Original Article

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Self-Medication Practice and Perceptions Among Undergraduate Medical Students: A Cross-Sectional Study

Pharmacology Section

SHIVARAJ.B.PATIL[1], VARDHAMANE.S.H[2], PATIL.B.V[3], JEEVANGI SANTOSHKUMAR[4], ASHOK.S.BINJAWADGI[5], ANAND.R.KANAKI[6]

ABSTRACT

Background: Self-medication practice is widespread in many countries and the irrational use of drugs is a cause of concern. It assumes a special significance among medical students as they are exposed to knowledge about diseases and drugs.

Aim: To assess practice and perception of self medication among undergraduate medical students

Materials and Methods: It is a cross-sectional study in which study population consisted of undergraduate medical students of Mahadevappa Rampure Medical College Gulbarga, Karnataka, India. This study was conducted from March to April 2014. Total 448 students were taken. Out of which 8 incomplete questionnaires were excluded and 440 were analysed. The students who took self-medication during last six months were included. Written informed consent was obtained from each volunteer prior to the study. Students were given a questionnaire that include both open and close ended questions about self-medication practice.

Ethical Approval: Ethics Committee approval was obtained from the Institutional Ethics Committee of Mahadevappa Rampure Medical College, Gulbarga, India, prior to the commencement of the study.

Statistical Analyses: Data was analysed and presented as counts and percentages.

Results: It was found that 388 (88.18%) students practiced self medication. The principal morbidity for seeking self medication was cold and cough as reported by 304 (78.35%) students. Antibiotics were most commonly self medicated as reported by 248 (63.91%) students, out of which only 92 (37.1%) students completed the full course of antibiotic regimen. Only 176 (40%) students opined that self medication is part of self care.

Conclusion: Self-medication is widely practiced among undergraduate medical students. In this situation, we should educate the students about advantages and disadvantages of self medication.

Keywords: Antibiotics, Generic drugs, Over the Counter, Questionnaire

INTRODUCTION

Self-medication can be defined as the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms [1]. Self-medication involves acquiring medicines without a prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home [2]. According to WHO guidelines responsible self-medication can help prevent and treat diseases that do not require medical consultation and reduce the increasing pressure on medical services for relief of minor ailments especially when resources are limited [3]. Otherwise self medication if not based on authentic medical information can lead to irrational use of drugs, wastage of resources, increased resistance of pathogens and can lead to serious health hazards such as adverse drug reaction and prolonged morbidity [4].

Economic, political, and cultural factors have stimulated a constant increase in self-medication worldwide, turning this practice into a major public health problem [2]. The practice of self-medication is widespread in many countries [5-10]. In developing countries like India, easy availability of wide range of drugs coupled with inadequate health services result in increased proportion of drugs used as self medication [11]. Self medication is common among practicing physicians also [12].

The self-medication practice among doctors develops during their undergraduate training as obvious from some studies of self-medication among medical students [13]. For medical undergraduates such practice has special significance as they are exposed to knowledge about diseases and drugs.Hence this study was undertaken to assess practice and perception of self medication among undergraduate medical students.

MATERIALS AND METHODS

It is a cross-sectional study in which study population consisted of undergraduate medical students of Mahadevappa Rampure Medical College Gulbarga, Karnataka, India. This study was conducted from March to April 2014.

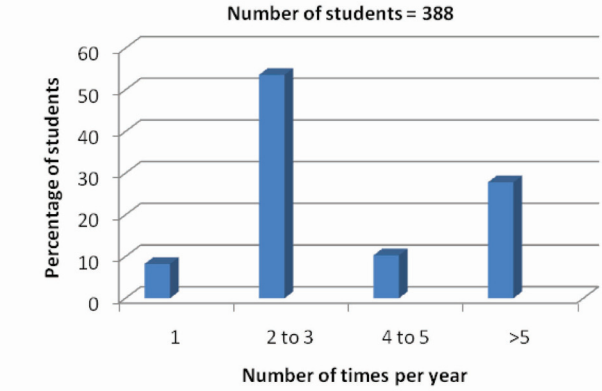
Total 448 students were taken. Out of which 8 incomplete questionnaires were excluded and 440 were analysed. The students who took self-medication during last six months were included. Any event of use of over the counter (OTC) or prescription medicines without consulting a doctor will be considered as self-medication. All the students were explained about the type and purpose of the study and informed that participation is voluntary and their collected information will not be shared and it would be anonymous. Written informed consent was obtained from each volunteer prior to the study. Students were given a questionnaire that include both open and close ended questions about self-medication practice. The study questionnaire was developed under the guidance of expert faculty members and was first pre-tested in five respondents and suitable modifications done. The final version of the questionnaire was distributed to the students.

Ethical approval

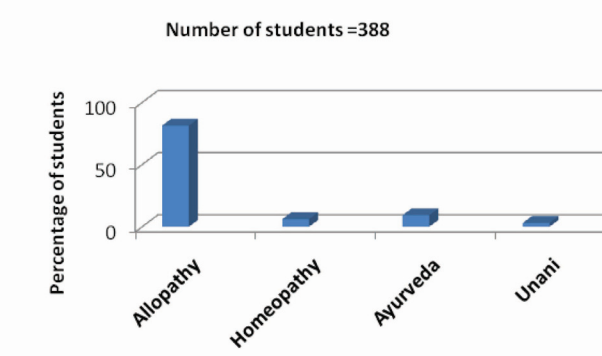
Ethics Committee approval was obtained from the Institutional Ethics Committee of Mahadevappa Rampure Medical College, Gulbarga, India, prior to the commencement of the study.

Year of MBBS	Self medication n = 388 (%)	No self medication n = 52 (%)	Total number of students in each year n = 440 (%)
1st year	120 (86.33)	19(13.67)	139 (100)
2nd year	109 (89.34)	13 (10.66)	122 (100)
3rd year	70 (85.37)	12 (14.63)	82 (100)
4th year	89 (91.75)	8 (8.25)	97 (100)

[Table/Fig-1]: Distribution of self medication practice according to year of MBBS



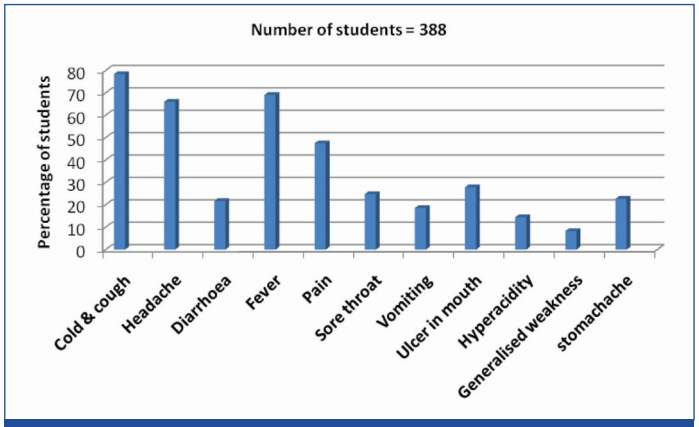
[Table/Fig-2]: Frequency of self medication



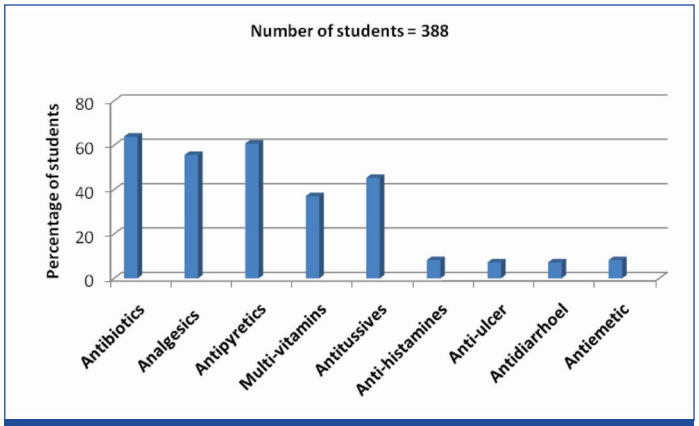
[Table/Fig-3]: System of medicine followed for self medication

Items	Aware N (%)	Not aware N (%)
Aware about OTC drugs	240 (54.55)	200 (45.45)
Aware about Generic drugs	232 (52.73)	208 (47.27)
Aware about side effects of drugs taken	56 (14.43)	332 (85.57)

[Table/Fig-4]: Awareness about various aspects of self- medication



[Table/Fig-5]: Indications/symptoms for self medication



[Table/Fig-6]: Drug classes used for self medication

STATISTICAL ANALYSES

Data was analysed and presented as counts and percentagess.

RESULTS

Out of 440 which were analysed for practice, attitude and perception about self medication, 268 (60.91%) were males and 172 (39.09%) were females. The mean age of students was 20.4 ± 1.22 years. Three hundred eighty eight (88.18%) students practiced self medication. The detailed results as counts and percentage are presented in [Table/Fig-1-11].

[Table/Fig-6] shows the drug classes used for self medication. Most common class of drugs self medicated was antibiotics 248 (63.91%). Out of 248 students who took antibiotics only 92 (37.1%) students completed the full course of antibiotic regimen. Students perceived adverse drug reaction as most common disadvantage of self medication followed by wrong medication, drug interactions and disease aggravation.

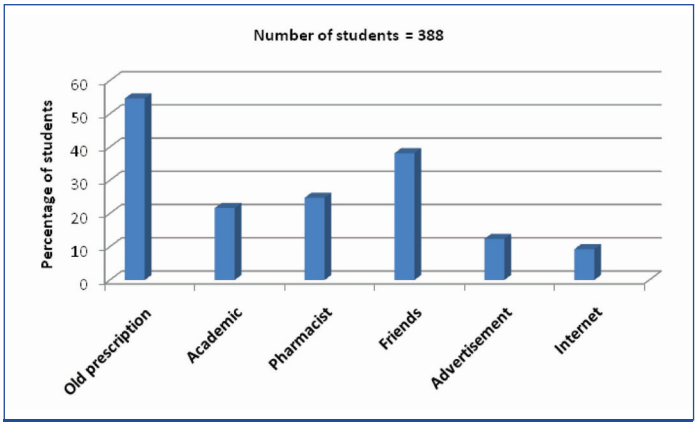
DISCUSSION

In our study the prevalence of self medication among undergraduate medical students was 88.18%. In studies conducted in India the prevalence of self medication was 57.05% in West Bengal [4] and 78.6% in Mangalore [5]. In studies conducted in other countries, the prevalence of self medication was 25.4% in Ethiopia [9], 55% in Egypt [10] and 55.3% in Karachi [14].

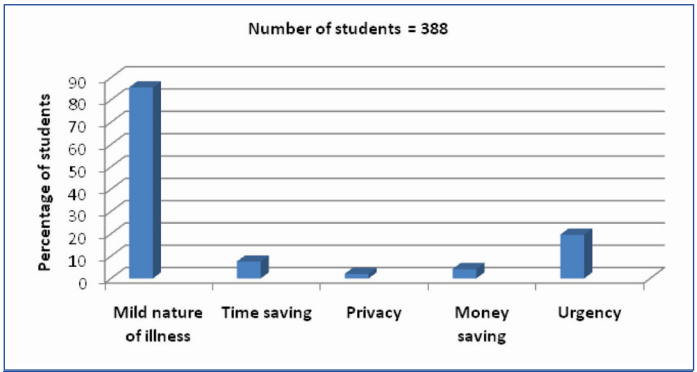
It is generally expected that self medication practice to be more common in senior medical students as they are exposed to knowledge about diseases and drugs. But, in our study third year students had lesser prevalence of self medication as compared to first year and second year students which is against the assumption and similar to observations made by Sontakke et al. The reason for low prevalence in third year students could be they are aware of potential disadvantages of self medication like side effects, drug interactions or due to under reporting. The self medication practice was highest in fourth year students which are in accordance to above assumption and the reason could be their knowledge about diseases and drugs is further enhanced by reading final year subjects and feel more confident than third year students in practicing self medication.

In our study most of the students followed allopathic system of medicine which was similar to observations made in a study conducted in Mangalore [5]. Majority of students were aware about OTC drugs and generic drugs in our study. In a study conducted by Sontakke et al., the awareness about OTC drugs and generic drugs was higher in senior medical students [15]. These factors are important because the students will be benefitted in terms of reduced cost on medicines by using generic drugs and less incidence of adverse effects if only OTC drugs are used for self medication.

Only 14.43% students knew the side effects of drugs taken. This shows a vital shortcoming in the knowledge of students about



[Table/Fig-7]: Source of information



[Table/Fig-8]: Reasons for self medication

drugs which are self medicated. So we have to work harder to make students aware of side effects of drugs which will help in reducing the incidence of side effects and also for early detection and treatment of side effects if they occur.

Most common indication for self medication was cold and cough in our study which was similar to observations made in West Bengal [4] and southern part of India [16]. However, fever was the most common indication for self medication in a study conducted in Ethiopia [9] and Mangalore [5]. Antibiotics were the most common class of drugs self medicated in our study which was similar to observations made in west Bengal [4]. However, antipyretics were the most common class of drugs self medicated in studies from Mangalore [5] and Ethiopia [9]. Another study from Bahrain reported analgesics as most common class of drugs self medicated with antibiotics contributing only 6%. The reason given by researchers for limited use of antibiotics in Bahrain is that the government in Bahrain has strict regulatory policies about the prescription and over the counter sale of antibiotics [7]. This suggests that the use of antibiotic is high in our study which could be due to lack of regulatory policy governing the OTC sale of antibiotics.

Only 37.1% of students who took antibiotic completed full course of antibiotic regimen. This can lead to emergence of antibiotic resistance. The students should be educated about completing the course of antibiotic.

In our study 54.63% used old prescription for same illness as source of information about drugs which was similar to observations made in Mangalore [5]. However, in another study from India [16] and Ethiopia [9] textbooks was the most common source of information. Majority of students self medicated because of mild nature of illness in our study. Similar observations were made by studies from West Bengal [4] and Nepal [17]. Another study from Ahmedabad reported time saving as most common reason for self medication [13].

In our study majority of students perceived adverse drug reactions as major disadvantage which was similar to observations made in a study from Nagpur [15]. Only 40% students opined that self

Items	N (%)
Self medication part of self care	176 (40)
Start/ continue self medication	108 (24.54)
Stop self medication	124 (28.18)
Advice self medication to others	32 (7.27)

[Table/Fig-9]: Attitude of the students towards self-medication (N = 440)

Items	N (%)
Side effects	24 (6.19)
Drug interactions	4 (1.03)
Recurrence of symptoms	4 (1.03)
No adverse outcome	356 (91.75)

[Table/Fig-10]: Adverse outcomes due to self medication (N = 388)

Items	N (%)
Prevent the supply of medicines without prescription	152 (34.55)
Awareness and education regarding implications of self-medication	260 (59.09)
Enforcing strict rules regarding misleading pharmaceutical advertising	64 (14.55)
Working towards making health care facilities easily available	104 (23.64)
No opinion	24 (5.45)

[Table/Fig-11]: Perception of students regarding methods to prevent the growing trend of self-medication (N = 440)

medication is part of self care which was lesser to that reported in study from Mangalore [5].

Self medication has its pros and cons. Responsible self medication is a convenient alternative to treat minor illness and part of self care, whereas inappropriate self medication can have harmful effects. Although OTC drugs are safe and meant for self medication, there can be serious implications if they are used improperly due to lack of knowledge of their side effects and interactions. So the faculties of the institute should educate the students regarding the merits and demerits of self medication. The present study also perceives the implementation of regulatory control on prescription and OTC sale of antibiotics. More multicentric studies need to be carried among medical students and general population at large to study various factors influencing self medication.These studies should be conducted on periodic basis so that they will give insight into changing pattern of drug use in society.

LIMITATIONS

The study was based on self reported data about self medication in last six months hence recall bias cannot be ruled out. The study could have been more generalized if it was multicentric involving other medical colleges also. All the students were encouraged to fill the questionnaires independently but mutual influence cannot be ruled out.The study did not look into as to how many students have physicians in the family so their influence as a source of prescription cannot be ruled out.

CONCLUSION

Self medication is widely practiced among undergraduate medical students. In this situation, we should educate the students about advantages and disadvantages of self medication.

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PARTICULARS OF CONTRIBUTORS:
1. Post Graduate Resident, Department of Pharmacology, M.R. Medical College, Gulbarga, Karnataka, India.
2. Professor and Head, Department of Pharmacology, M.R. Medical College, Gulbarga, Karnataka, India.
3. Professor, Department of Pharmacology, M.R. Medical College, Gulbarga, Karnataka, India.
4. Associate Professor, Department of Pharmacology, M.R. Medical College, Gulbarga, Karnataka, India.
5. Associate Professor, Department of Pharmacology, M.R. Medical College, Gulbarga, Karnataka, India.
6. Assistant Professor, Department of Pharmacology, M.R. Medical College, Gulbarga, Karnataka, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Shivaraj.B.Patil,
Post Graduate Resident, Department of Pharmacology, M.R.Medical College, Gulbarga-585105, India.
Phone : 09964897548, E-mail : shivarajpatil85@gmail.com

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