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A Study on the Pattern of Self-medication for Acne Vulgaris in Medical/Paramedical Students

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ABSTRACT

To study the pattern of self-medication for Acne vulgaris among undergraduate medical/paramedical students and to assess the awareness about medications. 256 participants of either gender (17-25 yrs) included in the study to answer a structured questionnaire. 162 (63.3%) subjects had Acne vulgaris, 73.5% with Grade-I, 22.8% Grade-II and 3.7% Grade-III. Self-medication reported in 52.5% participants; 63 on topical, 8 on oral and 14 on both the formulations. The reasons quoted included: - mild nature of the disease, time saving, to save cost of consultation. Self-medication was based on the suggestions by family members, friends/classmates, literature, media, old prescriptions and beautician. The medications included commercial anti-acne creams (21.17%), herbal products (18.8%), home remedies (17.65%), clindamycin gel (10.6%), benzoyl peroxide (8.23%), erythromycin (1.17%), oral erythromycin (1.17%) and combinations (21.17%). The intended purpose being: - relief of symptoms, cosmetic appeal or both. Only 38.82% subjects had awareness about medications. 80% of subjects had improvement, 1.17% worsening and 18.83% no change. Adverse effects included itching, darkening/discoloration, burning and peeling. Self-medication for Acne vulgaris was fairly common among medical/paramedical students. However proper awareness about the medications was limited and hence appropriate guidance needed to avoid irrational/inappropriate use.

Keywords: Acne vulgaris, Self-Medication, Propionibacterium acnes

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INTRODUCTION

Acne Vulgaris is a chronic inflammatory disease of the pilosebaceous unit resulting from androgen-induced increased sebum production, altered keratinization, inflammation and bacterial colonization of hair follicles on the face, neck, chest and back, involving *Propionibacterium acnes* (*P. acnes*). *P. acnes*, a gram-positive anaerobe attract lymphocytes, which invade and rupture follicular epithelium causing lipids, keratinocytes, and *P. acnes* to leak into the surrounding dermis, which sequentially leads to recruitment of inflammatory cytokines and neuropeptides, thus resulting in inflammatory papules or nodules. Facial scarring may occur in up to 20% of teenagers.[1,2,3] Therapies available for acne include topical benzoyl peroxide, retinoids, and antibiotics, when used in combination they usually control mild to moderate acne. Systemic retinoids and antibiotics are generally reserved for severe acne. Other therapies available are oral contraceptives for female patients who do not respond sufficiently to the regular acne therapies and with premenstrual acne flares, spironolactone in severe nodulocystic acne and lasers and photodynamic therapies for inflammatory acne lesions. [4] The rating of disease severity is useful for the initial evaluation and management of acne, and available therapies for acne target different pathogenic processes. [5] So the treatment given by the specialist like dermatologist can give significantly better improvement and/or inhibit the development of antibiotic-resistant bacteria, helps to evaluate response to treatment and also minimizes the negative effects of acne. Most patients particularly the students of the health related professional courses, attempt self-medication by using nonprescription medicines, with lack of adequate knowledge about the pathophysiology of acne and without proper medical advice and supervision. In this regard the present study was taken up to assess the level/extent of self medication and also the knowledge/ awareness about the self-medication/s used in acne vulgaris.

MATERIALS AND METHODS

The present study was a cross-sectional survey carried out involving the 1st and 2nd year medical/paramedical students of KIMS (Kempegowda Institute of Medical Sciences) Hospital and Research Centre, a tertiary care teaching hospital. After explaining about the nature and purpose of the study and obtaining verbal informed consent, 256 participants of either gender (17-25 yrs) were included in the study, to answer pretested structured questionnaire and appropriate instructions about filling the questionnaire were given. Operational definition of self medication was taken as any topical or systemic preparation (allopathic, herbal or cosmetic) that the patient had used or is still using, not prescribed by a doctor for the treatment of acne. [6]

The objectives of the study were:

1. To determine the pattern of self-medication for Acne vulgaris among undergraduate medical/ paramedical students: - the name and type of formulations, intended purpose, reasons for self medication, sources of information.
2. To assess their awareness/knowledge about medications

The results were described in the form of percentages, table and graphs by using Ms-Excel 2007.

RESULTS

Out of 256 participants, 115 were male and 141 were female. The mean age was 19.23 (17-25 yrs). Among them 162 (63.3%) subjects (**Figure-1**) had Acne vulgaris, 73.5% with Grade-I, 22.8% Grade-II and 3.7% Grades –III (**Figure-2**). Self-medication reported in 52.5% (**Table-1**) participants; 63 on topical, 8 on oral and 14 on both the formulations. The reasons quoted included: - mild nature of the disease (82.34%), time saving (12.96%), to save cost of consultation (2.35%), all the above (2.35%). Self-medication was based on the suggestions by family members (45.8%), friends/classmates (22.4%), literature (15.2%), media (13%), old prescriptions (2.4%) and beautician (1.2%). The medications included commercial anti-acne creams (21.17%), herbal products (18.8%), home remedies (17.65%), clindamycin gel (10.6%), benzoyl peroxide (8.23%), erythromycin (1.17%), oral erythromycin (1.17%) and combinations (21.17%) (**Table-2**). The intended purpose being: - relief of symptoms (44.7%), cosmetic appeal (31.7%) or both (23.6%). Only 38.82% subjects had awareness about medications (**Figure-3**). 80% of subjects had improvement, 1.17% worsening and 18.83% no change. Adverse effects included itching (11.76%), darkening/discoloration (15.3%), burning (4.7%) and peeling (9.41%).

Figure-1: PREVALENCE OF ACNE (n=256)

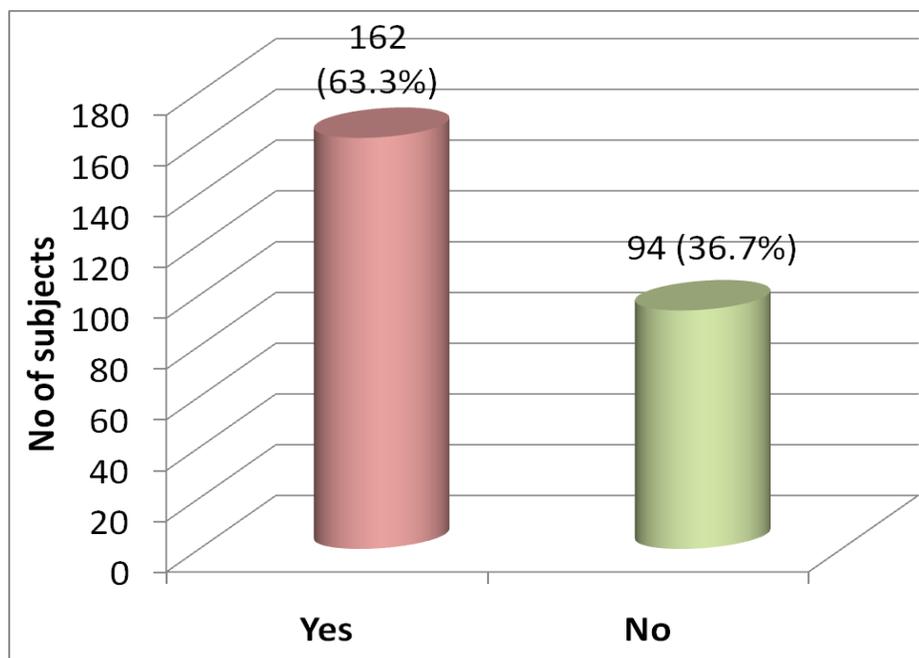


Figure-2: SEVERITY (n=162)

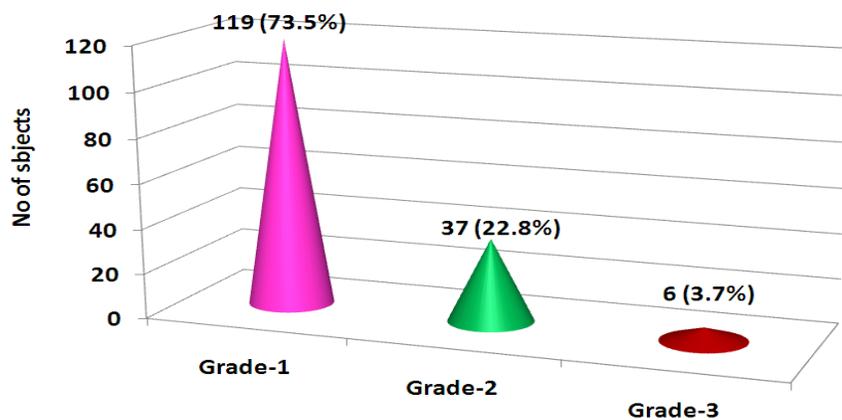


Figure-3: KNOWLEDGE/AWARENESS ABOUT ACNE (n=85)

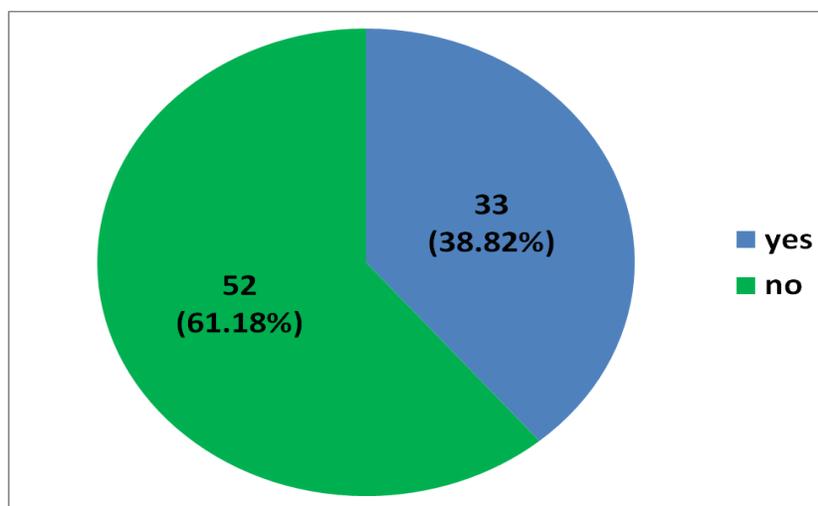


Table-1: MEDICATION HISTORY (n=162)

Medication history	n(%)
Self medication	85(52.5)
Prescribed medication	26(16)
No Medication taken	51(31.5)

Table-2: DRUG UTILIZATION PATTERN (n=85)

Drugs	n(%)
1.Benzoyl peroxide	7(8.23)
2.Azelaic acid	0(00)
3.Betamethasone	0(00)
4.Clobetasol	0(00)
5.Tretinoin,	0(00)
6.Adapalene	0(00)
7.Tazarotene	0(00)
8.Erythromycin	1(1.7)
9.Clindamycin	9(10.6)
10.Tetracycline	0(00)
11.Doxycycline	0(00)
12.Minocycline	0(00)
13. oral Erythromycin	1(1.17)
14.Azithromycin	000(00)
15.Cotrimoxazole	000(00)
16.Spirolactone	000(00)
17.Commercial cream	18(21.17)
18.Home remedies	15(17.65)
19.Herbal products	16(18.8)
20. Combinations	18(21.17)

DISCUSSION

In the present study the pattern of the self-medication for acne vulgaris including the name and type of formulations, intended purpose, reasons for self medication, sources of information, their awareness/knowledge about medications were assessed in all the study subjects.

The study showed that out of 256 participants, 162 (63.3%) subjects had Acne vulgaris, among which 73.5% had Grade-I, 22.8% Grade-II and 3.7% Grades –III. Grade-I acne vulgaris was the most common type, as observed in earlier study.⁷ Self-medication was seen in 85 (52.5%) participants, and one of the factors probably contributing to this self-medication is over the counter sale of acne medications. The increasing incidence of self medication has been documented throughout the world by large population based studies and national health surveys.[8,9] Majority of the study participants (63) have used topical formulations compared to oral (8) and both (14), as observed in earlier studies.[10] This observation is probably because topical acne preparations are readily available as OTC medications when compared to oral formulations.

The reasons quoted for self-medication included: - mild nature of the disease (82.34%), time saving (12.96%), to save cost of consultation (2.35%), all the above (2.35%). Other studies

have revealed that there is an increase in trends of self-medications particularly among the youth. This can be attributed to socio-economic factors, life style, ready access to drugs, the increased potential to manage certain illnesses through self-care, and greater availability of medicinal products, socio-demographic, epidemiological, availability of healthcare and health professional, law, society and exposure to advertisement; high level of education and professional status.[11,12,13]

The present study also shows that self-medication was based on the suggestions by family members (45.8%), friends/classmates (22.4%), literature (15.2%), media (13%), old prescriptions (2.4%) and beautician (1.2%). Various studies on self-medication showed that, nowadays people are keen to accept more personal responsibility for their health status and to obtain as much sound information as possible from expert sources in order to help them make appropriate decisions in health care. Pharmacists also play a key role in providing them with assistance, advice and information about medicines available for self-medication. Moreover, the internet is emerging as a major source of information on health issues by providing required information.[11]

The medications included were commercial anti-acne creams (21.17%), herbal products (18.8%), home remedies (17.65%), clindamycin gel (10.6%), benzoyl peroxide (8.23%), erythromycin (1.17%), oral erythromycin (1.17%) and combinations (21.17%). Other studies have documented that self-medication is not necessarily means the consumption of modern medicines but also includes herbal products.[14,15]

The intended purpose being: - relief of symptoms (44.7%), cosmetic appeal (31.7%) or both (23.6%). Only 38.82% subjects had awareness about medications. 80% of subjects had improvement, 1.17% worsening and 18.83% no change. Adverse effects included itching (11.76%), darkening/discoloration (15.3%), burning (4.7%) and peeling (9.41%). Though the adequate improvement and less adverse effects were observed in majority of the study participants, the basic knowledge about the disease, drugs and potential dangers of self medication were lacking.

CONCLUSION

Self-medication for Acne vulgaris was fairly common among medical/paramedical students. Self medication was motivated mainly by family members, friends, literature, media and beauticians, and rarely by refilling the old prescriptions. Knowledge and proper awareness about the medications was lacking in majority of the subjects and hence appropriate education and guidance necessary to avoid irrational/inappropriate use and also recurrence.

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