

## TRENDS OF SELF MEDICATION IN PATIENTS WITH ACNE IN MOSUL CITY

Deena Al-Samman<sup>1\*</sup> and Mohammed Attarbashi<sup>2</sup>

<sup>1</sup>Department of Pharmacology and Toxicology, College of Pharmacy, University of Mosul/ Iraq.

<sup>2</sup>Al-Qudis Health Center for Family Medicine / Mosul / Iraq.

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\*Corresponding Author: Deena Al-Samman

Department of Pharmacology and Toxicology, College of Pharmacy, University of Mosul/ Iraq.

### ABSTRACT

**Objectives:** To identify the pattern of self-medication used for Acne vulgaris, motivation, commonly used products and the most common dermatological problems related to them, with the aim to raise awareness about such issue in Mosul city. **Methods:** This cross-sectional descriptive study was conducted in Al-Quds Health Center for Family Medicine on all patients seeking consultation for acne who utilized self medications at least once. They were assessed clinically by a dermatologist after completing a questionnaire. **Results:** A total of 190 acne patients were met the criteria for inclusion; 144(76%) were females which outnumbered males 46(24%), with ages ranging 12 - 47 years. Duration of application was between 2 months to 3.6 years. The intended purpose being: relief of symptoms (57%) and/or cosmetic appeal (36%). The reasons for choosing such medications were their effectiveness (64%), safety (57%), easy availability (22%) as well as saving the cost for consultation of minor illness (19%). Drug advertisement via internet/media was the commonest source of information. All participants had used facial wash/soap before seeking medical advice. Topical steroids were misused by 23% patients and suffered adverse effects (Rosacea-like facial dermatitis) by 18%. **Conclusion:** Self medication for acne treatment is fairly common specially with lesion on their face. Attempts should be made to encourage early management with adequate medical consultation to prevent scarring formation. Patient education about appropriate uses of the medication is crucial to avoid self medication drawbacks.

**KEYWORDS:** Self medication, acne vulgaris, over the counter agents.

### INTRODUCTION

Acne is a common inflammatory disorder affecting the pilosebaceous units of the skin. It is characterized by comedones, inflammatory and non-inflammatory lesions.<sup>[1]</sup> Scarring and hyperpigmentation are also found in addition to the acne typical lesions.<sup>[2]</sup>

Acne arises around puberty and thereafter, it progressively gets better in the late teens or early twenties, however, it may stay up to the 40 years or even older.<sup>[3]</sup> Acne etiology are multi-factorial, including both genetic and environmental.<sup>[4]</sup> Although acne is not associated with severe morbidity or disability, it can lead to psychological and social consequences.<sup>[5]</sup> The emotional trauma and social impacts make acne to be taken so more seriously than merely a cosmetic nuisance. For this reason, early and effective management is needed to keep these patients from all possible complications. Unfortunately, many patients may suffer for months to years before looking for a proper medical advice from a professional.<sup>[6]</sup>

Of notice, self medication (treatment) is widespread globally.<sup>[7]</sup> Among the most common motives for people to be benefit from such practices are the convenience of going to a pharmacy for minor illnesses rather than getting appointments with a doctor in addition to financial costs.<sup>[8]</sup> Most patients try self medication using over the counter (OTC) drugs with the lack of proper knowledge about acne pathophysiology and without supervision or enough medical instruction.<sup>[9]</sup> Many of these medicines may be ineffective at all, whereas others may cause considerable serious consequences. For instance, adverse effects, poly pharmacy and drug interactions are all probable drawbacks of irrational self medication use. For example, topical steroids abuse on face can result in an acne rosacea-like dermatitis.<sup>[10]</sup> In our dermatology practice, we usually encounter acne cases deteriorated by application of self medication which is norm in Iraq. Possible factor is the access to almost all medicines easily without any regulation. Hence it was decided to identify the pattern of self-medication for Acne vulgaris, motives for self medication, commonly used products and the most

common dermatological problems related to them, with the aim to raise awareness about such issue in Mosul city.

### MATERIALS AND METHODS

This cross-sectional, descriptive study was conducted between May and October 2023 on all patients presenting at Al-Quds Health Center for Family Medicine in Mosul city seeking consult for acne. The local Health Center ethics committee approved the study. After explaining the nature and goal of the study and gaining verbal informed consent, all patients agreed for participation. They were assessed clinically by a dermatologist after completing a 3-part questionnaire.

The first part contained demographic profile of the participants. The second part asked questions regarding acne. The severity of acne was graded using global acne grading system (GAGS). It also included the duration that patients had acne prior to seeking management. The third part was about the pattern of self-medication towards acne, types of products and the source of advice to use these medications (non-medical, cosmetologist and medical non-dermatologist to facilitate analysis). Operational definition regarding self medication was any topical or systemic preparation which had used or is still using for the management of acne without medical

prescription. Patients of both sexes and of any age with history of using self medications at least once, topically or systemically, for the treatment of acne vulgaris without medical advice, were enrolled in the study. Participants were asked to bring products containers which have been utilized to ascertain the used products. The diagnosis was established clinically and the clinical details were recorded. In addition, a full skin examination was performed to detect any condition related to misuse of self medicated products. Counseling and treatment of acne vulgaris was then started. Patients who already on treatment by dermatologists were excluded from the study. **Statistics** Data were analyzed using SPSS (V24; IBM SPSS Statistics USA). Results were expressed in range, mean, frequencies and percentage.

### RESULTS

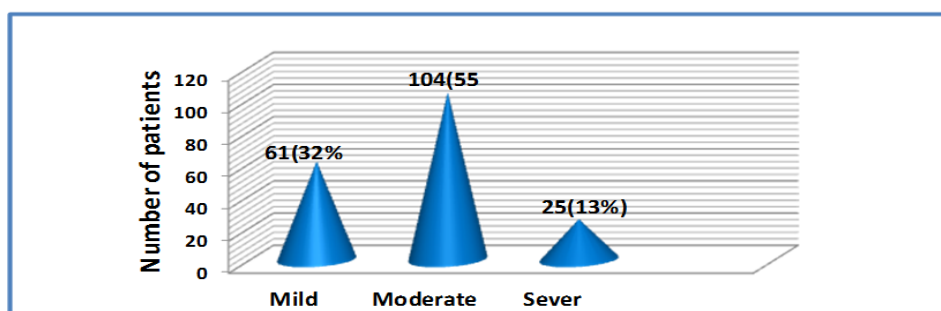
A total of 190 patients who utilized self medications for acne at least once were enrolled; of these, 144(76%) were females which outnumbered males 46(24%). Their ages ranging 12 - 47 years with an average of 21 years. Duration of application was between 2 months to 3.6 years. While the duration of the disease varied from 3 months to 5 years with an average of 2.7 years. Table 1 illustrates demographic characteristics of study participants.

**Table 1: Demographic characteristics of enrolled patients (N=190)**

Variables	Frequency	Percent %
<b>Gender distribution</b>		
Male	46	24
Female	144	76
<b>Age group (years)</b>		
< 15	23	12
15–30	103	54
30–45	55	29
> 45	9	5
<b>Occupation</b>		
Students	89	47
Employed	43	23
Jobless	35	19
Housewives	23	12

According to the severity of acne, patients were divided to three groups: mild, moderate and severe, depending on the global acne grading system (GAGS).<sup>[11]</sup> Sixty one

patients (32%) had mild acne, 104(55%) had moderate acne and 25(13%) had severe acne (Figure 1).



**Figure 1: Severity of acne.**

The intended purpose for using such medications being: relief of symptoms (57%), cosmetic appeal (36%) or both (31%). It was noticed that the self medication was significantly higher in those with acne lesion on their face (72%).

In this study, a variety of reasons for choosing self medication were reported. The most common were due to their effectiveness 122(64%), safety 109(57%), easy availability 42(22%) followed by saving the cost of

consultation for minor illness as well as lack of time 37(19%) (Table 2).

Before seeking dermatologic consultation, 67(35%) patients obtained the information about acne medications from drug advertisement via internet/media, relatives/friends according to 39 (21%), followed by pharmacists in 37(19%), non dermatologist doctors in 25(13%) and beauticians 22(12%) (Table 2).

**Table 2: Reasons and sources of information.**

	Frequency	Percent (%)
<b>Reasons for self-medication</b>		
Effectiveness	78	41
Safety	40	21
Easy availability	35	18
Saving the cost of consultation	21	11
Lack of time	16	9
<b>Sources of information</b>		
Drug Advertisement / Internet / Media	67	35
Relatives /Friends	39	21
Pharmacist	37	19
Non-Dermatologist physician	25	13
Beauticians	22	12

All participants had used topical medication, whereas 11(6%) had used both topical as well as systemic medicine. Forty three (23%) of those used potent topical steroids either alone or combined with other local medications. The most widely used agents were: antibacterial soaps and facial wash 103(54%). Make-up (18%), sunscreen (11%), acne lotions and herbal

products (9%). In addition to various medications like clindamycin gel (14%), benzoyl peroxide gel (12%), adapalene gel (10%), tretinoin cream (6%) with systemic retinoids (4%) and antibiotics (17%). Clobetasol propionate cream and betamethasone valerate cream were also used (23%).

**Table 3: Types of medications used by acne patients prior to dermatologic consult.**

Medication	Frequency	Percent %
Acne soaps / wash	103	54
Cosmetic creams / Sunscreen	55	29
Herbal products /Lotion	17	9
Clindamycin gel	26	14
Benzoyl peroxide gel	22	12
Adapalene gel	19	10
Tretinoin cream	11	6
Topical steroid: Clobetasol propionate cream / Betamethasone valerate	44	23
Oral Retinoids (4%)	8	4
Oral Antibiotics (17%)	32	17

The attitude of the patients towards self medication, 26 patients (14%) felt that their acne lesions improved after using these medications whereas 93(49%) thought that their condition have worsened. Females with acne who used cosmetics 18(12%), claimed that their acne have worsen by using cosmetics particularly foundations and oily creams. While 71(37%) reported that the outcome of their illnesses did not affect after taking those medications.

Adverse effects, depend on the agent used, included darkening/discoloration (19%), itching (13%), burning

(11%), and peeling (9%). Severe symptoms which requiring discontinuation or medical treatment were reported in those with systemic treatment who experienced nausea / vomiting (5%), dryness (4%), and sever itching/rash (2%). Rosacea-like facial dermatitis caused by those who misused topical steroids for acne were also reported in 18% of participants.

## DISCUSSION

The findings of this study confirm that the use of self-administered treatment for acne is widespread practice in our city. Seventy two percent of participants had an

attitude towards self medications. Similar results from other study were also noted.<sup>[7,12]</sup> One factor probably contributing to this practicing is the widespread of different types of over the counter anti- acne products which may make them a convenient choice.

Other reasons for preferring self medications by our participants were effectiveness, safety, easy availability followed by saving the cost as well as the time for doctor consultation. This may be attributed to the convenience of going to a pharmacy rather than to go to a hospital for minor disease as acne, wide availability of medical products and exposure to advertisement. Similar results were also reported by previous studies.<sup>[13,14]</sup>

Regarding demographic factors, our study illustrated that females were more frequently self-treating acne than males. This finding may be due to the enhanced self - care concern by women. This result was expected and consistent with those studies assessing acne self-medication.<sup>[12,15]</sup>

The face was mostly involved site of acne in our study. From a cosmetic point of view, the face is considered the most important parts of the body and any visible lesion causes distress to the patient. So, it was noticed that patients with facial lesions were more commonly practice self medication and more seeking dermatologist consultation than who have acne on other parts of body.<sup>[16]</sup> Alanazi et al. also showed the presence of acne lesions on the face in the majority of their participants.<sup>[17]</sup>

The data of this study indicates that the most common non prescription products used, prior to dermatologic consult, was cleansers (54%) followed by cosmetic and herbal products. This result agrees with observation made by Tan et al. study that showed cleansers were the most frequent used products (87%).<sup>[15]</sup> These products, in addition to not relieve the problem, they have a high likelihood of resulting in adverse effects as eczematous lesions and further aggravating the initial symptoms.<sup>[18]</sup> Of notice, greasy cosmetics can aggravate acne according to 29% of our participants. While Poli et al. found that cosmetic products aggravated acne in 58% of patients.<sup>[19]</sup>

Only 32% subjects had awareness for the used medications, 64% had improvement, 13% worsening and 36% of subjects had no change. Despite the fact that adequate improvement with less side effects were reported in the majority of participants, the basic information about acne therapy and adverse effects of self medications were lacking. This finding concur with prior study reported by Alajmi et al. who showed that the participants didn't know about their medications used were near to 50%.<sup>[7]</sup>

Inappropriate use of self-medications may not be merely associated with a lack of effectiveness but may result in considerable side effects depending on the used agent.<sup>[20]</sup>

Darkening, discoloration, itching, burning and peeling were reported with topical agents specially retinoids. Furthermore, severe symptoms which requiring discontinuation or medical therapy, as nausea, vomiting, dryness and sever itching/rash, were associated with systemic management with retinoids and antibiotics.

Additionally, rosacea-like facial dermatitis were noticed in 18% of those who misused topical steroids. That is a significant side effects of topical steroids which has unveiled the threatening trend of widespread of potent topical steroids misused for treatment of acne. It might be due to the common myth that topical steroids can be used for management any skin disease.<sup>[21]</sup> This result is in contrast to previous study where no patient using self medication had used topical steroids for acne.<sup>[22]</sup> It is probably result from the lack of sale regulation of over the counter agents in our country. This fact signify the importance of physician-patient relationship in order to aware the patients about the adverse effects of steroids misuse as well as to know the fact that steroids are not therapeutic agents for acne.

For the sources of information about self-medication, before dermatologic consult, was mostly based on suggestions by drug advertisement / internet(35%) followed by recommendations made by relatives / friends(21%). This result is parallel to prior study in 2017 which the main information source was the internet( 31.7%).<sup>[12]</sup> Though in contrast to other study in 2011that showed the information was mostly from family and friends and the internet was rarely chosen as information source.<sup>[23]</sup> In keeping with these findings, the outcome of the present study showed the percentage of media dependents escalated to 35%. The increasing numbers, in the last decade, highlight the shifting toward internet / media by population. However, the latter has vast but vague information that might spread misleading and inaccurate information about acne therapy. 167 Some participants were keen to obtain advice about their health conditions from expert sources to aid them make correct decisions for health care.<sup>[20]</sup>

Pharmacists also play a crucial role in offering advice, assistance and recommendations about OTC medications in 19% of the cases. However, the current study revealed that some patients had never met pharmacists and never received instructions when buying drugs. This phenomenon should be highlighted because of the risk of inaccurate self-diagnosis, hazardous drug interactions, incorrect therapy and dosage, in addition to risk of abuse.<sup>[24]</sup> For instance, doxycycline, oral and topical tretinoin are contraindicated in pregnancy as well as the misusing topical corticosteroids for acne. Consistent results were reported by other study.<sup>[25]</sup>

Generally, acne treatment is diverse depending on its severity or management style of the dermatologist. However, early and adequate treatment is important to avoid subsequent scarring formation and to decrease the

psychosocial impact particularly in adolescents.<sup>[12]</sup> Sixty six percent of total participants in current study suffered from acne for more than 1.3 year before seeking medical advice. Similar study by Tan et al. that reported 74% of the respondents stayed more than a year prior to looking for medical attention for acne.<sup>[15]</sup>

In this study, about 62% patients with false belief that acne could be transient and quickly cured after treatment. Other studies similarly demonstrated this misconception.<sup>[26]</sup> This false impression might lead to early discontinuation of the management and poor compliance. For this reason, more effort is needed for health education that acne is not self limiting disorder and the adherence to an appropriate regimen is essential part for therapeutic outcome.

## CONCLUSION

Self medication for acne treatment is fairly common specially with lesion on the face that necessities educate the patients about appropriate use and guidance awareness to avoid self medication drawbacks. The intended purpose of trying various medications was to alleviate the symptoms and cosmetic appeal. Internet, advice from family and friends were most cited sources of acne information.

Attempts should be made to encourage early management with adequate medical consultation to prevent scarring formation. Also, more efforts to sensitize the patients about medication misuse and significant adverse effects associated with topical steroids.

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