

**Original Article**

**PREVALENCE, PRACTICE, PERCEPTION OF SELF-MEDICATION PATTERN AMONG MEDICAL STUDENTS**

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**ABSTRACT**

**Objective:** The use of drugs (prescription as well as non-prescription by the individual for treating self-diagnosed conditions/symptoms is a practice prevalent all around the world, though the extent, the reason may vary. The practice of self-medication is increasingly becoming a part of self-care. If practiced properly and with the authentic knowledge of drugs, it can save resources such as time and money. However, its improper use may lead to various health problems like adverse drug reactions, prolonged suffering, and drug-dependence and increase resistance among various pathogens. It has many implications, especially among medical students who have some knowledge and exposure to drugs and can present a serious threat to professionalism in medicine and it has the potential to put at risk public trust into this profession. The aim of this research was to assess the knowledge, attitude and practice of self-medication among medical students.

**Methods:** Research was performed as a cross-sectional study and it included 150, 2nd year (4th semester) students of a medical college. Students filled out a questionnaire created for the purpose of this research and consisted of both open-ended and close-ended questions about demographic and self-medication. Consenting students anonymously filled the questionnaire. Questions about self-medication were related to the period of the previous three months.

**Results:** Out of 150 filled questionnaires, data of 126 were analysed as twenty-four Questionnaires were incomplete. 90.47% medical students were found to practice self-medication. Symptoms for which they took the drugs for self-medication were fever (49.68%) followed by headache, common cold/cough and pain abdomen. Drugs taken by them for self-medication were Paracetamol (85.79%), antibiotics (77.54%), analgesics, Antihistaminic and cough suppressants. Ease (43.65%) was cited as the main reason for self-medication by the respondents. Most common source of drug information was their experience in the past illness (54.03%) Of the respondents 90.48% knew about adverse drug reactions and 93.65% knew about drug-drug interactions.

**Conclusion:** This study shows that the practice of self-medication is rampant among medical students of the institute. In this situation, awareness should be created toward appropriate antibiotic usage and the practice of responsible self-medication needs to be promoted among future healthcare providers. Furthermore, stringent implementation of laws governing the sale of prescription medicines can help in limiting the self-medication practice.

**Keywords:** Drugs, Medical Students, Self-medication, Antibiotic use, cross-sectional study

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**INTRODUCTION**

Self-medication is a common practice throughout the world [1]. As per WHO self-medication is "use of pharmaceuticals or medicinal products by consumers to treat self-recognized disorder or symptoms on their own without consulting a medical practitioner" [2]. It is becoming an integral part of the health care and of patient's behaviour in coping with illness, especially for commonly faced health problems, which patient believes does not require the need of health check-up [3]. Self-care by medicine has both positive as well as negative effects. The World Health Organization (WHO) has pointed out that responsible self-medication can help to prevent and treat ailments that don't require doctors' advice and can be beneficial for patients, healthcare providers, the pharmaceutical industry and governments but on the flip side it also recognized that self-medication must be accompanied by appropriate health information. As lack of adequate knowledge will lead to irrational use of drugs which, in turn can cause wastage of resources, increased resistance of microbes and can lead to serious health problems like prolonged sufferings, drug reaction and drug dependence [4-6].

Self-medication should be done responsibly and restricted to the over-the-counter (OTC) drugs, these are drugs with proven efficacy and safety that are economically beneficial to the patient by saving time, decrease the price of the treatment. Self-medication is not only common in the general public but is also

practiced by the budding doctors. As they have some information about medicines, the pattern and prevalence may differ as compared to general public. In India, one study reported self-medication prevalence of 92% in the medical students in contrast to 59% in the non-medical students [7]. In India, there is lack of data on the prevalence of self-medication by medical students and their attitude towards the same. The present study was done with aim to determine the pattern of self-medication practice among undergraduate medical students.

**MATERIALS AND METHODS**

A cross-sectional study was planned and done using a prevalidated questionnaire consisting of open and closed-ended questions. The study was conducted on the 2<sup>nd</sup> year undergraduate students of M. B. B. S (4<sup>th</sup> Semester), in a medical college. Before handing over the questionnaire students were explained about the aim of the study and how to fill the questionnaire. They were explained about the Self-medication term as "the use of medicine for self-treatment without consulting the health care professionals". Only those students who consented were asked to fill the questionnaire in the classroom and after 30 min these were taken back for evaluation. Students were assured their confidentiality will be maintained. There were questions seeking the demographic characteristics, whether students sought self-medication in the preceding 3mo, if yes then symptom/disease for which drug was used, name of the drug, drug group, type of medicine system, the reason for not

consulting the doctor. Although, students were told to fill the questionnaire on their own but still their answers could have been influenced by fellow students. The data was analysed using graphical pad. Descriptive data were expressed as percentage, frequency and mean±SD. Chi-square test was used and "P value"<0.05 was taken as statistically significant.

## RESULTS

Out of 150 questionnaires, 126 were analysed and 24 were excluded as these were filled incompletely. The male students (85) were more as compared to the female students (41). Out of 126, 114 (90.47%) respondents stated to practice self-medication in preceding 3 mo with 79 males (92.94%) and 35 females (85.36%) (P=0.045) table 1

**Table 1: Dermographic characteristics**

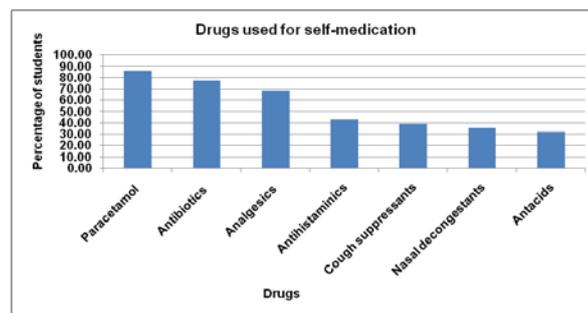
Dermographic factors		No. of students N=126	%
Gender	Male	85	67.46%
	Female	41	32.53%

The symptoms for which the respondents practiced self-medication were fever (49.68%) followed by cough and cold (37.08%), headache and pain abdomen. Drugs or drug groups commonly used for self-medication were paracetamol (85.79%), antibiotics (77.54%), analgesics (68.36%) and antihistaminic (43.23), cough suppressants (38.96), nasal decongestants (35.46), and antacids

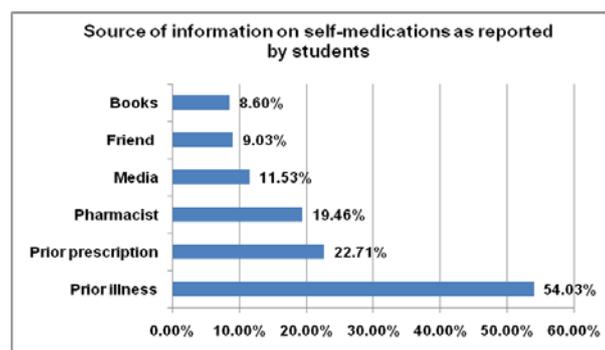
(32.06) fig. 1. Ease (43.65%) was given as the major reason by the respondents for self-medication practice; followed by time-saving (31.74%), cost-effectiveness (15.87%) and learning opportunity (8.73%). Table 2 they took the drug information from their past experience of illness followed by prior prescription, pharmacist, media, friend and books fig. 2.

**Table 2: Pattern of self-medication among medical students**

Characteristics	Response	Students practiced self-medication (%)
Students practiced self-medication	No. of students	114 (90.47%)
	126	79 (92.94%)
	M=85	35 (85.36%)
	F=41	P=0.045
Disease for which self-medication is practiced	Type of symptom/disease:	Frequency (%)
	Fever	55(48.24%)
	Cough and cold	43(37.71%)
	Headache	40(35.08%)
	Pain in abdomen	28(24.56%)
Factors for self-medication	Reason:	Frequency (%)
	Ease	55 (43.65 %)
	Time-saving	40 (31.74 %)
	Cost-effectiveness	20 (15.87 %)
	Learning opportunity	11 (8.73 %)
Awareness of adverse effects (N=126)	Yes (%)	114 (90.48%)
	No (%)	12 (9.52%)
Awareness of drug interactions (N=126)	Yes (%)	118 (93.65%)
	No (%)	8 (6.35 %)



**Fig. 1: Drugs used for self-medication**



**Fig. 2: Source of information on self-mediations as reported by students**

The respondent's knowledge about possible adverse effects and drug interactions of the drugs were also assessed. Interestingly, 90.48% of students had knowledge about possible adverse effects 93.65% of students had knowledge about drug interactions.

## DISCUSSION

We found that the practice of self-medication is common (90.47%) in the medical students of the institute. Prevalence of self-medication vary from region to region, it had been found to be up to 55% from Egypt [8]. 76.6% in Iran, [9] 44.8% in Bahrain [10] and 57.1-92.0% among medical students in India [11]. Thus it can be inferred that self-medication is practiced by medical students, in varying degree all over the world. Previous studies had stated that self-medication increases with higher education and professional status, so it might be because of their professional course [4]. However, the frequency varies from Western world to India, which could be due to easy availability of prescription drugs from pharmacies in India [12]. We found that the practice of self-medication was more common among males than females ( $P=0.045$ ), similar to the findings seen in other studies that were conducted on medical students in India [7]. However, not much data is available regarding this so it's difficult to compare the data of this institute in the national perspective. The most common symptoms/reasons for the self-medication in our study were fever (48.68%) and cough and cold (37.71%), these findings are similar to the results of other studies where the headache was the most common symptom that led to self-medication in medical students [13] while another study from India reported that most common symptom leading to self-medication was cold and cough (35.21%). It also reported that medical students self-medicate for unusual reasons like exam stress, sports injuries also [7]. Drugs or classes of drugs that were commonly used were paracetamol (85.79%), antibiotics (77.54%), and analgesics (68.36%). The findings are similar to the study done earlier, which showed paracetamol followed by antibiotics were commonly used drugs [13, 14]. Results from other studies done in India, show that the drugs commonly used for self-medication were antipyretics (71%), analgesics (65%), antihistamines (37%) and antibiotics (34%) [7]. However, in contrast, a study carried out in a tertiary care medical college of West Bengal reported antibiotics to be the most commonly used drugs [15]. Majority of students took the medications for symptomatic relief and stopped them as soon as symptoms are relieved. In India antibiotics can be purchased from chemist shops without prescription, this type of practice of self-medication with antibiotics can escalate the development of resistance in pathogen. When asked about the reasons, which led the students to go for self-medication, ease (43.65%) followed by time-saving (31.74%) had been given as the most common reason. While the most common source of drug information reported in our study was past Experience of illness followed by prior prescription and pharmacist. On the contrary, other studies revealed the source of information as self-decision, seniors, family and friends [15]. All these findings show that free availability of the drugs from the chemist shops, free advertising of the drugs promote the students to go for self-medication. Health authorities should make some policies to create awareness among students about the consequences of self-medication. In addition, we should enforce some regulation regarding sale of prescription-only drugs. Although they have been taught in detail about drugs 9.52% of students showed unawareness about possible adverse effects, 6.35% of students showed unawareness about possible drug interactions of the drugs.

## CONCLUSION

This study shows the medical students commonly practiced self-medication encouraged by the easy availability of the drugs. Many students have shown that unawareness about the dosing regimen of antibiotics, adverse reactions and drug-interactions of drugs exists among public Inappropriate self-medication can create health issues not only to the students but also to those whom they might prescribe as doctors. We should take some measures to make them more aware about the pros and cons of self-medication so that they can promote

responsible self-medication. Our study has some limitations in terms of small sample size and response was prone to recall bias as it was based on self-reported data of the previous three months.

## FUNDING

Nil

## AUTHORS CONTRIBUTIONS

All the authors have contributed equally.

## CONFLICTS OF INTERESTS

Declared none

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