FREQUENCY AND FACTORS LEADING TO SELF-MEDICATION IN PATIENTS WITH ACNE VULGARIS

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ABSTRACT

Introduction: Acne vulgaris is a prevalent inflammatory skin disorder. Its prevalence persists into adulthood, even though it is frequently thought of as a self-limiting adolescent illness.

Objective: To determine the prevalence and typical causes of self-medication among acne vulgaris patients.

Methods: This cross-sectional study was conducted from 13/2/2022 to 13/8/2022 at the Department of Dermatology, Hayatabad Medical Complex, Peshawar. Each patient had a comprehensive clinical examination and history. In order determine the prevalence of self-medication and its common factors; drug knowledge, prior prescription, convenience of access, mildness of condition, and lack of time, all patients underwent extensive interviews.

Results: The results of the study demonstrate that out of 145 patients, the average age was 30 years with a standard deviation of ±10.47. Among them, 77 (53%) were female and 68 (47%) were male. Moreover, 88 (61%) patients practiced self-medication. The common contributing factors included drug knowledge (8%), mildness of illness (20%), easy availability (37%), previous prescription (19%), and lack of time (15%).

Conclusion: This study concluded that 61% of individuals with acne vulgaris practiced self-medication. The common contributing factors included drug knowledge (9%), easy availability (37%), previous prescription (19%), mildness of disease (20%), and lack of time (15%).

Keywords: Acne vulgaris, Drug misuse, prevalence, drug resistance.

INTRODUCTION

Acne vulgaris is a prevalent inflammatory skin disorder. Its incidence persists into adulthood, even though it is frequently considered a self-limiting adolescent illness. Acne affects around 90% of teenagers, and half of them continue to experience symptoms into adulthood (1). Approximately 5% of women and 1% of men still have chronic lesions by the age of 40 (2).

Recently, there has been an effort to categorize acne as a chronic condition, as it may last for decades and require long-term treatment (3). Severe acne can cause permanent scarring and has significant psychosocial consequences.[3] Therefore, it is not surprising that patients are often motivated to seek medical attention (4). A thorough evaluation of the presentation and severity of acne is essential in determining the appropriate treatment plan, which primarily depends on lesion morphology (5).

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The World Health Organization (WHO) defines self-medication as "the consumer's periodic or continuous use of medicines recommended by a physician for chronic or recurrent disorders or symptoms, or the consumption of pharmaceuticals for the treatment of self-recognized disorders or symptoms (6). Self-medication is a fairly common practice due to several factors, including easy access to medications, prior medical knowledge, and familiarity with healthcare environments. Although WHO supports self-medication for minor illnesses, it also warns against potential risks such as adverse drug reactions and the development of antimicrobial resistance (7).

Acne vulgaris affects approximately 80% of Americans at some point in their lives. Some ethnic and racial groups are disproportionately affected; for example, the Mediterranean region (from Spain to Iran) shows a high prevalence of cystic acne (8). Post-inflammatory hyperpigmentation is also more common in darker-skinned populations (9).

During adolescence, males are more frequently affected by acne than females; however, in adulthood, acne is more common among women (10). Acne can even appear in the first few weeks of life due to the influence of maternal hormones and enlarged adrenal androgen-producing zones. Puberty marks the usual onset of teenage acne due to increased gonadal androgen production (11).

The aim of the current study is to determine the prevalence of self-medication and identify

its associated factors in patients with acne vulgaris. This research will provide local data and primary evidence to inform strategies aimed at controlling self-medication practices.

MATERIALS AND METHODS

This cross-sectional study was conducted in the Department of Dermatology, Hayatabad Medical Complex (HMC), Peshawar, from 13th February 2022 to 13th August 2022. Ethical approval was obtained from the Hospital Research and Ethical Committee under document number HMC-QAD-F-00. A total of 145 patients were included using a non-probability consecutive sampling technique. The sample size was calculated based on an anticipated proportion of 10.5% for "mildness of illness" as a contributing factor to self-medication, with a 95% confidence level and a 5% margin of error. Patients of both genders, aged 18 to 50 years, presenting with facial acne vulgaris were eligible. Those with a medical background, recent international travel (within six months), truncal acne or acneiform eruptions secondary to medications or systemic illness, pregnant or lactating women, and those unwilling to provide informed consent were excluded. Acne vulgaris was defined as the presence of whiteheads, blackheads, or inflammatory bumps in sebaceous-rich areas of the face. Self-medication was defined as the use of over-the-counter topical or systemic acne treatments without a doctor's prescription. Patients presenting to the dermatology OPD were enrolled after providing written informed consent. Data were collected through a structured, interviewer-administered questionnaire, which included demographic information (age, gender, education) and self-medication behaviors. Reasons for self-medication such as prior drug use, perceived mildness, easy availability, and lack of time were also recorded. Data analysis was performed using SPSS version 23. Mean and standard deviation were calculated for continuous variables, while frequencies and percentages were reported for categorical data. Chi-square tests were used to assess associations between self-medication and demographic factors. A p-value of less than 0.05 was considered statistically significant, and results were presented in tables and graphs.

RESULTS

A total of 145 participants were enrolled in the study. The majority (n = 96; 66%) belonged to the 18–30 year age group, while 49 (34%) were aged 31–50 years. The mean age was 30 ±10.47 years. Of all participants, 68 (47%) were male and 77 (53%) female. Regarding educational status, 67 (46%) were illiterate, 61 (42%) had primary to secondary education, and only 17 (12%) had completed graduation or higher **(Table 1).**

Table No 1: Age, Gender, and Education-Wise Distribution of Respondents (N = 145)

Variable	Frequency	Percentage
Age Group		
18–30 years	96	66%
31–50 years	49	34%
Gender		
Male	68	47%
Female	77	53%
Educational Status		
Illiterate	67	46%
Primary to Secondary	61	42%
Graduation and Above	17	12%

Self-medication was practiced by 88 individuals (61%), whereas 57 (39%) denied the practice **(Table 2)**. The most frequently reported reasons for self-medication were the easy availability of medicines (37%), the perception that the illness was mild (20%), previous use of prescriptions (19%), lack of time to seek professional care (15%), and self-assessed knowledge of drugs (9%) **(Table 3).**

Table No 2: Prevalence of Self-Medication Among Respondents (N = 145)

Self-Medication	Frequency	Percentage
Yes	88	61%
No	57	39%
Total	145	100%

Table 3: Prevalence of Common Factors Among Respondents Who Self-Medicated (N = 88)

Common Factors	Frequency	Percentage
Lack of Time	13	15%
Easy Availability	33	37%
Mildness of Illness	18	20%
Previous Prescription	16	19%
Drug Knowledge	8	9%
Total	88	100%

To explore potential associations, self-medication was stratified by demographic variables. Although a higher proportion of younger participants (63% in 18–30 years) practiced self-medication compared to older participants (57% in 31–50 years), the difference was not statistically significant (p = 0.5321) **(Table 4)**. Similarly, gender-wise analysis showed comparable rates among males (62%) and females (60%), with no significant association (p = 0.8033) **(Table 5)**.

Table 4: Association of Self-Medication with Age Groups Among Respondents (N = 145)

Self-Medication	18–30 years	31–50 years	Total	*p*-value
Yes	60 (63%)	28 (57%)	88 (61%)	0.5321
No	36 (37%)	21 (43%)	57 (39%)	
Total	96 (100%)	49 (100%)	145 (100%)	

Table 5: Stratification of Self-Medication with Respect to Gender Distribution (N = 145)

Self-Medication	Male	Female	Total	*p*-value
Yes	42 (62%)	46 (60%)	88 (61%)	0.8033
No	26 (38%)	31 (40%)	57 (39%)	
Total	68 (100%)	77 (100%)	145 (100%)	

When examined by education level, the prevalence was highest among illiterate participants (63%), followed by those with primary to secondary education (62%), and lowest among graduates (47%), though this trend was not statistically significant (p = 0.4719) **(Table 6)**.

Table 6: Stratification of Self-Medication with Respect to Education Status (N = 145)

Self-Medication	Illiterate	Primary to Secondary	Graduation and Above	Total	p-value
Yes	42 (63%)	38 (62%)	8 (47%)	88 (61%)	0.4719
No	25 (37%)	23 (38%)	9 (53%)	57 (39%)	
Total	67 (100%)	61 (100%)	17 (100%)	145 (100%)	

Further stratification of common self-medication factors by age **(Table 7)**, gender **(Table 8)**, and education level **(Table 9)** revealed no statistically significant differences (p > 0.05 in all cases). Factors such as easy availability, mildness of illness, and prior prescriptions were reported similarly

across all subgroups, indicating a uniform distribution of self-medication behavior across sociodemographic characteristics.

Table 7: Stratification of Common Factors with Respect to Age (N = 88)

Common Factors	Status	18-30 years	31-50 years	Total	*p*-value
Lack of time	Yes	7(12%)	6(21%)	13	0.2293
	No	53(88%)	22(79%)	75	
	Total	60	28	88	
Easy availability	Yes	25(42%)	8(29%)	33	0.2372
	No	35(58%)	20(71%)	55	
	Total	60	28	88	
Mildness of illness	Yes	9(15%)	9(32%)	18	0.0633
	No	51(85%)	19(68%)	70	
	Total	60	28	88	
Previous prescription	Yes	14(23%)	2(7%)	16	0.0666
	No	46(77%)	26(93%)	72	
	Total	60	28	88	
Drug Knowledge	Yes	5(8%)	3(11%)	8	0.7174
	No	55(92%)	25(89%)	80	
	Total	60	28	88	

Table 8: Stratification of Common Factors with Respect to Gender (N = 88)

Common Factors	Status	Male	Female	Total	*p*-value
Lack of time	Yes	6(14%)	7(15%)	13	0.9020
	No	36(86%)	39(85%)	75	
	Total	42	46	88	
Easy availability	Yes	16(38%)	17(37%)	33	0.9122
	No	26(62%)	29(63%)	55	
	Total	42	46	88	
Mildness of illness	Yes	8(19%)	10(22%)	18	0.7545
	No	34(81%)	36(78%)	70	
	Total	42	46	88	
Previous prescription	Yes	8(19%)	8(17%)	16	0.8405
	No	34(81%)	38(83%)	72	
	Total	42	46	88	
Drug Knowledge	Yes	4(10%)	4(9%)	8	0.8926
	No	38(90%)	42(91%)	80	
	Total	42	46	88	

Table No 9: Stratification of Common Factors with Respect to Education Level (n=88)

Common Factors	Status	Illiterate	Primary To secondary	Graduation and above	Total	*p*-value
Lack of time	Yes	6(14%)	5(13%)	2(25%)	13	0.6869
	No	36(86%)	33(87%)	6(75%)	75	
	Total	42	38	8	88	
Easy availability	Yes	15(36%)	14(36%)	4(50%)	33	0.7417
	No	27(64%)	24(64%)	4(50%)	55	
	Total	42	38	8	88	
Mildness of illness	Yes	9(21%)	8(21%)	1(13%)	18	0.8420
	No	33(79%)	30(79%)	7(87%)	70	
	Total	42	38	8	88	
Previous prescription	Yes	8(19%)	7(18%)	1(13%)	16	0.9065
	No	34(81%)	31(82%)	7(87%)	72	
	Total	42	38	8	88	
Drug Knowledge	Yes	4(10%)	4(11%)	0(0%)	8	0.6363
	No	38(90%)	34(89%)	8(100%)	80	
	Total	42	38	8	88	

DISCUSSION

This study explored self-medication practices among acne patients, revealing that 61% of participants engaged in self-treatment. The mean age of participants was 30 ± 10.47 years, with a slightly higher proportion of females (53%). These findings align with prior reports indicating widespread self-medication behavior in acne management, especially among young adults and females (12).

The most commonly cited reasons for self-medication in our study were easy availability of medications (37%), perceived mildness of the condition (20%), previous prescription use (18%), lack of time (15%), and self-assessed drug knowledge (9%). Similar patterns were observed in studies conducted in Saudi Arabia and India, where over-the-counter use of antibiotics, retinoids, and cleansers was frequent, often without medical consultation (13).

Stratified analyses in our study revealed no statistically significant association between self-medication and sociodemographic variables such as age, gender, or educational level. While younger and less-educated participants showed slightly higher self-medication rates, the differences were not significant, indicating that this practice may be widespread across all groups. Furthermore, no significant association was observed between demographic factors and individual motivations for self-medication, suggesting that convenience and self-perceived familiarity with treatment options are universally influential.

These findings raise public health concerns, particularly regarding the unsupervised use of topical and oral antibiotics, which may contribute to antibiotic resistance.[12] Although agents like benzoyl peroxide and adapalene are effective and available over-the-counter, potent drugs such as isotretinoin should only be used under professional supervision (14). Current dermatological guidelines stress the importance of lesion-specific evaluation and the cautious use of antibiotics to prevent resistance and adverse effects (15).

Overall, our findings support the need for public education campaigns, pharmacist-guided counseling, and stricter regulation of acne medications to promote responsible treatment practices and reduce the risks associated with self-medication.

CONCLUSION

The findings of this study demonstrate that self-medication was prevalent in 61% of patients with acne vulgaris. The most common contributing factors included easy availability of medications (37%), mildness of illness (20%), previous prescriptions (19%), lack of time (15%), and drug knowledge (9%). These results highlight the need for increased awareness and guidance to ensure the safe and rational use of medications among acne patients.

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