Self Medication: Perception and practices among undergraduate medical students.

Rajaat Vohra, MD, Associate Professor, Department of Community Medicine, Mahatma Gandhi Medical College and Hospital, Sitapura, Jaipur

Anusha Vohra, MD, Associate Professor, Department of Pharmacology, Mahatma Gandhi Medical College and Hospital, Sitapura, Jaipur

Corresponding Author: Anusha Vohra, MD, Associate Professor, Department of Pharmacology, Mahatma Gandhi Medical College and Hospital, Sitapura, Jaipur , Rajasthan, India.

Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Introduction: Self-medication is the use of medical products to treat self-recognized disorders or symptoms. The present study is aimed to assess the perception and practices of self medication among undergraduate medical students of tertiary care medical college in Jaipur, Rajasthan.

Material and methods: A cross sectional study was carried out among 600 MBBS students (150 per batch). The data regarding perception and practices of self medication was assessed using a predesigned and pretested questionnaire. The data was analysed and Chi square test was used to find significant association.

Results: A total 537 students completely filled up the questionnaire. 78.77% students agreed that they have practiced self medication of which 68.32% male students while only 31.67% female students have practiced self medication. The most common reason for self medication was illness to be too trivial for consultation (73.52%) and the most commonly consumed drug were antipyretics (63.12%). Most common source of information was old prescription for same illness (78.01%) and having academic knowledge (64.06%). Fever was the most common indication of self medication (63.82%) Majority of the students (42.27%) responded that self medication can be stopped by preventing supply of medication without prescription.

Conclusion: Self medication, which is highly prevalent among undergraduate medical students, poses a serious threat due to poor knowledge regarding the drug of choice, dose and possible side effects. Counselling sessions should be conducted to spread awareness among the students.

Keywords: knowledge, practices, self medication, undergraduate.

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. [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]

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. [3] Though taking self medication without medical prescription may save time and money of visiting a doctor, but ultimately potential risks outweigh the minor benefit it may carry. Taking self medication may provide symptomatic relief but it does not treat the disease per se, thus some disease become masked and enters chronic state and many heinous diseases remain hidden. This being only the tip of an iceberg. [4]

Young adults are more vulnerable as they have poor knowledge regarding health problems and health care utilization; as well as they are highly influenced by the media and internet. This raises concern of incorrect self diagnosis, use of drugs for reason other than the original indication and drug interactions. Self medication is commonly practiced by medical students.[5] A study conducted in Coastal South India has shown a high prevalence of self medication among medical students. [6]

In spite of high prevalence of self medication, very few studies have been conducted in Rajasthan. Thus the present study is aimed to assess the perception and practices of self medication among undergraduate medical students of tertiary care medical college in Jaipur, Rajasthan.

Material and methods

This was a cross sectional study done on undergraduate medical students of Mahatma Gandhi Medical College, Jaipur. All the 600 MBBS students (150 per batch) were eligible to participate in the study.

Due approval was taken from Institutional Ethical Committee before undertaking this study. Informed consent was taken from each and every student before the study. All the students were explained the purpose of the study. Confidentiality was ensured.

A pre designed and pretested questionnaire was used to assess the following parameters:

- Demographic characteristics: Age, sex, batch
- Whether they have taken any medicine without prescription in last 3 months
- Reasons for self medication
- Category of drug consumed, source of information regarding the drug
- Indication of self medication

Out of 600 students, only 568 students were present on the day when they are asked to fill up the questionnaire. Out of these 568 students, only 537 students filled up the complete questionnaire.

The data was entered in Microsoft Office Excel worksheet. Chi square test was used to find significant association. p value < 0.05 was considered statistically significant.

Results

A total 568 students were participated in the study to assess the perception and practices of self medication. Out of the 568 students, only 537 students completely filled their questionnaire and were included in the study.

Figure 1: Pie showing distribution according to practice of self medication
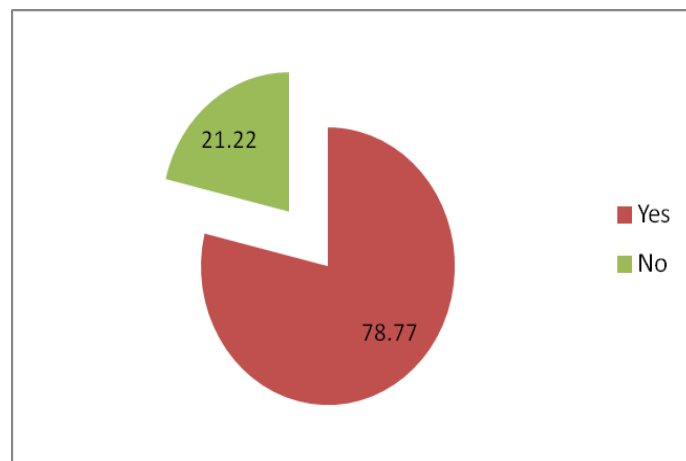
Out of these 537 students, 423 (78.77%) students agreed to have consumed medicines by themselves while 114

(21.22%) students said that they have never consumed medicines by themselves. (Figure 1)

Table 1: Demographic characteristics of the study population (n=537)

Variable		Self medication (n = 423)	No self medication (n = 114)	Chi square (df)	p value
Gender	Male	289 (68.32)	63 (55.26)	6.78 (1)	0.009
	Female	134 (31.67)	51 (44.73)		
Year of MBBS	1st year	83 (19.62)	46 (40.35)	31.8 (3)	0.000
	2nd year	96 (22.69)	33 (28.94)		
	3rd year	111 (26.24)	21 (18.42)		
	4th year	133 (31.44)	14 (12.28)		

Table 1 shows the demographic characteristics of the study population. 68.32% male students have practiced self medication while only 31.67% female students have practiced self medication. On applying chi square, there is a statistically significant association of sex with practicing self medication. More male students have practiced self medication than female students. 31.44% students of 4th year have practiced self medication in comparison to 26.24%, 22.69% and 19.62% students of 3rd year, 2nd year and 1st year respectively. On applying chi square, there is a significant association. Thus, more 4th year students have practiced self medication in comparison to 3rd, 2nd and 1st year students.

Table2: Distribution of study population according to reasons for self medication (n=423)

Reasons for self medication	Number (percentage)*
Illness too trivial for consultation	311 (73.52)
Sufficient pharmacological knowledge	270 (63.82)
To save time	65 (15.36)
Avoid crowd at OPD	51 (12.05)
Privacy	34 (8.03)

*Multiple response

On assessing the reasons for self medication, 73.52% students said that illness was too trivial for consultation while 63.82% students said that they have sufficient pharmacological knowledge to take medicine by themselves. Other reasons for self medication were to save time (15.36%), avoid crowd in OPD (12.05%) and to have privacy (8.03%). [Table 2]

Table 3: Distribution of study population according to category of drugs consumed and source of information regarding drugs: (n=423)

Category of drugs consumed	Number (percentage)*
Antipyretics	267 (63.12)
Antitussives	259 (61.22)
Analgesics	241 (56.97)
Antihistamines	177 (41.84)
Antibiotics	156 (36.87)
Tonics/ vitamins	142 (33.56)
Antidiarrheal	133 (31.44)
Antiemetics	99 (23.40)
Antispasmodics	83 (19.62)
Antiulcer	48 (11.34)
Sedatives	33 (7.80)
Source of information regarding drugs	
Old prescription for same illness	330 (78.01)
Academic knowledge	271 (64.06)
Pharmacists	115 (27.18)
Friends	84 (19.85)
Drug advertisement/ internet	51 (12.05)

*Multiple response

Table 3 showed the category of drug consumed and the source of information regarding the drug. Most commonly consumed drug were antipyretics (63.12%) followed by antitussives (61.22%) and analgesics (56.97%). Other drugs consumed were antihistamines (41.84%), antibiotics (36.87%), tonic/vitamins (33.56%) and antidiarrheal (31.44%). Less commonly consumed drugs were antiemetics (23.40%), antispasmodics (19.62%), antiulcer (11.34%) and sedatives (7.80%). Most common source of information was old prescription for same illness (78.01%) and having academic knowledge (64.06%). Other sources of information were pharmacists (27.18%), friends (19.85%) and drug advertisement/internet (12.05%).
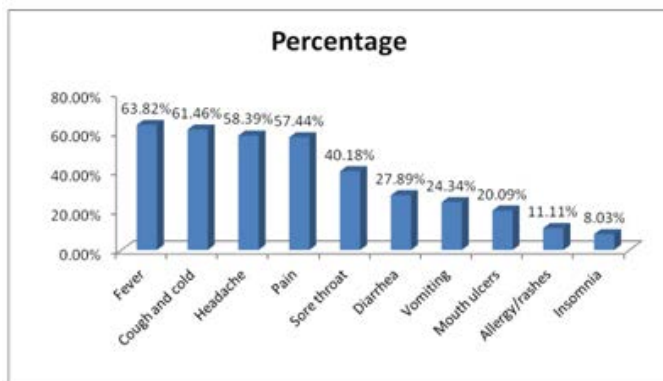
Figure 2: Indications of self medication

Figure 2 shows the indication of self medication. Fever was the most common indication of self medication (63.82%) followed by cough and cold (61.46%), headache (58.39%) and pain (57.44%). Other indications were sore throat (40.18%), diarrhea (27.89%), vomiting (24.34%) and mouth ulcers (20.09%). Other less common indications were allergy/rashes (11.11%) and Insomnia (8.03%).

Table 5: Perception of students regarding methods to prevent the growing trends of self medication (N=537)

Methods	Number (percentage)
Prevent supply of medication without prescription	227 (42.27)
Awareness and education regarding implications of self medication	196 (36.49)
Enforcing strict rules regarding misleading pharmaceutical advertising	79 (14.71)
Working towards making health facilities easily available	31 (5.77)
No opinion	4 (0.74)

Table 5 shows the perception of students regarding methods to prevent growing trends of self medication. 42.27% students responded that self medication can be stopped by preventing supply of medication without prescription. 36.49% students said that spreading awareness and education regarding implication of self medication can prevent self medication. Other methods which can be used are enforcing strict laws regarding misleading pharmaceutical advertising (14.71%) and

working towards making health facilities easily available. 4students (0.74%) didn't responded.

Discussion

In our study, 78.77% students agreed that they have practiced self medication while 21.22% students have not practiced self medication. In a study by Nithin Kumar et al, prevalence of self medication was found to be 78.6%. [7] A study by Nirmal TP et al showed that 84% students resorted to self medication practices.[8] A similar study by Ali H et al in Lahore, Pakistan showed the prevalence of self medication among medical students to be 79.9%.[9] Jayita Pal et al in her study showed the prevalence of self medication among medical students to be 65% in Kolkata. [10] Osama B Albasheer et al showed the prevalence of self medication among undergraduate medical students to be 87% . [11]

In the present study, 68.32% male students have practiced self medication while only 31.67% female students have practiced self medication. 31.44% students of 4th year have practiced self medication in comparison to 26.24%, 22.69% and 19.62% students of 3rd year, 2nd year and 1st year respectively. There is a statistically significant association of gender and year of study with self medication. Significantly more male students of 4th year have indulged in self medication in comparison to others. Nithin Kumar in his study showed that more females (81.2%) were self medicating in comparison to males. [7] A similar study by Osama B Albasheer showed that self medication is more prevalent in females in comparison to males. [11] A study by Renu Chauhan showed almost equal prevalence of self medication among males (82.6%) and females (83.3%). [12]

The most common reason for self medication was illness to be too trivial for consultation (73.52%) followed by student having sufficient pharmacological knowledge to take medicine by themselves (63.82%). Other reasons for self medication were to save time (15.36%), avoid crowd

in OPD (12.05%) and to have privacy (8.03%). Similar results were seen in study by Jayita Pal et al [10] and Nithin Kumar et al [7] who showed that main reason for self medication was minor illness (74.3%) and illness being too trivial for consultation (70.5%). Osama B Albasheer in his study showed that main reason for self medication was the students belief that they have sufficient information, previous experience, and the experience of others, such as family members and colleagues, with regard to the drugs. [11]

Most commonly consumed drug were antipyretics (63.12%) followed by antitussives (61.22%) and analgesics (56.97%). Nithin Kumar et al in their study also showed that antipyretics were the most commonly used drug. [7] A similar study done by Jayita Pal showed that the most common drugs used were antacids (81.2%), analgesics (72.1%), antipyretics (53.2%) and antibiotics (43.3%). (10) Nirmal TP et al in their study showed that medicine most commonly used were analgesics (57.3%), antipyretics (53%), antibiotics (47%), and antihistamine (33%). (8) Renu Chauhan in her study showed that the most commonly used drugs were analgesics (78%), antibiotics (42%), anti histaminics (38%), antipyeritics (26%), antacids (11%), and others (6%). [12]

Most common source of information was old prescription for same illness (78.01%) and having academic knowledge (64.06%). Nirmal TP in her study showed that 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%)]. (8) Jayita Pal et al showed that the most common source of their information being textbooks or teachers (74%). [10] Renu Chauhan showed that the source of drug information were past experience with drugs (42%), relatives/ friends (33%), pharmacists (26%), advertisements (18%), internet (15%), and books (10%). [12]

In the present study, fever was the most common indication of self medication (63.82%) followed by cough and cold (61.46%), headache (58.39%) and pain (57.44%). Other indications were sore throat (40.18%), diarrhea (27.89%), vomiting (24.34%) and mouth ulcers (20.09%). Other less common indications were allergy/rashes (11.11%) and Insomnia (8.03%). Similar result was seen in a study by Jayita Pal et al in Kolkata, where fever was the most common indication for self medication followed by cough and cold. [10] Renu Chauhan in her study showed that common conditions for self medication were headache (77%), cough and cold (56%), fever (48%), gastritis (40%). [12]

Majority of the students (42.27%) responded that self medication can be stopped by preventing supply of medication without prescription while 36.49% students said that spreading awareness and education regarding implication of self medication can prevent self medication. Similar results can be seen in a study by Nithin Kumar et al where 39.3% of the participants perceived that the supply of medicine without prescription by the pharmacist can prevent the growing trend of self-medication. [7]

References

1. World Health Organization. Guidelines for the Regulatory Assessment of Medicinal Products for Use in Self-Medication. Geneva: WHO/EDM/QSM/00.1, 2000.

2. Loyola Filho AI, Lima-Costa MF, Uchoˆa E (2004) Bambuı ´ Project: a qualitative approach to self-medication. Cad Saude Publica20(6):1661–1669.

3. Bennadi D. Self-medication: A current challenge. J Basic Clin Pharm 2014;5:19–23.

4. Ali h., Naureen Omar N., Ahmad A., Yasmeen S., Mehmood R. and Arshad A. Assessment of self-medication among medical and non-medical students. Biomedica. Oct-Dec 2015;31(4):310-14.

5. Pandya RN, Jhaveri KS, Vyas FI, Patel VJ. Prevalence, pattern and perceptions of self-medication in medical students. Int J Basic Clin Pharmacol 2013;2:275–80.

6. Kumar N, Kanchan T, Unnikrishnan B, Rekha T, Mithra P, Kulkarni V, et al. Perceptions and practices of self-medication among medical students in coastal south India. PLoS One 2013;8(8):e72247.

7. Nithin Kumar, Tanuj Kanchan, Bhaskaran Unnikrishnan, T. Rekha, Prasanna Mithra, Vaman Kulkarni, Mohan Kumar Papanna, Ramesh Holla, Surabhi Uppal. Perceptions and Practices of Self-Medication among Medical Students in Coastal South India. PLOS One. August 2013;8(8):e72247.

8. Nirmal TP, Sandhyarani Javalkar, Poonam Naik, Akshaya KM, Pracheth R. A cross-sectional study on prevalence, pattern, and perception of self-medication practices among medical students. International Journal of Medical Sciences and Public Health. 2015;4(8):1095-97.

9. Ali h., Naureen Omar N., Ahmad A., Yasmeen S., Mehmood R. and Arshad A. Assessment of self-medication among medical and non-medical students. Biomedica Oct-Dec 2015;31(4):310-14.

10. Jayita Pal, Shamshad Ahmad, Promiti Pal, Debarun Chatterjee. Prevalence and pattern of self-medication among undergraduate students in a medical college of Kolkata. Int J Community Med Public Health. 2017 Oct;4(10):3619-3624.

11. Osama B Albasheer, Mohammed Salih Mahfouz, Boshra M Masmali, Rawan A Ageeli, Aisha M Majrashi, Afaf N Hakami, Zainab H Hakami, Alhanoof A Hakami, Tahani A Douf. Self-medication practice among undergraduate medical students of a Saudi tertiary institution. Tropical Journal of Pharmaceutical Research October 2016; 15 (10): 2253-2259.

12. Renu Chauhan. A study of the Prevalence, Pattern, and Perception of Self Medication among Medical Students in North India. International Journal of Contemporary Medical Research. September 2017;4(9):1970-73.