

# A cross-sectional study on prevalence, pattern, and perception of self-medication practices among medical students

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## Abstract

**Background:** Self-medication is the use of medical products to treat self-recognized disorders or symptoms, also stated as irregular or continued use of a prescribed drug for chronic or recurrent disease. It is commonly practiced among medical students.

**Objective:** To study the prevalence, pattern, and perceptions of self-medication practices among the undergraduate medical students and the factors influencing them.

**Material and Methods:** A cross-sectional study was carried out among medical students of Yenepoya Medical College, Mangalore, Karnataka, India. Universal method of sampling was followed. MBBS students studying in all the three phases who consented to participate in the study were included. The data were collected by using a self-structured questionnaire and compiled in an Excel worksheet. SPSS, version 16.0, was used to analyze the data in this study.

**Results:** A total of 430 medical students participated in the study; among them, 50.2% ( $n = 226$ ) were female students and 49.8% ( $n = 224$ ) male students, with a mean age of  $20.81 \pm 1.52$  years. Majority [378 (84%)] of them resorted to self-medication practices. The most common reason for self-medication, which the students stated, was convenience (46.9%), followed by cost saving (22%). The major source for selection of medicine was opinion from senior/friend (40.2%), and major source for deciding the dosage was usage of technology [Internet (35%)]. The medicine most commonly used were analgesics (57.3%), antipyretics (53%), antibiotics (47%), and antihistamine (33%).


**Conclusion:** Self-medication should be considered as a serious threat especially among students with inadequate knowledge regarding appropriate drug choice, duration of treatment doses, and side effects.

**KEY WORDS:** Self-medication, practices, students

## Introduction

Self-medication is the use of medical products to treat self-recognized disorders or symptoms; it can also be stated as intermittent or continued use of a prescribed drug for

chronic or recurrent disease; in practice, it also includes the use of the medication of family members.<sup>[1]</sup> Self-medication is an alarming concept, which is practiced day in and day out.<sup>[2]</sup> The rapid development of technology has led to newer ways of dissemination of information, which has further led to an increase in self-medication practices.<sup>[1]</sup> In developing countries with lower economic status, less education status, and poor health-care facilities, people possess very little knowledge pertaining to risks associated with their self-medication.<sup>[2]</sup> Self-medication is influenced by various factors that include prior experience and nonseriousness of the illness.<sup>[3]</sup> It is commonly practiced among medical students.<sup>[4]</sup> A study conducted in coastal South India showed a high prevalence of self-medication practices among medical students.<sup>[5]</sup>

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Thus, this study was designed with the objectives to study the prevalence, pattern, and perceptions of self-medication practices among the undergraduate medical students and the factors influencing them.

## Material and Methods

Permission from the Head of the Institution and approval from the Institutional Ethics Committee were obtained before starting the study. A cross-sectional study was carried out at Yenepoya Medical College situated in Derlakatte, Mangalore, Karnataka, India. Universal method of sampling was followed. All the students studying in the first-, second-, and third-phase MBBS who consented to participate in the study were included. The data were collected by using a self-structured questionnaire, based on a review of similar studies.

The questionnaire included questions on demographic details, phase of MBBS (first year, second year, third year part I, and third year part II), frequency of self-medication practices, reasons for self-medication, type and pattern of drug usage, sources of information, and knowledge of adverse effects of drugs used.

### Statistical Analysis

Data were compiled in an Excel worksheet. Statistical Package for Social Sciences (SPSS), version 16.0, was used to analyze the data in this study. Descriptive statistics were reported as mean (standard deviation) for continuous variables, frequencies (percentage) for categorical variables. The  $\chi^2$  test was used to test the association between categorical variables. A *p*-value less than 0.05 were considered statistically significant.

## Results

A total of 430 medical students participated in the study; among them, 50.2% (*n* = 226) were female students and 49.8% (*n* = 224) male students, with a mean age of 20.81 ± 1.52 years. Although 366 (81.3%) of them believed self-medication to be unhealthy practice, majority [378 (84%)] of them resorted to self-medication practices. It is noted that 39.8% (*n* = 179) of the medical students suggest medicines to their family members, and self-medication practices is more among female students (88.1%) when compared with male students (79.9%).

In the last 1 year, majority of the respondents (84%) have resorted to self-medication at least once and 42.2% of them more than three times. The common illness for which the students resort to self-medication practices are fever, head ache, cold, cough, vomiting, and diarrhea [Table 1].

The most common reason for self-medication, which the students stated, was convenience (46.9%), followed by cost saving (22%). The major source for selection of medicine was opinion from a senior/friend (40.2%), and the major source for deciding the dosage was usage of technology

**Table 1:** Common illnesses for which medical students resort to self-medication practices

Variable	Number	Percentage
Fever, headache	280	62.2
Cold, cough	182	40.4
Gastrointestinal disturbances (vomiting, diarrhea)	91	20.2
Others (insomnia, body ache)	55	12.3

Multiple response questions.

**Table 2:** Reasons for self-medication practices and sources of information

Variable	Number	Percentage
Reason for self-medication		
Cost saving	99	22
Convenience	211	46.9
Illness to minor for consultation	89	19.8
Lack of trust in prescribing doctor	51	11.3
Total	450	100
Selection of medicines based on		
Senior/friends opinion	181	40.2
Leftover medicines with family/friends	147	32.6
Previous doctors prescription	95	21.2
Internet	27	6
Total	450	100
Selection of dosage based on		
Internet	160	35.6
Consulting a doctor/pharmacist	124	27.6
Previous experience	115	25.5
Friends/seniors	51	11.3
Total	450	100

[Internet (35%)]. Only 45.3% of the respondents stated that they checked the instructions and expiry date before consuming any medicine [Table 2].

Majority of the respondents (53.1%) stated that they did not complete the treatment course and discontinued it as soon as the symptoms reduced. Only 59.3% of the respondents stated that they were aware of adverse effects following self-medication practices. Among the respondents, 17.1% of them stated that they experienced adverse reaction following self-medication, and the most common one being epigastric pain (acidity) 53.3%.

Although only 31.8% of the respondents are confident that they can cure themselves successfully, majority of the respondents (57%) stated that they are aware of the ill effects caused by self-medication, and 82.7% of the respondents stated they are aware about development of drug resistance by misuse of antibiotics. The medicine most commonly used were analgesics (57.3%), antipyretics (53%), antibiotics (47%), and antihistamines (33%).

We observed a significant difference with *p* < 0.001 on comparison of knowledge about adverse effects following

**Table 3:** Association between knowledge of side effects with increasing years of experience in a medical college

Studying year in medical college	Knowledge about side effects following self-medication		Total
	Yes	No	
First	52	60	112
Second	127	34	161
Third	51	75	126
Fourth	37	14	51
Total	267	183	450

$\chi^2 = 55.40$ ,  $df = 3$ ,  $p < 0.001$ .

self-medication practice and years of experience in a medical college [Table 3].

## Discussion

This study was designed to evaluate the prevalence, pattern, and perceptions of self-medication practices among the undergraduate medical students and the factors influencing them. The prevalence in our study was found to be as high as 84% in the last 1 year, which was similar to a study conducted by Kumari et al.<sup>[6]</sup> in Jammu, which reported a prevalence of 81%.<sup>[6]</sup> In the previous studies conducted, the prevalence of self-medication practices range from 38.5%<sup>[3]</sup> to 92%.<sup>[7]</sup> We observed that self-medication practices is more among female students (88.1%) when compared with male students (79.9%), which was similar to the observation made by Kumar et al.<sup>[5]</sup>

In this study, the most common reason for self-medication reported by a large number of respondents was convenience, followed by cost saving. Few studies reported the common reasons as illness too trivial for consultation,<sup>[5]</sup> time saving<sup>[4,8]</sup> quick relief,<sup>[9]</sup> and students did not want to waste money on doctors.<sup>[10]</sup> Fever and headache were the most commonly reported symptoms for which the students resort to self-medication, which was found similar to the observations reported by Abay and Amelo<sup>[3]</sup> and Srikanth et al.<sup>[10]</sup> We also observed that the most commonly used drugs were analgesics and antipyretics, which was similar to the observations made by Abhay and Amelo.<sup>[3]</sup>

Our study found that the important sources of information regarding drugs and dosages were from seniors/friends and the use of technology. This is in contrast to the observations made by other studies such as relatives, physician,<sup>[4]</sup> and textbook and related materials.<sup>[3]</sup> Majority of the respondents (53.1%) stated that they did not complete the treatment course and discontinued it as soon as the symptoms reduced, which was similar to the observations reported by Srikanth et al.<sup>[10]</sup> These factors raise the concern of development of drug resistance, especially with the use of antibiotics.

In this study, 59.3% of the respondents stated that they were aware of adverse effects following self-medication, which is low compared with the 90% awareness reported by Pandya et al.,<sup>[4]</sup> and 17.1% of them stated that they

experienced adverse effects, which is high compared with the 7.6% reported by the same study.<sup>[4]</sup>

## Conclusion

We observed that prevalence of self-medication practice is high among medical students, despite majority of them considering it to be an unhealthy practice. Self-medication should be considered as a serious threat, especially among students with inadequate knowledge regarding appropriate drug choice, duration of treatment doses, and side effects. The need of the hour is to intervene and educate the students regarding benefits and ill effects of self-medication and implementation of strong policies to control irrational supply and consumption of drugs.

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