of either sex and above the age of 13 years were enrolled in the study. The patients were explained about the aims and objectives of the study. The participation was totally voluntary and an informed consent was taken from all the patients willing to participate in the study. A detailed medical history along with physical examination was undertaken and findings recorded in the proformas. Severity of acne vulgaris was graded by visual facial examination and also through use of Global Acne Grading System [12] (GAGS) and was recorded in a proformas. The GAGS scale was developed by Doshi *et al*.[12] To evaluate knowledge, beliefs, perceptions and practices prevalent in patients of acne vulgaris, questionnaire used by Dr Brigitte Dreno[9] (in a study conducted in France in year 2008 and supported by French National Institute for Prevention and Health Education, Social Affairs Department, Ministry of Health and the School for Parents and Educators) was used. The various parameters assessed in it, include patient assessment of disease, treatment and prognosis regarding treatment, time taken to achieve substantial improvement with appropriate therapy etc. To assess the self esteem parameters and psychological impact of acne on patients Acne Cardiff Disability Index[10] and Rosenberg Self Esteem Scale[11] (RSES). Acne Cardiff Disability Index scale is a modified version of Acne Disability Index which was developed in the year 1989 by Finlay and Motley and modified by them in year 1992. In these scale patients were questioned about their level of dissatisfaction, embarrassment caused due to acne, social inhibition, various relationships and anxiety etc.

RESULTS

Table-1: Clinical Profile of Acne Patients

Acne Severity	No. (n=264)	%
Mild	116	43.9%
Moderate	104	39.4%
Severe	33	12.5%
Don't know	11	4.2%

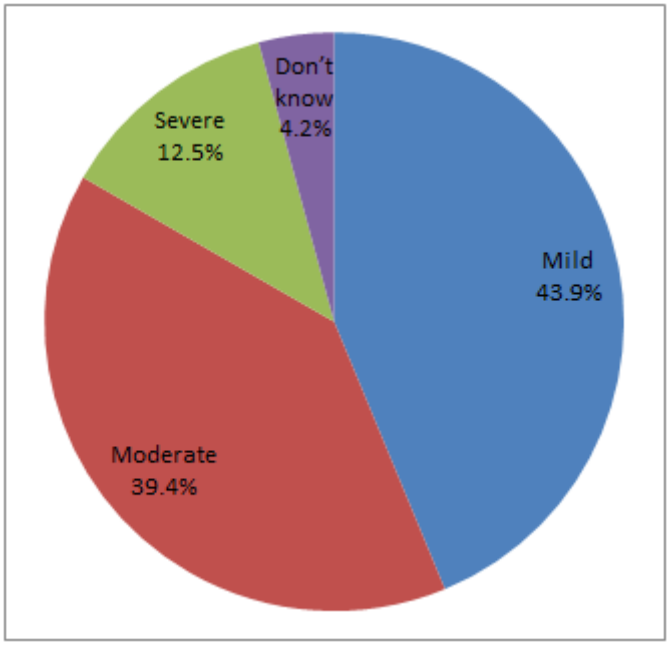

Fig-1: Diagrammatic representation of Clinical Profile of Acne Patient

Table 1: The present study indicates that more than 80% of the patients fall in mild to moderate category. Of the 264 enrolled patients, 116 (43.9%) patients found to be with Mild Severity (43.9%), 104 (39.4%) patients with Moderate severity and only 33(12.5%) patients were found to have severe degree of acne vulgaris.

Table-2: Knowledge and perception regarding the Acne vulgaris:

	Strongly disagree N (%)	Mildly disagree N (%)	Neutral N (%)	Tend to agree N (%)	Strongly agree N (%)
It is normal for teenagers to have acne	20 (7.6)	58 (22.1)	6 (2.3)	100 (38.2)	78 (29.8)
Acne is a disease	28 (10.7)	74 (28.2)	2 (0.8)	110 (42)	48 (18.3)
Acne is due to puberty	32 (12.2)	40 (15.3)	0 (0)	110 (42)	80 (30.5)
Acne due to hormonal cause	16 (6.1)	46 (17.6)	2 (0.8)	114 (43.5)	84 (32.1)
Acne is due to diet	50 (19.1)	30 (11.5)	6 (2.3)	112 (42.7)	64 (24.4)
Acne is related to one's mood	54 (20.6)	74 (28.2)	0 (0)	54 (20.6)	80 (30.5)
Acne is inherited from one's parents	96 (36.6)	64 (24.4)	0 (0)	60 (22.9)	42 (16)
Acne disappears spontaneously as one gets older	72 (27.5)	78 (29.8)	2 (0.8)	80 (30.5)	30 (11.5)
Acne transmitted by close physical contact	116 (44.3)	82 (31.3)	6 (2.3)	34 (13)	24 (9.2)

Table 2 It was found that most of the patients (68%) believe that the acne is normal in teenagers, while 60.3% consider it as a disease, 72.5% think due to puberty, 67.1%consider it due to diet, 51.1% associate acne with mood, about 42% patients think acne spontaneously appears as one's get old and few patients

about 22% are also of view that it can be transmitted by close physical contacts. Hormonal changes were also considered as causative factor for Acne vulgaris by 2/3 of the study population.

Table-3: Beliefs regarding Acne vulgaris among patients

	Yes N (%)	No N (%)	Don't Know N (%)
Acne is an infection	122 (46.6)	58 (22.1)	82 (31.3)
Acne and warts are same	54 (20.6)	182 (69.5)	26 (9.9)
Acne and spots are same	148 (56.5)	78 (29.8)	36 (13.7)
Girls Have more acne than boys	136 (51.9)	78 (29.8)	48 (18.3)

Table 3 The study indicates that only 122 patients which constitute about 47% of the total study population were of view that acne vulgaris is an infection. More than 50% think acne is more common in girls and about 20% could not differentiate warts and acne.

Table 4: Knowledge and attitude regarding the effect of Life style factors on Acne vulgaris

Effect on Acne by	Worsen N (%)	Improve N (%)	Don't affect N (%)	Don't know N (%)
Chocolate & snacks	212 (80.9)	2 (0.8)	24 (9.2)	24 (9.2)
Alcohol	116 (44.3)	8 (3.1)	28 (10.7)	110 (42)
Washing frequently	64 (24.4)	160 (61.1)	22 (8.4)	16 (6.1)
Fatty foods	192 (73.3)	14 (5.3)	30 (11.5)	26 (9.9)
Dairy products	80 (30.5)	40 (15.3)	106 (40.5)	36 (13.7)
Not washing face	208 (79.4)	18 (6.9)	24 (9.2)	12 (4.6)
Menstrual cycle	161 (61.5)	16 (6.1)	16 (6.1)	69 (26.3)
Mood	168 (64.1)	22 (8.4)	28 (10.7)	44 (16.8)
Stress	180 (68.7)	6 (2.3)	28 (10.7)	48 (18.3)
Repeatedly touching or squeezing spots	204 (77.9)	24 (9.2)	10 (3.8)	24 (9.2)
Cigarettes	151 (57.6)	9 (3.4)	17 (6.5)	85 (32.4)
Pollution	226 (86.3)	16 (6.1)	6 (2.3)	14 (5.3)
Sunlight	196 (74.8)	15 (5.7)	24 (9.2)	27 (10.3)
Make up	218 (83.2)	18 (6.9)	14 (5.3)	12 (4.6)
Physical activity	149 (56.9)	46 (17.6)	32 (12.2)	35 (13.4)
Overweight	168 (64.1)	16 (6.1)	28 (10.7)	50 (19.1)
Cannabis	136 (51.9)	6 (2.3)	18 (6.9)	102 (38.9)
Sweating	190 (72.5)	36 (13.7)	6 (2.3)	30 (11.5)
Any other	92 (35.1)	4 (1.5)	10 (3.8)	156 (59.5)

Table 4: In this study majority of the respondents assumed that consuming chocolates/spicy foods (>80%) and oily foods (>60%), pollution (86.3%), makeup (83.2), overweight (64.1), sweating (72.5%), not washing face (79.4%), repeatedly touching or squeezing (77.9%) were the cause of acne in one way or other. Whereas about 61% of the participants admit washing face regularly helps to prevent and alleviate acne vulgaris.

Table-5: Practices and attitude by Acne patients during the course of disease

Acne need to be treated	Yes N (%)	No N (%)	Don't Know N (%)
With cosmetic methods?	66 (27.7)	160 (67.2)	12 (5)
With products purchased in general stores?	46 (19.3)	180 (75.6)	12 (5)
With personal hygiene products?	208 (87.4)	16 (6.7)	14 (5.9)
With disinfectants (alcohol, "Hexomedine®")?	48 (20.2)	164 (68.9)	26 (10.9)
With ointments provided by a pharmacist?	178 (74.8)	44 (18.5)	16 (6.7)
With topical medicines prescribed by a doctor?	202 (84.9)	24 (10.1)	12 (5)
With oral medicines prescribed by a doctor?	200 (84)	26 (10.9)	12 (5)
By going to a psychologist?	72 (30.3)	150 (63)	16 (6.7)
By having a healthy lifestyle?	196 (82.4)	34 (14.3)	8 (3.4)
By alternate therapy?	160 (67.2)	54 (22.7)	24 (10.1)

Table 5: In this study it was noticed that 84% of the acne patients wanted to seek the treatment from the doctor, whereas 74.8% admitted taking over the counter drugs from pharmacist in the form of topical ointment. Most of the patients believed that Healthy life style 82.4%, and personal hygiene 87.4%, was the main preventive way to avoid acne vulgaris. There was no significant of difference found in the preference for topical ointment over oral medicine. Cosmetic products, Products from general store and disinfectants were used by about 20% of acne patients participated in study. Nearly 30% of the patient contacted the psychologist for the related problems.

Data analysis

After all the data was collected, it was tabulated and analyzed by statistical software SPSS version 20.0 and findings were compared with the previous studies to suggest suitable recommendations.

DISCUSSION

Acne is a multi-factorial condition, commonly seen in adolescents all over the world. Increased sebum excretion, colonization of the pilosebaceous duct with Propionibacterium acnes and resultant inflammation play a critical role in pathogenesis. A lot of misconceptions surround acne. The knowledge about acne is still lacking with unfavorable attitude and wrong practices. It becomes essential to know the patient's knowledge about acne as it plays an important part in the management and better compliance.

Clinical Profile: A degree of acne affects nearly all people. In this study severity of acne was found to be moderate in 39.6% and severe in 12.9% patients respectively. Similar studies by Law MPM et.al and Wei B *et al*. [16,17] have reported moderate to severe Acne vulgaris in 15–20% of young people.

Knowledge towards acne: The knowledge regarding life style factors was assessed by asking questions regarding their dietry habits, physical activities and their social behavior. It is a well-known fact that there is no relation between diet of any kind and acne, however, majority of the respondents in our study were not aware of this fact and believed that consuming chocolates/spicy foods (>80%) and oily foods (>60%) were the cause of acne in one way or other. This is in comparision with the results found in a study done by Darwish MA *et al*. where nearly 80 and 30 percent opined that consuming chocolates or spicy foods caused acne. Similarly 54% in the same study also believed that oily foods can cause acne [14]. In another study by *Hulmani M et al.* [15] the patients believed that consuming chocolates/spicy foods (63%) and oily foods (70%) cause acne.

The acne disease developing in adulthood more than other people; possible reasons for this are diet, lifestyle and more synthetic hormones in our environment (foods, water, plastics and medication)[18]. With the onset of puberty, the human body starts to produce hormones called androgens or male sex hormones, increasing in both boys and girls enlargement and over stimulation of the sebaceous glands which are found in the hair follicles or pores of the skin [19]. These androgens cause the extra sebum or oil that produces by the sebaceous glands mixes with dead skin cells and bacteria on the skin's surface and this blocks pores. Within the blocked pore, bacteria multiply and cause inflammation. All of this leads to the lesions that are associated with acne [20]. Similarly in the present majority of the patients (75.6%) agreed that Acne vulgaris was related to hormonal imbalance.

Several reports have been published regarding the association of increased level of cortisol and emotional stress [21]. In the present study, 29% of the patients believed that acne can be aggravated by stress. In a study done by *Hulmani M et al.* [15], the knowledge regarding the association with stress was 51%. Similar findings of aggravation have been reported in majority of the study subjects in number of studies [4, 14]. In the present study about 61% of females' associated Acne vulgaris with Menstrual period, the possible explanation is hydration-induced cyclical narrowing of the pilosebaceous orifice between days 16-20 of the menstrual cycle. It was seen that Smoking (57%), pollution, Sunlight and makeup (>80%) were also reported to have a significant casual association with the acne vulgaris.

Attitude and practice towards acne: In the present study it was found that the awareness regarding the Acne vulgaris is very high and majority of the patients participated in study. They were either consulting the doctor (about 85%) or taking over the counter drugs from pharmacist (about75%) in the form of topical ointment, which is similar to the results in a study done by Hulmani M *et al*. [15], where over the counter medications were practiced by 74% and in same study 46% were in favor of consulting a doctor and this attitude is in line with the practice where 45% consulted a dermatologist when they had acne last time. Most of the patients about 80-88% were of view that Healthy life style and personal hygiene is the main preventive way to avoid acne vulgaris.

CONCLUSION

Present study concludes that the awareness regarding the Acne vulgaris is very high in the study population however in spite of being so common and well responsive to treatment; patients had poor practice and unfavorable attitude towards the acne vulgaris occurrence and management. So it is very important to highlight the myths and provide knowledge regarding the disease to the populace.

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