

KNOWLEDGE AND UNDERSTANDING OF ACNE VULGARIS AND ITS PSYCHOLOGICAL EFFECTS ON STUDENTS OF HAMDARD UNIVERSITY KARACHI, PAKISTAN

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ABSTRACT: Acne is a chronic inflammatory infection of pilosebaceous glands. A large number of studies analyzing and disputing skin conditions, acne patients still struggle with major psycho-social issues, knowledge gaps, and a lack of awareness. The research aimed to evaluate the prevalence, knowledge, understanding, and psychological impact of medical students who have acne. This is a cross-sectional, institutional, observational study that, after receiving approval from Hamdard University's ethics council, the study conducted at the University Karachi main campus from May 1 through August 31, 2023. We collected each participant's information using questionnaire survey forms after verbal consent. Statistical Analysis for Social Science, version 26.0, was utilized for the data analysis. The majority of the study subjects belonged to the age group 19-24 years. The study showed that 55% had good knowledge about acne awareness, 87% believed that hormonal disturbances, 82% by stress, 88% acne affected by diet and cosmetics, 89% thought weather and dust cause acne vulgaris, 80% about aggravating factors as it worsens by squeezing/picking/rubbing and 64% reported family history of acne vulgaris. 72% acknowledge that the appearance of acne hurts individuals in their community, and 66% of participants express feelings of sadness or depression when they experience acne. In the aspect of practices and perceptions, 53% consult doctors, 67% use herbal medicine, and 35% self-prescribed medication. In terms of Unani medicine, acne was more common in Safravi temperament. Despite having adequate information, the present study showed acne was a highly widespread issue among medical students with bad practices and an unpleasant attitude.

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INTRODUCTION

The skin condition known as acne vulgaris is characterized by persistent inflammation that is brought on by congestion in the pilosebaceous unit, which involves dead cells and sebaceous discharge from the skin (1). People with acne have open and closed comedones, papules, pustules, nodules, cysts, and sometimes scars (2). Studies show that acne is strongly inherited; it is also affected by four other factors: increased sebum production, follicular epidermal hyper-proliferation, Cutibacterium acnes (formerly known as Propionibacterium acnes), colonization of follicles, and inflammatory responses (3).

Numerous investigations into the etiopathogenesis of acne vulgaris have shown the influence of genetics, UV exposure, stress, hormones, and diet. More evidence suggests that diets such as high in dairy items, protein, and glucose (skim milk) are associated with an increased risk of developing acne. Studies have linked acne's extremely detrimental effect on mental health to a higher frequency of mood disorders, psychiatric hospitalizations, school absences, unemployment, and suicidality (4).

This disorder is among the most common disorders worldwide, specifically affecting

9.4% of the global population (5). The most extensive epidemiological study data indicates that the prevalence of acne in the 12-25-year-old age group is approximately 85%, making it one of the most common skin disorders in the adolescent age group (6). Acne, primarily affecting teens and young adults between the ages of 13 and 35, accounts for approximately one-fifth of dermatologist visits in Pakistan (7).

Untreated acne can result in scarring. The face is one of the most common places for acne lesions, which causes the patient significant distress that is typically unrelated to the severity of the condition. The psychological and social effects of acne, even in minor cases, have motivated intense efforts to develop a good solution. The disease leaves behind far more severe and permanent psychological and social wounds than it does physical ones. This illness causes significant psychological anguish and stigma for young individuals. According to Uhlenhake et al., acne patients experience depression three times more frequently than the general population because of the disease's scarring, which can lead to anguish, depression, and suicidal thoughts. As a result, it is critical to determine how widespread acne awareness is and what kind of psychological effects it has (8, 9).

The World Health Organization (WHO) defines self-medication as "the intermittent or continuous use of medication prescribed by a physician for chronic or recurring diseases or symptoms, or the use of medicinal products by the consumer to treat self-recognized disorders or symptoms." University students frequently self-medicate for acne due to their lack of pharmacological understanding and the influence of senior students. Antibiotic misuse, along with other non-prescription medication abuse, is a regular occurrence. Antimicrobial resistance and other negative outcomes can result from

this misuse of medications. Students who are informed about drug use, potential side effects, and antibiotic resistance will be less likely to self-medicate, which will ultimately enhance their health's prognosis (10,11).

Many studies on acne vulgaris are currently being done on medical students from various populations (12,13). In Pakistan, very little research has been done to evaluate the causes, knowledge, attitudes, and practices of acne vulgaris patients (14). Despite significant advancements in dermatology, only a limited amount of information about this bothersome condition is currently available and given to the adolescent age group. Therefore, the purpose of this study was to investigate the knowledge, attitudes, and practices of Pakistani medical university undergraduate acne patients.

METHODOLOGY

The research study was a cross-sectional design to collect data during a period between May and August 2023 conducted at Hamdard University Karachi. To choose participants, a non-probability convenience sampling technique was used. The sample consisted of 100 students who were currently experiencing acne lesions. Data was collected through a structured questionnaire, specifically designed to gather information on three key aspects: acne knowledge and awareness, psychological impact, and practices and perceptions regarding acne vulgaris. Participants were approached at the Hamdard University campus, and every participant gave their informed consent. The questionnaire was administered through face-to-face interviews to ensure data quality and to clarify any doubts or concerns raised by participants. Data collected from the questionnaires were coded and entered into a statistical software package (e.g., SPSS) and (MS Word) for descriptive statistics, such as frequencies and percentages, were utilized to summarize the data. Ethical

approval was acquired from the Institutional Review Board of Hamdard University before data collection. Every participant received guarantees about the privacy of their answers and their freedom to leave the study at any moment without facing repercussions. The study was limited by the use of a convenience sample, which might not accurately depict the broader population. The study did not investigate the specific type or severity of acne lesions in the participants, which could have provided additional insights. Based on the findings, recommendations can be made for educational programs to enhance acne awareness and for interventions to address the psychological impact of acne among students.

RESULTS

1) KNOWLEDGE AND AWARENESS ABOUT ACNE VULGARIS:

The data presented in Table no 1 provides valuable insights into the perceptions and experiences of individuals regarding acne vulgaris. In this study, a sample of 100 students was surveyed to gather information about their skin problems, experiences with acne vulgaris, and their beliefs regarding the causes and management of this dermatological condition. Firstly, when asked if they had any skin problems, 66 participants responded positively, indicating that a majority of the surveyed individuals had encountered some form of skin issue. Moving on to acne vulgaris specifically, 55 participants acknowledged having this problem, while 45 did not. This suggests that a significant proportion of the participants in the sample had experienced acne vulgaris. Exploring potential factors contributing to acne vulgaris, a notable finding is that 64 participants reported a history of acne vulgaris in their family, suggesting a genetic or hereditary component in some cases. Moreover, a substantial majority of participants believed that hormonal

disturbances 87%, stress 82%, and diet and cosmetics 88% played roles in the development or exacerbation of acne vulgaris. These perceptions align with existing medical knowledge, as hormonal changes, stress, and dietary factors can indeed influence acne vulgaris.

The role of weather and dust could affect 89%, lack of skincare 88% and the nature of skin type such as dry, oily, and sensitive were 96%. Interestingly, a significant number of participants 80% thought that infections could contribute to acne vulgaris, which highlights the perceived connection between microbial factors and acne development. Additionally, a substantial portion of respondents 80% recognized that behaviors like squeezing, picking, or rubbing the affected areas could worsen acne vulgaris, emphasizing the importance of gentle skincare practices. Notably, 50% believed that acne vulgaris is contagious, indicating some misconceptions about the condition's transmissibility. Finally, a majority of participants 88% expressed optimism about the curability of acne vulgaris, suggesting that they believe effective treatments are available. In summary, the data from this survey reveal a range of beliefs and experiences related to acne vulgaris among the surveyed individuals. These findings provide valuable insights into public perceptions of this common skin condition and underscore the importance of education and awareness campaigns to dispel misconceptions and promote effective acne management.

2) PSYCHOLOGICAL IMPACT:

The survey data presented in Table no 2 offers valuable insights into the psychological impact of acne on individuals within a community. It provides a snapshot of the perceived societal and personal consequences of acne, shedding light on how this common skin condition influences various aspects of people's lives. Firstly, the

majority of respondents 72 out of 100 acknowledged that the appearance of acne hurts individuals within their community. This finding suggests that acne can be a visible and stigmatized condition, leading to social consequences that extend beyond individual experiences. Regarding the impact of acne on personal relationships and marriage, the data reveals a split opinion, with 50 respondents agreeing that acne affects marriage, while the other 50 respondents did not perceive a direct link. This division underscores the complex interplay between self-esteem, body image, and interpersonal relationships when it comes to the effects of acne on individuals' lives. Furthermore, the survey delves into the emotional toll of acne, with 66% expressing feelings of sadness or depression when they experience acne. This highlights the significant psycho-social burden that acne can impose on individuals, potentially affecting their overall mental well-being. In terms of academic and professional aspects, 73% felt that the appearance of acne hurt their job and study, while 27% of respondents did not perceive such an impact. This divergence in responses indicates that the influence of acne on one's educational and career pursuits varies widely among individuals. Lastly, 42% admitted to feeling socially ashamed when affected by acne, emphasizing the self-consciousness and potential isolation that can result from this condition. The remaining 58% did not report such feelings, suggesting a range of emotional responses to acne within the surveyed population.

3) PRACTICES AND PERCEPTIONS OF ACNE PATIENTS TOWARD ACNE VULGARIS:

Table no.3 survey results provide valuable insights into the practices and behaviors of individuals when faced with acne, shedding light on their responses to this common skin condition. When respondents were asked about their actions when they get acne, a

noteworthy finding is that a substantial number, 67% reported using home or herbal remedies. This suggests that many individuals seek alternative or natural solutions for managing their acne. Additionally, 43% consult dermatologists, indicating that a significant proportion of respondents recognize the importance of seeking professional medical advice. However, 35% self-prescribe medications, which may indicate a level of self-reliance in managing their condition. Intriguingly, a small percentage, just 6% indicated that they do nothing when they have acne, possibly reflecting a lack of awareness or urgency to address the issue. Regarding skincare routines, a significant majority of respondents practice regular face washing (83%). This is a positive hygiene habit that is commonly recommended for acne management. Moreover, 74% of respondents reported drinking water as part of their skincare routine and 62% emphasized maintaining a healthy diet. These practices align with the conventional wisdom that a balanced diet and proper hydration can contribute to overall skin health. Conversely, a small but notable portion (6%) indicated they do nothing in terms of skincare when they have acne. The question of attempting to remove acne pimples by squeezing them revealed that 53% of respondents admitted to this behavior. This practice, while tempting for many due to a desire to address the appearance of acne, is generally discouraged by dermatologists as it can lead to scarring and worsen the condition.

4) TEMPERAMENT EVALUATION

The survey was collected from faculties of Hamdard University and Shifa-ul-Mulk Hospital (BEMS graduate) which revealed their temperament. Acne vulgaris is common in Saffavi temperament as shown in table no.4.

DISCUSSION

Adolescents worldwide are afflicted with acne, a relatively prevalent skin ailment. Acne is caused by a variety of factors, including increased sebum excretion and propionibacterium acne colonization of the sebaceous ducts, which promotes inflammation. Acne remains a topic about which people are still ignorant. This study evaluated the knowledge, attitudes, and practices of acne in 100 acne sufferers. According to the study, 83% of the 100 patients were female and 17% were male. Eighty-one percent of the patients were in the 19–24 age range. When it came to the assessment of the patient's knowledge of the causes and aggravating factors of acne, the majority of them (88%), as reported by a study conducted in India, believed that diet, specifically, fatty food was the primary cause of acne (15). This finding was almost identical to that of the Indian study. Similar to a discovery reported by Ganga et al., where 96% of the participants thought that oily skin is an aggravating factor for acne (16), our study demonstrated that 94% of the acne patients thought that oily skin was the cause of acne.

Research has indicated that long-term stress may contribute to acne because it increases the release of androgens and cortisol. Our study found that 82% of patients believed stress to be a cause of acne, whereas Darwaish's study from Saudi Arabia found that 50% of patients believed stress to be a cause of acne (17). It was found that 80% of respondents thought that squeezing, picking, or rubbing aggravated acne, which was significantly different from a study done in France that found 75% of respondents agreed with this statement (18). Regarding the correlation between cosmetic usage and an increase in acne, our study revealed that 88% of patients identified cosmetic use as an exacerbating factor. Eighty percent of research participants reported feeling depressed after getting pimples. Regarding

self-care, our study showed that 43% consult the doctor, 37% self-prescribe medication, 67% apply herbal medicine, 83% use regular face wash, 74% drink water, 62% eat a healthy diet and 6% do nothing. In conclusion, the survey results underscore the multifaceted nature of acne's impact, encompassing societal, emotional, and practical dimensions. The survey results highlight the diverse responses and practices individuals adopt when faced with acne. While some seek professional help and adhere to recommended skincare routines, others turn to home remedies or even attempt to manage the condition independently. Acne has profound effects on individuals' self-esteem, relationships, and daily life, as reflected in the responses of the surveyed individuals. These findings emphasize the importance of providing accurate information and guidance on effective acne management to promote healthy skin care practices and minimize potential complications associated with self-treatment, holistic support, awareness, and mental health considerations for those affected by acne, as well as the need for community education to promote understanding and reduce the stigma associated with this common skin condition.

CONCLUSION

These findings indicate a mix of awareness and misconceptions regarding acne management. While many individuals seek professional advice and practice good hygiene, there was also a significant portion engaging in potentially harmful behaviors like self-prescribing medications and attempting to squeeze pimples. These insights underscore the importance of comprehensive education about acne management, emphasizing evidence-based practices and discouraging harmful behaviors. Additionally, promoting awareness of the psychological and social impact of acne is crucial to providing holistic

support for those affected by this common skin condition. In summary, the survey conducted among university students at Hamdard University provides valuable information about the knowledge, attitudes, behaviors, and perceptions related to acne vulgaris. This research could serve as a basis for developing targeted interventions and educational programs to improve acne awareness, reduce stigma, and enhance the overall well-being of individuals dealing with acne. Further studies and initiatives in this area can contribute to better acne

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management and a healthier outlook for affected individuals.

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Declaration of Interest

The authors declare no conflict of interest.

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Table 1: The survey on knowledge and awareness about acne vulgaris

Questions	Yes	No	Total
Do you have any skin problems?	66	34	100
Do you have an acne problem?	55	45	100
Is there a history of acne vulgaris illness in your family?	36	64	100
Do you think that hormonal disturbances play a role in having acne vulgaris?	87	13	100
Do you think that stress causes acne vulgaris?	82	18	100
Do you think that diet affects acne vulgaris?	88	12	100
Do you think cosmetics affect acne vulgaris?	88	12	100
Is there a role of weather and dust to cause acne vulgaris illness?	89	11	100
Is there a role of lack of skin care to cause acne vulgaris?	80	20	100
Is there a role of the nature of skin such as dry, oily, and sensitive to cause acne vulgaris?	96	4	100
Do you think that infections cause acne vulgaris?	80	20	100
Do you think that worsening by squeezing/picking / rubbing plays a role in having acne vulgaris?	80	20	100
Do you think that acne vulgaris is contagious?	50	50	100
Does acne is a curable disease?	88	12	100

Table 2: The psychological impact of acne on university students

Questions	Yes	No	Total
Is the appearance of acne hurting people in the community?	72	28	100
Does acne affect marriage?	50	50	100
Do you feel sad/depressed when you get acne?	66	34	100
Is the appearance of acne hurting your job and study?	27	73	100
If you have acne vulgaris, do you feel socially ashamed by being affected?	42	58	100

Table 3: Practices and perceptions of acne patients toward acne vulgaris

Questions	Yes	No	Total
What do you do when you get acne?			
Consult to Dermatologist?	43	57	100
Self-prescribed medication?	35	65	100
Used home / herbal remedies?	67	33	100
Do nothing?	06	94	100
What skincare routine do you practice when you have acne?			
Regular face wash?	83	17	100
Drinking water?	74	26	100
Eating healthy diet	62	38	100
Do nothing?	06	94	100
Do you try to remove the acne pimples by squeezing them?	53	47	100

Table 4: Temperament evaluation among acne students of Hamdard University

Temperament	Total	Sum
Damvi (sanguinous)	17	100
Balghami (phlegmatic)	25	
Safravi (bilious)	52	
Saudavi (melancholic)	6	