



Prevalance of self-medication pattern for dandruff treatment among pharmacy students

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ABSTRACT



Dandruff is a common scalp disorder distressing almost half of inhabitants the at the pre-pubertal age and of any gender. No populace in any geographical region would have passed freely without being affected by dandruff in their life at some stage. Thinning out the skin and cause other side effects are caused by non prescription preparation (OTC), if used for a long period of time. To help keep dandruff under control, there are lots of OTC products available. To evaluate the prevalence of self medication pattern for dandruff treatment among students a 15 item web based questionnaire was developed and employed to collect data (validated by the institutional ethical committee) from pharmacy students at Ezhuthachan College of pharmaceutical sciences. The survey will gather demographic information and collect data on about the usage, type of anti-dandruff product, content included and side effect experienced etc. Data were analyzed using descriptive and inferential statistics. 76% of the respondents had dandruff problem and among them, 67% experienced hair loss, 53% had acne and 31% experienced itching and 11% experienced skin rashes due to dandruff problem. 41% of the respondents adopted self medication strategy. Out of them 45% used ketoconazole shampoo and most of them experienced hairloss due to the usage of shampoo. Prevalence of self-medication for dandruff problem was alarming high. It is necessary to educate the students for diagnosis and treatment of Dandruff problems. The relevant data obtained through this study will help know about the prevalence of the self medication pattern and to aware about future complications.

Keywords: Dandruff, Prevalance, Self medication.

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INTRODUCTION

Dandruff is a common scalp condition that occurs when dead skin is shed, producing irritating white flakes and possibly an itchy scalp. Ordinarily, dandruff result from excessive drying of skin and over-

activity of the oil glands, known as seborrhea. Although dandruff is associated with the scalp, flakes may also appear on face, nose and eyebrows, as well as on the skin behind the ears, in the internal ear and skin of trunk, particularly increases. Dandruff, which is visible desquamation of scalp is the mildest manifestation of seborrheic dermatitis and caused by *P.ovale* combined with multiple host factors. Dandruff is commonly aggravated by changes in humidity, trauma (scratching), season and emotional stress. Clinically, the greyish white flakes of skin are often very visible on the hair and shoulders. the other commonly associated symptoms of dandruff are itching with scalp soreness. The severity of dandruff varies from mild dandruff to exfoliative erythroderma. Dandruff is a disease that has been around for centuries despite several treatment options. [1] Dandruff should not be defined only by its clinical presentation, pathophysiology and/or its etiological spectrum. The definition needs to include its impact on society as well. The scaly scalp may look unhygienic and untidy. It could make the sufferer feel self-conscious and embarrassed. Dandruff affects the self-esteem and confidence. [2] Itching due to dandruff also causes great embarrassment to the sufferer in public. Dandruff

caln these situations the use of topical drugs is frequent, often without knowledge about their adverse events such as bacterial resistance and masking of skin diseases.¹⁰ Therefore the present study is designed to identify the prevalence and patterns of self-medication for dandruff in among students.

A cross-sectional Questionnaire survey was conducted by online survey forms among students at Ezhuthachan College of Pharmaceutical Sciences. This study was a questionnaire-based study approved by the Institutional Ethical Committee. A briefing was given about the nature of study, and the procedure of completing the questionnaire was explained. The study population comprised of college students (age 18-25 years) of both gender. Students not having dandruff problem were excluded from the study. The questionnaire is developed by the authors after an extensive review of literature. An 15-item questionnaire was developed. The questionnaire was tested for ease of comprehension and readability among staff members of the department and necessary modifications carried out. Questionnaire was divided in two parts. First part included demographic details. Second part included general aspects of self-medication behavior like frequency of self-medication, drugs used, source of knowledge etc.

The questionnaire included multiple choice questions. The questionnaire was validated by the institutional ethical committee. The appropriateness, comprehensiveness, readability, and completion time of the survey items were pilot tested among 6 recent pharmacy graduates from the institution. Questionnaire was designed for self-administration but assistance was provided by the investigator, if needed by the participants. To test feasibility of the instruments pilot study was carried out on 20 participants. It took approximately about 10 minutes to collect data by one participant (consent, history, questionnaire for self-medication behavior).

Data collection

Data collection was done with the self-filled questionnaire. Data were collected during the 2018-2019 academic year. The questionnaires were distributed to students assembled in the college auditorium and retrieved immediately after completion. Completion time was estimated at approximately 10 minutes. Participants were counseled to fill correct information with the assurance that their data will not be disclosed to anyone and anonymity will be maintained. Willing participants were only chosen for study. Questionnaires were filled by 100 pharmacy students. 97 responded to the questions. Among these individuals, males were 17 and females were 80. All the participants were between the age group 18- 25. The study was descriptive and data was summarized as counts and percentages.

Statistical analysis

All data collected were analyzed using both descriptive and inferential statistics. Percentages were used to summarize all the responses generated from the survey. P value less than 0.05 was considered as statistically significant.

RESULTS

The college, established in 2003, currently has 4 approved academic degree programs: Pharm D, M Pharm, B Pharm and D Pharm. Among the total strength, that include 450, Questionnaires were distributed randomly to 100 pharmacy students, among them 97 students participated in the survey. Within the respondents, All participants were between the age group 18-25. Majority of respondents were females, as they were 80%. 76 respondents (76.5%) said that they had dandruff problem and 23 respondents (23.2%) were without dandruff problem, According to 41respondents (53.2%), self-medicate drugs, 21 respondents (27.3%) were adopted the treatment strategy by consulting physician. And 20 respondents (26%) adopted home remedies as treatment option. Mostly ketoconazole is the drug of choice for self-medication (69.2%) and 23.1% uses zinc pyrithione. (Fig 1).55.7% experienced hair loss and 28.6% experienced headache 14.3% had eye redness,10% experienced abnormal hair texture,8.6% experienced swelling and 7.1%dry skin had 5.1% had mild skin itching due to the usage of self-medicated drugs.(Fig 2)

Treatment strategy

| Type of treatment | No. of participants (%) |
|----------------------|-------------------------|
| Self medication | 41 (53.2%) |
| Consulting physician | 21 (27.3%) |
| Home remedies | 20 (26%) |

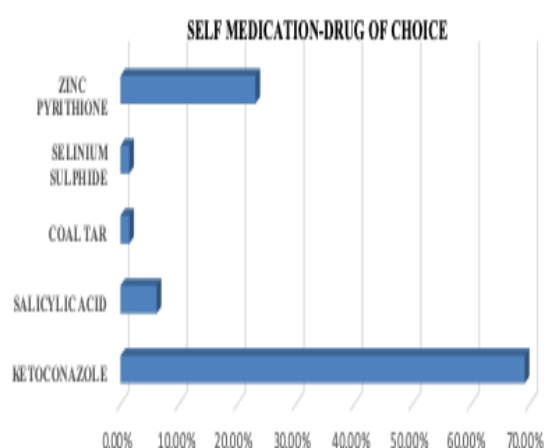


Figure 1: Self Medication drug of choice

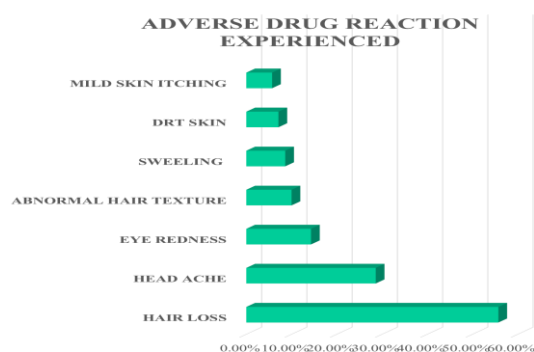


Figure 2: Adverse drug reaction experienced after self medicating antidandruff shampoo

The P-Value is < .00001. The result is significant at $p < .05$.

DISCUSSION

Skin disorders are one of the most frequently encountered and often neglected health care problems constituting a significant global burden of disease.¹³ Dermatological disorders mainly dandruff are causing large economic burden and easy visibility of dermatological illness has led to deterioration in the quality of life resulting in social handicap.¹³ The practice of self-medication is widespread all over the world especially urban and educated population. Self-medication is widely practiced in many developing countries also. ^[14] Therefore, the patterns and prevalence of self-medication in community needs to be assessed. Therefore, this study has been planned with the aim of evaluating patterns and prevalence of self-medication among pharmacy students.

In this study, the prevalence of self-medication was found to be 53.2% among students. Prevalence of self-medication has been found among 81.5% individuals in a rural area in Maharashtra but that was not specific for dermatological conditions.¹⁶ More male patients used self-medication compared to females, contrary to data from Western reports.^{17,18} Also, prevalence of self-medication was highest in 1st year of studies and it reduces when the student progresses towards final year. Majority students used allopathic medicines for self-medication (80.5%) while 26% students used alternative system of medicines like home remedies. Reason for adopting self medication was mainly due to advice from friends/seniors/parents(58.3%) A similar result was observed in a study conducted at South India where 38% of students described seniors/friends as a source of information.¹⁹ Medical textbook and internet advertisement (16.7%) old prescription (14.6%) and advice from pharmacist(10.4%) were other common causes for sources of information because of easy availability to students. Wide spread use of internet can help students to learn medical subjects but it can also contribute to self-medication. Students should be taught about how to use internet

judiciously and effectively. Among the respondents 56.1% prefer shampoo, 47.4% lotion and 5.3% prefer cream. The self medicated preparation contains ketoconazole (69.2%), 23.1% zinc pyrithione, 6.2% salicylic acid, 1.5% coal tar and selenium sulphide. Among the response rate of 69, 40 (58%) were used this preparation once a week, 26(37.7%) were used twice a week and 3 (4.3%) used daily. Among the respondents 55.7% experienced hair loss, 28.6% experienced headache 14.3% had eye redness, 10% experienced abnormal hair texture 8.6% experienced swelling and 7.1% dry skin had 5.1% had mild skin itching due to the usage of self-medicated drugs.

High humidity and elevated temperatures reaching more than 35°C are prone for fungal infections. Hair problems like hair fall and dandruff can also occur in such climatic conditions as reported in our study. This high prevalence of diseases explains well drug groups used like, antifungals for dandruff in this study. Most common reason for self-medication in present study was identifying illness as minor or non-serious problem by majority of students followed by time constraint by them. Majority students knew that use of such medication lead to adverse drug reactions but none of them reported any event which is similar to findings by other studies.

This study has evaluated the prevalence and patterns for self-medication among medical students and created baseline data. Few limitations of the study were as follows: This study was a cross-sectional survey design. Thus, association of factors, the direction of relationships and causal relationships cannot be determined. In addition, the use of a self-administered questionnaire on self-medication may produce subjective measurements that are less reliable than objective methods. Finally, this study was only performed among pharmacy students and thus would not be applicable to students in other disciplines.

CONCLUSION

Dandruff affects aesthetic value and often causes itching. It has been well established that keratinocytes play a key role in the expression and generation of immunological reactions during dandruff formation. The severity of dandruff may fluctuate with season as it often worsens in winter. Prevalence of self-medication for dandruff problem was alarming high. Self medication of this antidandruff product can lead to side effect such as hair fall, skin rashes, irritation, eye redness etc. The relevant data obtained through this study will help know about the prevalence of the self medication pattern and to aware about future complications.

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CONFLICTS OF INTEREST

The author declares no conflict of interests.

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