

Prevalence of Self Medication in Medical Students

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Abstract

Self-medication is defined as obtaining and consuming drugs without the advice of a physician & not based on authentic medical information. It leads to irrational use of drugs, increased drug resistance which may lead to serious health hazards. The present study is undertaken to assess prevalence of self-medication and associated factors among medical students and their knowledge regarding self medication. A prospective, cross-sectional study was carried out among 251 medical students by using modified semi-structured questionnaire. Statistical analysis was carried out by SPSS version 23 and Chi square test was used to see the associations. Result showed that 79.3% students take self medication. Among them, maximum student were from 4th year i.e. 84%. Study found that students take self medication but mostly they completed full dose of antibiotics and are well known about mechanism of action, therapeutic dosage & adverse reactions. Maximum students thought self medication as an acceptable practice.

Key words: Medical Students, Prevalence, Self Medication

Introduction

Self-medication is defined as obtaining and consuming drugs without the advice of a physician either for diagnosis, prescription or surveillance of treatment¹. This includes 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 home². Self-medication is a behavioral response of human beings in which, an individual uses drugs to treat self-diagnosed minor symptoms or disorders having the potential to do good as well as harm as it involves use of drugs. It

is widely practiced worldwide in urban and rural population including developing countries like India because many drugs are dispensed over the-counter without prescription and it provides a low cost alternative for people³. It might be due to number of factors like socioeconomic status, lifestyle, ready access to drugs, and greater availability of medicinal products which are existing in developing countries⁴.

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

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limited⁵. It has become a serious ailment raising the concern of incorrect diagnosis and drug reaction as well. Being future medical practitioners, Self Medication has a special impact in medical students. Otherwise self medication if not based on authentic medical information can lead to irrational use of drugs, wastage of resources, and increased resistance of pathogens and can lead to serious health hazards such as adverse drug reaction and prolonged morbidity.⁶

The self-medication practice among doctors develops during their undergraduate training as obvious from some studies of self-medication among medical students.⁷For medical undergraduates such practice has special significance as they are exposed to knowledge about diseases and drugs. In developing countries like India, easy availability of wide range of drugs coupled within adequate health services result in increased proportion of drugs used as self Medication⁸⁻⁹. Therefore, the present study was undertaken with the following objectives: To know the prevalence of self-medication and associated factors among medical students & to assess the knowledge of self medication among medical students.

Material and Methods

Study design & Study participants:

It is a cross sectional study which was performed among the undergraduate medical students (Bachelor of Medicine and Bachelor of Surgery; MBBS) at Chirayu Medical College & Hospital, Bhopal, India. With the intake of 150 students per year; around 600 students of four batch years study in the college at a given time.

Sample size & Selection criteria

Students from all four academic batch years were selected by simple random sampling. Each batch year students were enlisted and students from each batch were selected thus a final sample size of 251 medical students.

Study period

The data collection was done from 15th July 2019 to 30th September 2019.

Variables

We identified all possible subset of variable among study population and carried out pilot study to find the suitability of the selected variables. The variables identified were as follows Age, academic year.

Definitions

Self medication- Self-medication is defined as obtaining and consuming drugs without the advice of a physician either for diagnosis, prescription or surveillance of treatment.

Study tool

In the questionnaire there are multiple choice or open response questions regarding the demographic characteristics and Self medication 3 months prior to the study was noted. A pretested, modified and semi-structured questionnaire was used for the data collection from the students. Prior to administering the questionnaire, the students were addressed regarding the purpose and process of data collection. All the tools are well validated and reliable. Enquiry about personal data (age, sex etc), general question about self medication, and then specific questions of medication used and reason for usage was done. Questions about frequency of self medication cause and a recorded side effect if any was noted. Specific questions of knowledge about self medicated drugs were also asked.

Study procedure and ethical considerations

Survey was conducted among the students at suitable time and opportunity. A pilot testing of questionnaire was done for standardization and for further validation with 10 students before the actual survey in which they had no difficulty filling in the questionnaire; later their responses were included in the final data analysis. Each selected student was asked to fill out a structured questionnaire after obtaining an informed consent in English and Hindi language. All the participants were informed about the purpose of the study. Forms were distributed manually among all the students. Students were given a time period of 20 - 30 minutes to fill the form completely. Before filling up the questionnaire students were guided through questionnaire to fill it up. Forms were scrutinized before collection, to

look for any left or improperly filled entries. Study was conducted after the clearance from Institutional Ethical Committee (IEC) of Chirayu Medical College & Hospital, Bhopal. Confidentiality of the data of participants of the study was maintained.

Statistical analysis

For categorical variables the frequency and percentage s were calculated, while for continuous variables mean and standard deviation were

calculated as a descriptive statistic. Chi -square test (x2) and A one-way ANOVA was used as a test of significance to see the association between two non parametric variables. Microsoft Excel software and Statistical Package for Social Sciences (SPSS) version 23 were used for data analysis. Significant level was considered ≤5 %.

Observations and Results

In present study, 79.3% students take self medication and out of them, 39.7% males and 60.3% females. Among them, 66.6% were in 1st year MBBS, 83.8% 2nd year, 81.5% 3rd year and 84% in 4th year. (Figure 1)

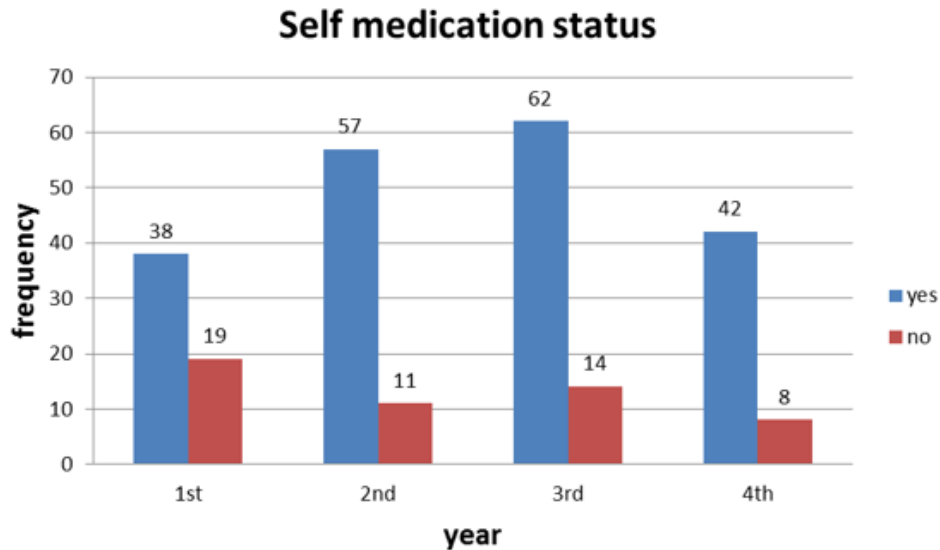


Fig 1. Prevalence of self-medication among medical students (Year wise) (n=251)

Table 1. Association of prevalence of self medication among medical students (n=251)

Year	Self Medication Taken	Self Medication Not taken	Total
1st Year	38(19.1%)	19(36.5)	57
>1st Year	161(80.9%)	33(63.4)	194
Total	199	52	251

df = 1, pvalue = 0.01

The prevalence of self medication between first year medical students and senior medical students was found statistically significant in our study. (Table 1)

Also results showed that 22.7% medical students know about the therapeutic dose of medications.

Highly statistically significant results were found in knowledge between first year students and senior students.(p=0.00001)

Major reasons of self medication among students reported in present study were convenience followed by cost saving and very few students use it due to lack of trust in prescribing doctor.

Medical students reported more than one health problems for self medication like 59.2% students take self medication due to complain of fever, 43.2% due to aches & pains, 42% for cough, 38%for running nose, 35% for sore throat, 31% for nasal congestion, 23.6% for vomiting, 21% for diarrhea,13%for skin wounds.

Students obtained medications from multiple sources in present study like maximum (86.4%) students from community pharmacies, 23.6% from

previous prescription and only 4% from online E-pharmacies and 3.5% from others. It was also observed that most of the students always check the instructions come with the package insert for self treatment and fully understood them.

Table 2. Trend of Completion of full course of antibiotics among medical students (n=191)

Year	Yes no.(%)	No no.(%)	Total
First	24(68.57)	11(31.43)	35
Second	33(68)	22(40.00)	55
Third	46(76.67)	14(23.33)	60
Forth	32(78.05)	9(21.95)	41

Table 2 shows that tendency of completion of full course of antibiotics as a self medication increased from second year onwards i.e. it was 68% among second year, 76.67% among third while 78.05% among final year students.

Approximately 15.07% students had experienced any adverse reaction during self medication process and almost all consulted a doctor and few of them also stopped taking medications whereas some students did nothing except consulting a doctor.

Table 3. Type of Medications used by medical students for self medication (n=199)

S. No.	Type of medication	No. of students(%)
1	Analgesics Antipyretics	169(84.92)
2	Antibiotics	57(28.64)
3	Anti allergic	53(26.63)
4	Cough syrup	46(23.1)
5	Antacid	18(9.04)
6	Others	08(4.02)

#Students took more than one type of medications for self medication.

Analgesics were taken mostly due to fever, abdominal pain and body ache. Antibiotics were taken for upper respiratory tract infections, acute gastritis and urinary tract infections. (Table 3)

Maximum (84.9%) students stopped taking self medication after disappearance of symptoms in present study.

Most of the medical students (58.8%) thought self medication as an acceptable practice while 27.1% did not accept it for self healthcare.

On assessing the knowledge, 82% students know about mechanism of medications and 51% know the drug interactions shown by them.

Table 4. Association of knowledge of lethal doses among medical students (n=251)

Lethal dose of Medication	Yes(%)	No(%)	Total
1 year	11(19.29%)	112(57.73%)	123
>1 year	46(80.71%)	82(42.22%)	128
Total	57	194	251

Chi square value is 24.52. The p value is 0.000001

Table 4 Association of knowledge of lethal doses among medical students found highly statistically significant. (p=0.000001)

In present study, mostly students knew the adverse reactions of self medication as nausea and vomiting followed by drug resistance, diarrhea and rashes.

Discussion

In present study, 79.3% students take self medication and out of them, 39.7% males and 60.3% females. This finding is almost similar in various studies like 79.9% by Lukovic et al.¹⁰ at Serbia, 78.6% by Kumar et al.¹¹ at Mangalore, 65% by Pal J.¹² at Kolkata, 83% by Chauhan et al.¹³ at Kangra, 88.1% by Patil et al.¹⁴, 82.3% by Rushi et al.⁸ at Gujarat, 78.6% by Kumar et al.¹¹ in south India. Few other studies are reported much higher prevalence like 91.5% found by Shah et al.¹⁵ in 2018 at Gujarat where as one another study conducted in Egypt found it very low i.e. 55%.¹⁶

Year wise prevalence was 66% in 1st year MBBS, 83.82% 2nd year, 81.58% 3rd year and 84% in 4th year in our study. This finding collaborates with other studies like Pandya et al.⁸, Palet al.¹² and Patil et al.¹⁴ The increasing trend in use of self medication from 1st year to final year was found due to successively gaining knowledge academically, so they learn more about medications year wise.

The prevalence of self medication was found as 66% among 1st year students in our study which is much lower than in study done by Shah et al¹⁵ in which it was found 90%. Likewise, Kumar et al¹¹ reported 67% prevalence among 4th year students. This finding contrasts with our study in which it was found much higher (84%) among 4th year students.

The commonest health conditions for self medication were found as fever, aches & pains, cough, running nose, and sore throat in our study. Almost similar findings were observed in various studies done by Chauhan et al¹³, Pal J et al¹² at Kolkata (2017) and the principal morbidity for seeking self medication was cold and cough as reported by 78.35% students in study done by Patil et al¹⁴ at Karnataka. These health problems are very much frequently encountered by medical students so that they took medications by their own choice without any delay. Probably, students did not feel the necessity to consult a doctor for so much common problems and believed the same very trivial conditions.

Major reasons of self medication among students reported in present study were convenience (68%) followed by cost saving (16%) and others (16%). Very few students (13%) use it due to lack of trust in prescribing doctor. Similarly common reason for self-medication was they know the medicine (78.14%) and previous experience (64.48%) by Shah et al¹⁵ at Gujarat.

In present study, 45% students select medications based on their own experience whereas 41% follow the previous prescription of doctor. This finding supports study done by Shah et al.¹⁵

Analgesics & Antipyretics were the most commonly used drug for self medication (85%) followed by antibiotics (28.6%), anti allergic (26.6%) and cough preparations (23.1%). Few studies like Lukovic et al¹⁰, Chauhan et al¹³, Kumar et al¹¹ and Shah et al¹⁵ support our observations while antacids were found commonly by Pal J et al¹² at Kolkata. Antibiotics were most commonly self medicated as reported by 63.91% students in study by Patil S.¹⁴ Basically, all of these kinds of medications are very easily available and accessible in market without any prescription in our country.

In this study, 58.8% students thought self medication as an acceptable practice while 27.1% did

not accept it or believed it as non acceptable. Contrary to our results, only 25% students believed it as an acceptable in study done by Jagadeesh et al¹⁷ whereas Kumar et al¹¹ found it 47% and Patil et al¹⁴ found 40%. Chauhan et al¹³ found that 22% students felt this self medication practice could be harmful whereas 18% regarded it as an unacceptable.

Approximately 15.07% students had experienced any adverse reaction during self medication process and out of them, almost all (100%) consulted a doctor, 60% stopped taking antibiotics whereas 43.33% did nothing in our study. This finding is almost similar to another study done in Egypt by Fawaz et al¹⁶ in which 16.9% suffered from adverse effects.

On assessing the knowledge, 82% know about mechanism of medications while 22.7% know the dosage of medications to give therapeutic effect, 51% know the drug interactions shown by them in our study whereas in a study done by Shah et al¹⁵ found 64.48% know about dosage. Another study by Fawaz et al¹⁶ observed that 4.7% knew about drug interactions.

Conclusion

In present study, 79.3% students take self medication and out of them, majority was females (60.3%) and major reason was reported as feel very convenience one. (68%)

Fever is the commonest health problem reported followed by aches & pain, cough and cold for which they took self medications. Majority of students got information about medications from their own experience and previous prescription of doctor and most of them obtained medications from community pharmacist.

In our study, although students take self medication but mostly they completed full dose of antibiotics. Most of students were well known about mechanism of action as well as therapeutic dosage of medications and also their adverse reactions. Maximum students thought self medication as an acceptable practice.

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