



Assessment of Skin Care and Cognition of Acne among Undergraduate Medical Students

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Abstract

Introduction: Acne vulgaris is a chronic inflammatory disorder affecting the pilosebaceous unit, typically following a prolonged course. It is commonly triggered during adolescence by Cutibacterium acnes, a bacterial species, under the influence of normal circulating levels of dehydroepiandrosterone. This foundational knowledge is crucial for providing the informed and empathetic care to the patients. To fulfil this role effectively, it is imperative that medical students possess

a comprehensive understanding of acne and its treatment.

Objective

- To evaluate facial skin care routine among the Medical undergraduate students.
- To assess knowledge and perception of acne among Medical undergraduate students.

Materials & Methods

Source of data: It is a hospital based cross sectional study. The study was conducted in the month of August 2023. This study is conducted using a digital

questionnaire with 5 sections including Knowledge of acne, Attitude towards acne, Skin care behaviour among medical undergraduates, Factors influencing skin care behaviour and Treatment behaviour towards acne. Ethical committee clearance was obtained prior to the study.

Results: Among the 87 participants, 33 were males and 54 were females. Despite being medical students, most did not know about the different types of acne scars, although their general knowledge regarding acne was good. Also very few students were practicing a proper facial skincare regimen, and only a small number applied sunscreen daily. Most students remained uncertain whether prescribed medications or home remedies were more effective for treating acne. This uncertainty is understandable given the significant influence of social media platforms on their perceptions and decisions regarding skincare.

Conclusion: The results from our study are just a glimpse into the situation across thousands of medical colleges worldwide. Proper guidance can significantly aid both students and dermatologists in reducing the burden of acne vulgaris treatment.

Keywords: Acne, Sunscreen, Medical Students

Introduction

Acne Vulgaris is a common chronic inflammatory skin disease, with a prevalence of about 80% among adolescents and adults. It is commonly found in adolescent males, while in the post-adolescent period, it is more frequent in females [1].

Multiple factors which is believed, involves the formation of acne such as fatty foods, hormonal, environmental, immunological, and genetic factors. It is of great importance that adolescents with acne has to be conscious about the factors which aggravates or

ameliorate acne and seek medical help on time, thereby preventing severe clinical manifestations and thereby leading to consequences, such as scarring and costly treatments. On the other hand, gaining a better knowledge of adolescents' beliefs about acne is also important for treatment strategy as well as for treatment compliance and adherence to it [2]. There is an overall prevalence of self-reported acne in adolescents/young adults. [3] Acne could be due to hormonal prevalences which is usually characterized by irregular cycles, deepened voice. Acne in these individuals would be usually very severe and would be more difficult to treat. Even though acne is a very common dermatological condition, most of the medical students should need to be aware of the knowledge of acne. Acne is formed when the oil which normally lubricates the skin gets trapped in and forms as blocked oil ducts, thereby resulting in what we know as open comedones, closed comedones, papules and pustules on the surface of skin. Sometimes, it also includes deeper skin lesions thereby producing as nodules. [4]

The severity of the acne can be graded as Grade I – mild (comedones and occasional papules), Grade II -moderate (predominantly papules and few comedones and pustules), Grade III – severe (predominantly pustules, nodules and abscess), Grade IV -nodulocystic (mainly consisting of cysts and wide spread scarring) [5].

Moderate to severe acne lesions can leave a post inflammatory hyper pigmentation or an atrophic scar which can affect the quality of life and lead to much reduced self-esteem, and less social interaction with others.[6] Usually there are different type of scars which normally termed as ice pick scars (long and narrow scar) , rolling scar (it gives the skin a rolling or undulating appearance) , box scar (which produces oval

to round depression). Thereby proper knowledge among medical students is necessary in providing a better treatment care for the future.

It was noted that Psychological issues such as dissatisfaction with appearance, embarrassment, self-consciousness, lack of self-confidence, and social dysfunction such as reduced or avoidance of social interactions with friends and opposite gender, and reduced employment opportunities have been documented. [7]

The psychological impact of the skin issues primarily an attributable appearance of the condition rather than its symptoms. Earlier studies have shown that while the pain and pruritus which accompanies the acne were occasionally bothersome for some people, especially women, it is believed that their appearance-related problems stemmed from the creation of a social media idea of flawless skin. As a result, it is widely acknowledged that social media can influence an individual's decision to seek medical treatment. Thereby the idea of accepting less than the perfect skin is being overlooked, with individuals who suffer from flawed or troubled skin facing stigmatization and also causing a stigmatization as well as causing pressure and making it has a characteristic feature in life. [8]

Therefore, it is understandable that acne vulgaris can have major psychological and social consequences for individuals who are dealing with it, as it can last for years and can also leave permanent scars on the skin despite treatment [9].

Despite the established therapy, most of the patients do not seek dermatologists help for their condition and rely mostly on self-medication. Acne Vulgaris is on top of the list of the most common chronic skin problems that stimulate self-medication. Individuals seek knowledge

about acne from a variety of sources which includes family, friends and social media. Social media has become a prominent platform to obtain knowledge for several years now thereby also influencing a person's self-medication [10]. It was found out that acne is estimated to affect 9-4% of the global population [11]. Most used social media platforms were YouTube and Instagram for acne treatment recommendation. [12]

In essence, studying skin care behaviors and acne knowledge is vital for deepening our understanding of acne, refining diagnostic and treatment approaches, and creating more effective products that improve quality of life. This research also plays a key role in advancing public health initiatives. The insights gained from the study conducted among young medical undergraduate students carry important implications for their health and well-being. These findings provide a foundation for evidence-based practices and targeted interventions that can benefit individuals with acne-prone skin, ultimately contributing to better overall skin health. Thereby this study aims in evaluating knowledge, perception and skin care routine among medical undergraduates.

Aims and Objectives

1. To evaluate skin care routine among the Medical undergraduate students.
2. To assess knowledge and perception of acne among Medical undergraduate students.

Materials and Methods

This is hospital based Qualitative study. This study is conducted via digital questionnaire at A.J Institute of Medical Science, Mangalore. On the basis of the study conducted Chidinma E. et al assuming $P=95.3\%$ with 95% Confidence Interval, 10% absolute allowable error(L), the sample size estimated for the study is 72 .

Further assuming 10% non-response rate, the final sample size estimated for the study is 79.

Inclusion Criteria

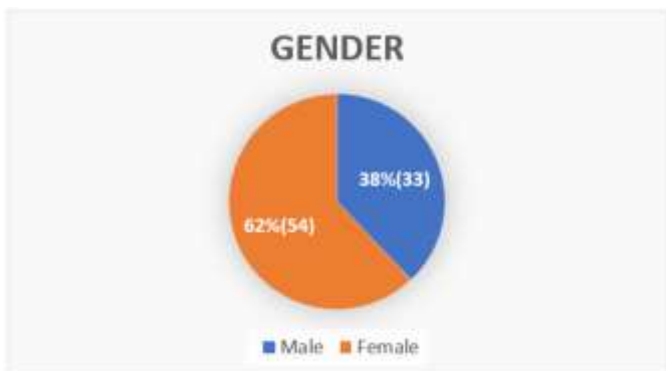
1. Undergraduate Medical Students at AJ Institute of Medical Sciences, Mangalore.
2. Above 18 years of age.
3. Willingness to give consent for the study.

Exclusion Criteria

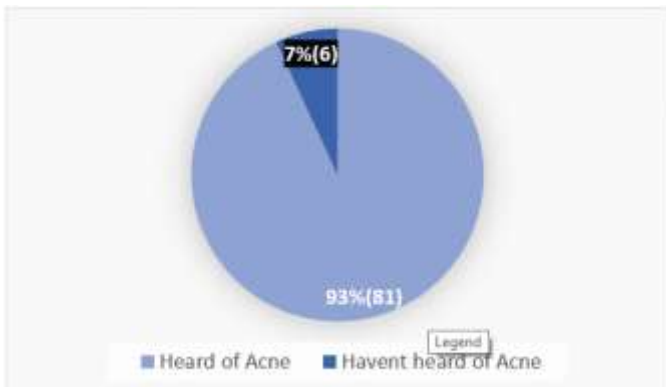
1. Age <18years.
2. Unwilling to give consent for the study.

Results

A total of 87 participants were enrolled in the study. Only after getting the consent an electronic questionnaire was sent to them. Among 87 undergraduate medical students 33 are males and 54 are females (Graph 1).



Graph 1: Depicts the Gender Distribution Surprisingly 7% of medical undergraduates haven't heard of what acne is (Graph 2).

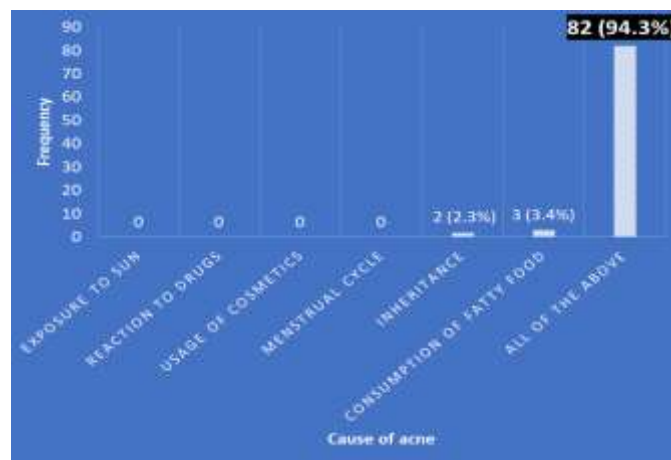


Graph 2: Knowledge of Acne

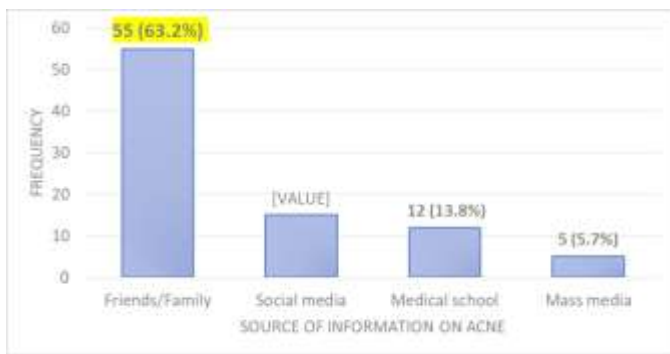
Based on the results of the distribution of participation, around 49.4% of respondents knew that acne is a chronic inflammatory skin condition, of which 55.2% understood what black and white comedones are. About 9.2% of medical undergraduate students knew what ice pick, rolling, and box scars are (Table 1). Additionally, 94.3% of students knew almost all the causes of acne and were well-informed about it (Graph 1). However, around 63.2% received information about acne from friends and family, compared to only 13.8% who learned about it in medical school (Graph 2).

Knowledge based questions	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Disagree
I know that Acne is a chronic, inflammatory skin condition	43 (49.4%)	15 (17.2%)	15 (17.2%)	1 (1.1%)	-
I know that acne is treatable	48 (55.2%)	32 (36.8%)	6 (6.9%)	1 (1.1%)	-
I know what a black comedone and a white comedone is	27 (31%)	15 (17.2%)	13 (14.9%)	8 (9.2%)	24 (27.6%)
I know what an ice pick scar, rolling scar, box scar is	8 (9.2%)	8 (9.2%)	20 (23%)	13 (14.9%)	38 (43.7%)

Table 1: Distribution of Participants Based On Knowledge



Graph 3: Distribution of Participants Based On Knowledge on Cause of Acne



Graph 4: Distribution of Participants Based On Source of Information

Table 2 shows the attitude that medical undergraduates had towards acne. Around 62.1% strongly agreed that seeking a dermatologist for acne treatment is important. Furthermore, 75.9% of them agreed that removing acne by squeezing is unnecessary.

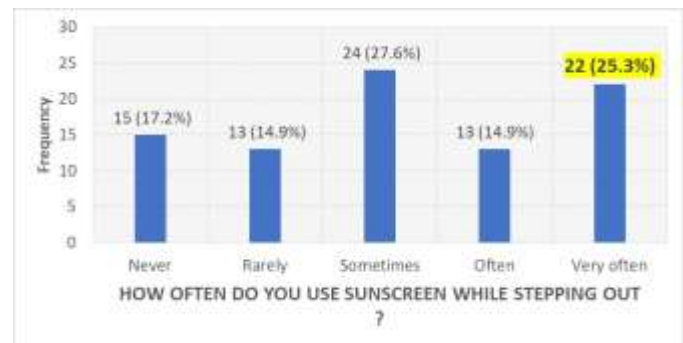
Attitude based questions	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Disagree
I consider the impact of taking over the counter medication as negative	15 (17.2%)	23 (26.4%)	37 (42.5%)	7 (8.0%)	5 (5.7%)
I believe home remedies (facemask) will solve the problems of acne without the use of medication	3 (3.4%)	17 (19.5%)	29 (33.3%)	17 (19.5%)	21 (24.1%)
I believe acne will resolve without medical intervention	1 (1.1%)	16 (18.1%)	42 (48.3%)	18 (20.7%)	10 (11.5%)
I consider removal of acne by squeezing necessary	-	3 (3.4%)	9 (10.3%)	9 (10.3%)	66 (75.9%)
I use medically approved drugs and formulation like cleansers, exfoliants and sunscreen	32 (36.8%)	26 (29.9%)	20 (23%)	3 (3.4%)	6 (6.9%)
I think that consulting a dermatologist is important for the treatment of acne	54 (62.1%)	24 (27.6%)	7 (8%)	2 (2.3%)	-

Table 2: Attitude towards Acne

The questionnaire explored various sections, including skin care behavior and its influence among medical undergraduate students. About 41.1% of individuals felt that cleansing the face twice daily is important, and around 80.5% strongly agreed that having healthy skin is important (Table 3). Although the medical students were well aware of skin health, only 17.2% regularly applied sunscreen (Graph 5).

Skin care behaviour	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Disagree
I use cleansers twice daily to keep my face clean	36 (41.1%)	15 (17.2%)	24 (27.6%)	1 (1.1%)	11 (12.6%)
Is achieving a healthy skin important to you?	70 (80.5%)	10 (11.5%)	6 (6.9%)	1 (1.1%)	-
I use processed organic products like clay masks, scrubs and moisturizers.	5 (5.7%)	23 (26.4%)	26 (29.9%)	12 (13.8%)	21 (24.1%)
I use normal soap on my face	11 (12.6%)	11 (12.6%)	10 (11.5%)	13 (14.9%)	42 (48.3%)

Table 3: Skin Care Behaviour



Graph 5: Application of Sunscreen

When it came to factors influencing skin care behavior, around 26.4% agreed that social media has a major role in their choice of skin care products. On the brighter side, 36.8% relied on a doctor's or dermatologist's prescription when purchasing their skin care products (Table 4)

Skin care behaviour	Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Disagree
I buy skin care products based on the popularity in social media	1 (1.1%)	23 (26.4%)	22 (25.3%)	13 (14.9%)	28 (32.2%)
I buy skin care products based on prescription by a medical personnel	28 (32.2%)	32 (36.8%)	23 (26.4%)	2 (2.3%)	2 (2.3%)
I buy skin care products based on the past experience with the products	30 (34.3%)	38 (43.7%)	16 (18.4%)	1 (1.1%)	2 (2.3%)
I buy skin care products based on advice and persuasion from friends.	6 (6.9%)	18 (20.7%)	32 (36.8%)	-	51 (58.6%)
I prefer use of anti-acne products prescribed by friends or pharmacist	1 (1.1%)	19 (21.9%)	24 (27.6%)	18 (20.7%)	25 (28.7%)

Table 4: Factors Influencing Skin Care Behaviour

Discussion

Acne vulgaris, commonly is seen during the teenage years. It's estimated to target up to 91% of males and 79% of females in the general population. Both the genders are equally effected. In our study we found out that most of the medical under graduates had a better

knowledge regarding acne and knows how to manage the situation of acne when faced. In a study by Ali et al., 21.7% of students believed that hereditary factors were to blame for acne, a stark contrast to the 2.3% in our study (13). Al Robaee's research showed that 56% of students had adequate knowledge about acne, with most attributing it to hormones and stress, compared to 44% in our study (13). Meanwhile, Farid-ur-Rehman and Niazi found that 79% of students linked acne to diet, a belief shared by only 3.4% in our study (14).

Our study revealed that it's not just individual factors like sun exposure, stress, fatty foods, the menstrual cycle, hereditary factors, or cosmetic use that contribute to acne. Rather, these factors, whether alone or combined, can influence the development of acne.

Our findings not only highlight these persistent misconceptions among medical students but also reveal a positive trend—improvement in overall knowledge about acne by the end of their clinical training.

Limitation

The study was conducted on a small population of students. To gain a more comprehensive understanding, a worldwide study among medical undergraduates is necessary. Such a study could play a crucial role in enhancing students' knowledge about acne.

Conclusion

This result which we acquired from our study is just a glimpse of the situation across thousands of medical schools. Proper guidance can significantly aid both students and dermatologists in reducing the burden of acne vulgaris treatment.

By leveraging studies like this, we can develop new awareness programs about acne and good skincare practices. Most importantly, we can teach the general population that skin need not always be flawless. These

initiatives can help reduce the psychiatric burden of acne, such as low self-esteem, depression, and anxiety, ultimately boosting individuals' confidence.

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