

Assessment of knowledge, attitude, and practice of self-medication among college students

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ABSTRACT

Background: Self-medication is widely practiced both in developed and developing countries. Self-medication has certain advantages as it is convenient, economical, and medical resources are not wasted for minor illnesses. However, there are disadvantages as the disease recognized may not be correct, there is delay in meeting a health care worker, the side-effects of the medication are not known, inappropriate usage of antibiotics leading to drug resistance, taking the same drug with different trade names, it can lead to drug interactions and can also lead to drug addiction. College students prefer self-medication for minor illness or to save time and money. There is no data on the prevalence and pattern of self-medication in college students in Delhi. The objective of this study was to assess knowledge, attitude, and practice of self-medication among medical and non-medical students.

Methods: A cross-sectional study was carried out in 200 students of Delhi University using a pretested, structured questionnaire about demographics, knowledge, attitude, and practices of self-medication. Statistical analysis was done using SPSS version 16.0.

Results: Self-medication is commonly practiced among both medical and non-medical college students. From a total of 200 students, 93% of the students had used self-medication of which 7% used it always. Allopathy is the most preferred system of medication.

Conclusions: The reasons for self-medication were similar among medical and non-medical students, but positive attitude and knowledge toward self-medication was more among the medical students.

Keywords: Self-medication, Medical students, Non-medical students, Delhi

INTRODUCTION

Self-medication is a component of self-care and it is considered as primary public health resource in healthcare system. Self-medication is of health concern worldwide. It is common both in developed and developing countries like India. Prevalence of self-medication in developing countries is in the range of 12.7-95%.¹ The problem being very high in India as medicines is easily available in chemist shops without a prescription.²

The World Health Organization has defined self-medication as “use of pharmaceutical or medicinal products by a consumer to treat self-recognized disorders or symptoms, the intermittent or continued use of medication previously prescribed by a physician for chronic or recurring disease or symptom, or use of medication recommended by lay sources or health workers not entitled to prescribe medicine.”³

Self-medication has certain advantages as it is convenient, economical and medical resources are not wasted for minor illnesses. However, on the contrary as the disease recognized may not be correct, there is delay in meeting a health care worker, the side effects of the medication are not known, inappropriate usage of antibiotics leading to drug resistance, taking the same drug with different trade names can lead to drug interactions and sometime drug addiction.⁴⁻⁷

Self-medication patterns are influenced by age, gender, education level, family, society, medical knowledge, perception of illness, self-care orientation and drug advertisements.⁸ The easy availability but uncertain scientific validity of information regarding health problems and treatment on the electronic media has had both beneficial and detrimental effects. Studies have also found that educated people have a greater tendency to practice self-medication than illiterates.⁹

Many reasons have been stated for why the students may prefer self-medication, the most common being mild illness, prior experience of self or a friend taking medicine, or to save money and time. In a study it was found that 80% medical students practiced self-medication despite being aware of harmful effects.¹⁰ In another study, it was found that 55% medical students practiced self-medication when compared to 34% non-medical students.¹¹⁻¹² This maybe because medical students are more exposed to diseases and treatments. Higher levels of education and professional status have been associated with and considered as a predictive factor for self-medication.¹³

There is no data on the prevalence and pattern of self-medication in College Students in Delhi (India). Data on the extent of self-medication and reasons for the same may throw light on behavioral patterns related to health seeking among youth. Hence, this study was planned to fulfill the above lacunae.

METHODS

This was a survey based cross-sectional study carried out after obtaining approval from the Institutional Ethical Committee.

A total of 200 college students were enrolled for the study, of which hundred medical students from Maulana Azad Medical College, New Delhi and 100 non-medical students from various colleges in University of Delhi. Students of age group 18-25 years of either sex willing to participate voluntarily were included in the study. They were explained about the study and a written informed consent was obtained from all prior to the conduct of the survey.

Data were collected using a pretested, structured questionnaire. The questionnaire was divided into 5 sections:

1. Demographic details
2. Practice of self-medication
3. Reasons for the use of self-medication
4. Attitude towards self-medication
5. Knowledge regarding self-medication.

The students' attitudes were measured using five items rated on a three-point Likert scale as; (1) Agree, (2) neutral and, (3) disagree.

Statistical analysis

Data were entered in MS Excel using computer software. The results are expressed as percentage (%) of proportions and statistical analysis was performed using Chi-square test with SPSS version 16 (Statistical Package for the Social Sciences, IBM, NY, USA). $p < 0.005$ was considered to be significant.

RESULTS

A cross-sectional study was carried out in Delhi during the months of May-June, 2013. 200 college students were

selected randomly, of which 100 were medical students from Maulana Azad Medical College, New Delhi and the rest 100 were non-medical students of various colleges of the University of Delhi.

Demographic details

The average age of the students was 19.9 years for both medical and non-medical students. Of 200 subjects, 120 (60%) were females and 80 (40%) were males. There were more females among non-medical students ($p=0.021$). Most of the study subjects (65%) were living in a hostel. The subjects belonged both to Delhi NCR (53%) and outside Delhi (47%).

Practice of self-medication

More than 80% of subjects said that they used self-medication as their first line of treatment occasionally whereas the others always used it as the first line. The trend for use of self-medication as the first line drug was more in non-medical students (25%) when compared with medical students (10%) ($p=0.005$) (Table 1).

Most of the subjects (58.5%), used self-medication 1-2 days after the symptoms appeared. A large number of subjects used self-medication as soon as symptoms appeared (25.5%). The trend for the extent of use and the time after which self-medication was used was almost the same in medical as well as non-medical students. Most of the subjects used allopathy as the preferred mode of medication (70%), however the extent of use of other modalities was more in non-medical students when compared to medical students (Table 1).

The symptoms for which self-medication was used were found to be similar in both medical and non-medical students although there was a difference in the number of times the symptom was quoted (Figure 1). Most common medicines used were cold remedies among non-medical and analgesics among medical students (Figure 2).

The most common source of self-medication was available first aid kit in 46.5% of subjects, followed by chemists (38%). Chemists as a source were significantly more in non-medical students ($p=0.002$) (Figures 3 and 4).

Most common source of information for self-medication was previous experience (41.5%) followed by family members (40%). Of 100 medical students 55% students took medicines on the basis of previous experience in comparison to 28% non-medical student ($p < 0.005$), but chemists were a source of information for 27% of non-medical students when compared with only 4% of medical students ($p=0.002$) (Figure 5).

The expiry date on the medicine was checked by 96.5% of subjects before using it for self-medication, the incidence

Table 1: Practice of self-medication amongst students.

Parameter	Total n=200	Medical n=100	Non medical n=100	P value
Is self-medication your first line of treatment n (%)				0.005
Always	35 (17.5)	10 (10)	25 (25)	
Occasionally	165 (82.5)	90 (90)	75 (75)	
When self-medication is used n (%)				0.974
Immediately	51 (25.5)	25 (25)	26 (26)	
1-2 days	117 (58.5)	60 (60)	57 (57)	
1 week	15 (7.5)	7 (7)	8 (8)	
>1 week	17 (8.5)	8 (8)	9 (9)	
Treatment modality preferred n (%)				0.017
Home based	41 (20.5)	19 (19)	22 (22)	
Allopathy	140 (70)	78 (78)	62 (62)	
Ayurveda	5 (2.5)	0 (0)	5 (5)	
Unani	0 (0)	0 (0)	0 (0)	
Homeopathy	12 (6)	3 (3)	9 (9)	
Expiry date of medicine checked n (%)				0.054
Yes	193 (96.5)	99 (99)	94 (94)	
No	7 (3.5)	1 (1)	6 (6)	

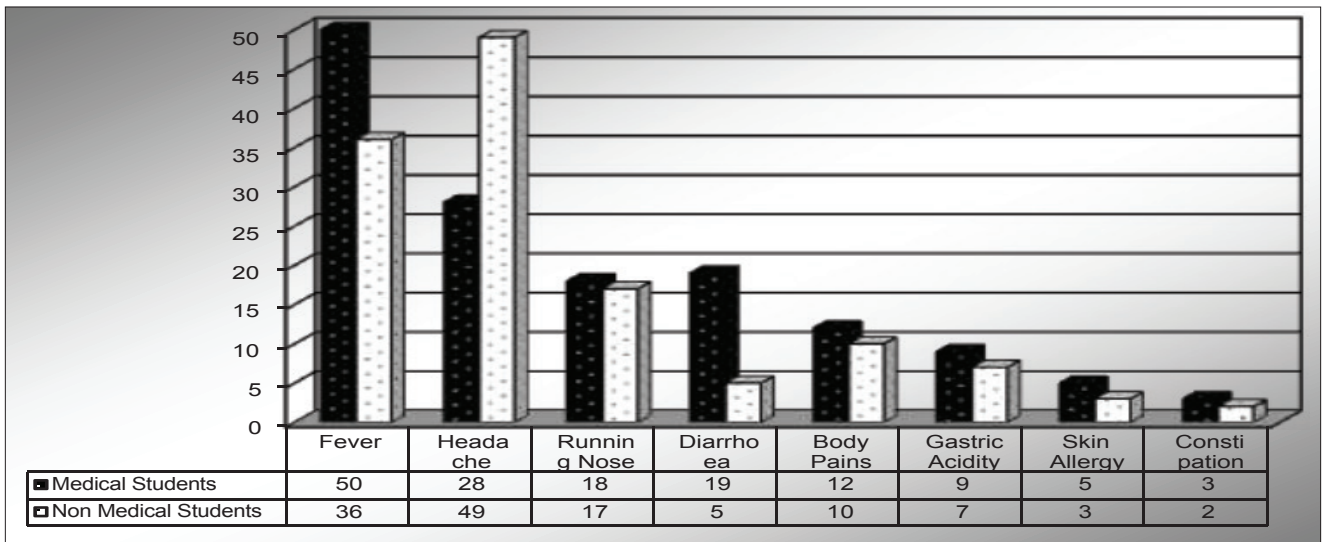


Figure 1: Most common symptoms for self-medication.

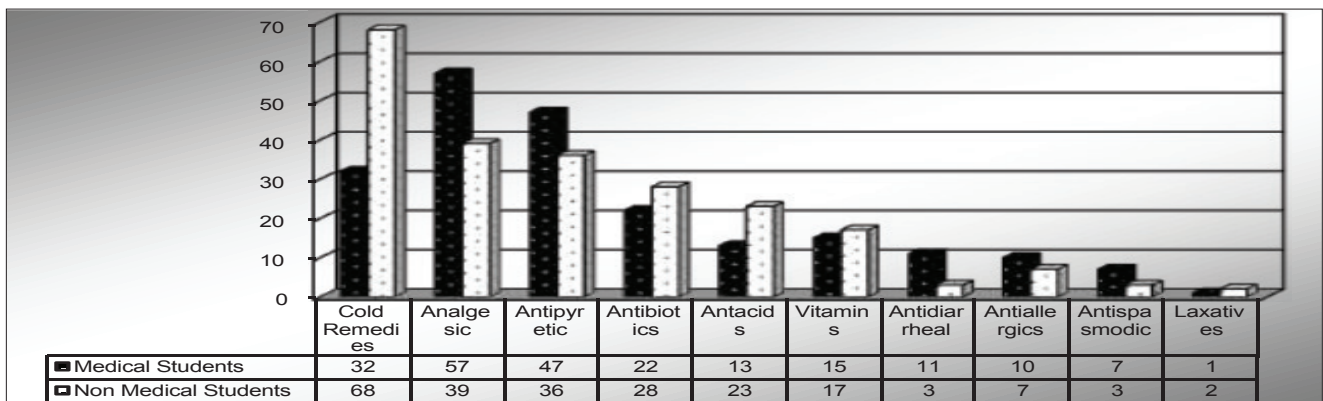


Figure 2: Medicines used for self-medication.

of not checking the expiry date was 6 times more in non-medical students(6%) and only 1% in medical students.

Reasons for the use of self-medication

About 66% of students agreed to the fact that self-medication saves time. 58.5% of students agreed that self-medication

was economical and it was higher among non-medical students (p=0.001). Both the group of students agreed that self-medication provide quick relief but maximum number of medical students (45%) disagreed on the fact that self-medication provide confidence in comparison to non-medical students (28%) (Table 2).

Attitude towards self-medication

Attitude toward self-medication reflected that more number of non-medical students were agreed that self-medication can be advised or can be taken from others (p<0.005) (Table 3). 86% students agreed that self-medication needs to be monitored. Most of the students (44%) remained neutral when asked if they were comfortable with the use of self-medication (Table 3).

Knowledge regarding self-medication

Almost half of the subjects, 49.5% were neutral to the statement that self-medication was safe for use. However, more medical students disagreed to it, 50% versus only 22% in non-medical students (p=0.001). Majority of the students agreed to the fact that self-medication may lead to wrong use of drug, delay in diagnosis of disease use of incorrect drug for incorrect period of time and may lead to adverse drug reactions.

About 40% of students agreed that allopathy was safe for routine medication, but fewer medical students felt it safe for routine use - 32% versus 48% among non-medical students (p=0.007). Majority of the subjects (57.5%) did not have information about the correct dose of the drug. Greater percentage of medical students (49%) had the correct information, but only 36% of non-medical students had this information (Table 4).

DISCUSSION

Self-medication is a widely practiced health seeking behavior. Delhi is the national capital of India. A large part of

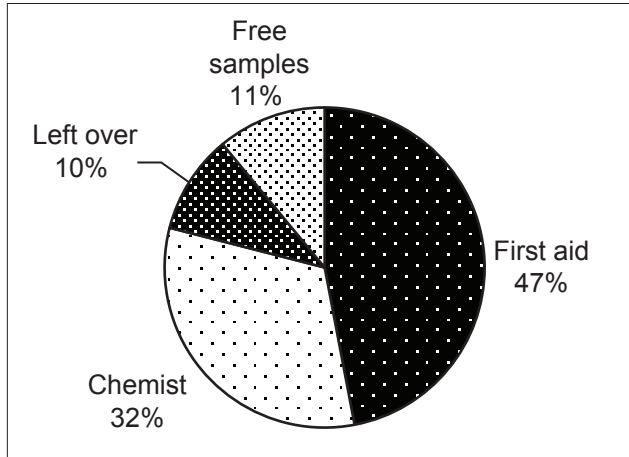


Figure 3: Source of self-medication for medical students.

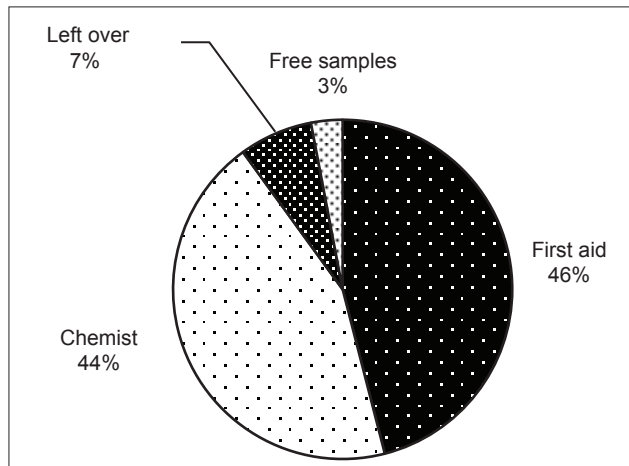


Figure 4: Source of self-medication for non-medical students.

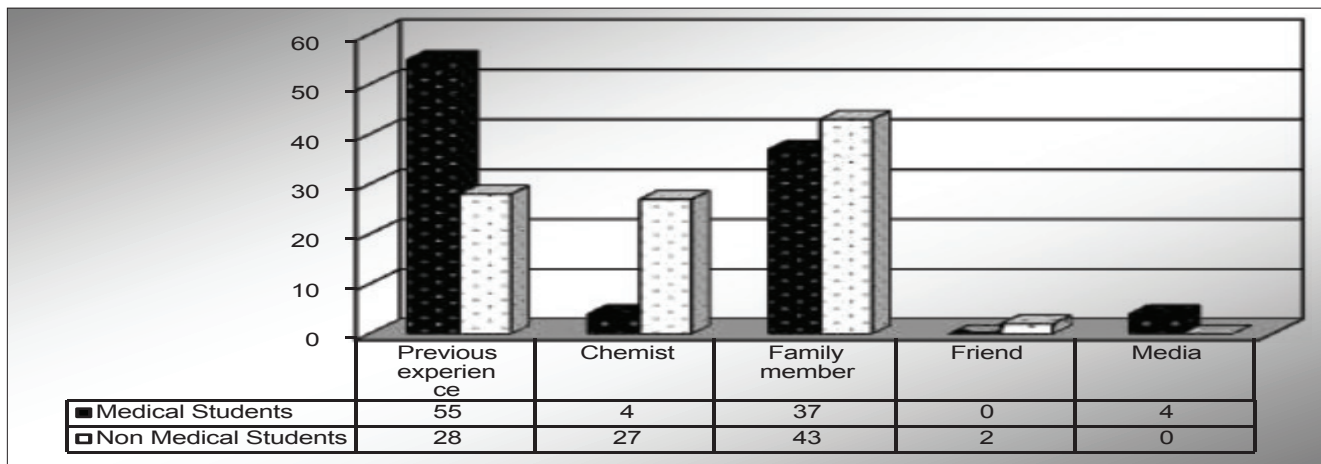


Figure 5: Source of information for self-medication.

Table 2: Reasons for the use of self-medication amongst students.

Parameter	Medical n=100	Non- medical n=100	p value
Self-medication saves time			0.003
Agree	56	76	
Neutral	28	15	
Disagree	16	9	
Self-medication is economical			0.001
Agree	44	73	
Neutral	31	21	
Disagree	25	6	
Self-medication provides quick relief			0.035
Agree	53	51	
Neutral	30	30	
Disagree	17	19	
Self-medication gives confidence			0.031
Agree	28	30	
Neutral	27	42	
Disagree	45	28	

Table 3: Attitude towards self-medication.

Parameter	Medical n=100	Non- medical n=100	p value
Self-medication can be advised to others			0.001
Agree	34	71	
Neutral	26	17	
Disagree	40	12	
Advise for self-medication can be taken from others			0.001
Agree	38	60	
Neutral	25	20	
Disagree	37	20	
Self-medication needs monitoring			0.907
Agree	86	86	
Neutral	11	12	
Disagree	3	2	
Are you comfortable with self-medication			0.095
Agree	36	39	
Neutral	39	49	
Disagree	25	12	

its population comprises of young adults and students. There are numerous universities and medical colleges in Delhi. This is the first study assessing knowledge, attitude and practice of self-medication among college students in Delhi and comparing self-medication as a health seeking behavior between medical and non-medical students in Delhi.

The average age of the study subjects was found to be 19.9 years, which was quite expected considering that college students above the age of 18 years were enrolled for the study. There were more female subjects enrolled for the study. This was a randomly done study and sex was not the criteria. This was also seen due to the fact that some colleges enrolled from University of Delhi, North campus were women colleges. Students from all years of study were included in the study. More number of the students selected for the study were living in hostel, but almost half of them belonged to Delhi NCR.

The extent of self-medication among the students in Delhi was found to be quite high (93%) in the study. This observation is similar to other studies, where use of self-medication amongst students has ranged from 43.24% to 98%.^{14,15} Allopathy was the most common system of medicine used by all the students. This may be a reflection of the fact that allopathy is the most common system of medicine used in India. Use of allopathy as the treatment modality was found to be quite high in medical students (78%), which may be due to easier access to these medicines for them. Although the use of allopathy was the preferred treatment modality in non-medical students also, yet almost a quarter (22%) of them used home based remedies.

As reported in many studies, the most common symptoms were fever (43%) and headache (38.5%) forming almost half of the reasons for which students took self-medication.^{10,15-18} These were followed by other symptoms like running nose (17.5%), diarrhea (12%), general body pains (11%), gastric acidity (8%), skin allergy (4%) and constipation (2.5%). The most common medicines used as self-medication were cold remedies (50%), analgesics (48%), antipyretics (41.5%), and antibiotics (25%) as published in many studies.^{10,14,17-19} Followed by antacids, vitamins and minerals, anti-diarrheal, anti-allergic, anti-spasmodic and laxatives.

The leading source of drugs used in self-medication was the first aid kit both in medical and non-medical students, probably because of increasing sense of awareness about various drugs and their uses among students, followed by chemists, left over of friends/relatives and free samples. But the incidence of free sample being used as a source was more in medical students. Medical students have ready access to free medical samples. These are given in the hospital outpatient Department by Medical Representatives of Drug Companies.

The common sources of information for self-medication were found to be different among medical and non-medical

Table 4: Knowledge regarding self-medication amongst students.

Parameter	Answers	Medical n=100	Non-medical n=100	p value
Self-medication is safe				0.001
	Agree	7	21	
	Neutral	43	56	
	Disagree	50	23	
Self-medication may lead to use of wrong drug				0.099
	Agree	85	76	
	Neutral	11	12	
	Disagree	4	12	
Self-medication may delay diagnosis of disease				0.273
	Agree	82	91	
	Neutral	13	6	
	Disagree	5	3	
Self-medication may lead to adverse drug reactions				0.239
	Agree	88	82	
	Neutral	10	14	
	Disagree	2	4	
Self-medication may lead to use of incorrect drug for incorrect period of time				0.402
	Agree	89	83	
	Neutral	6	10	
	Disagree	5	7	
Homeopathy is safe for self-medication				0.025
	Agree	46	58	
	Neutral	33	25	
	Disagree	21	17	
Allopathy is safe for routine medication				0.007
	Agree	32	48	
	Neutral	39	35	
	Disagree	29	17	
Knowledge about the correct dose n (%)				0.063
	Yes	49 (49)	36 (36)	
	No	51 (51)	64 (64)	

students, as previous experience was the leading source of information for medical students, whereas it were the family members and chemists who were the source of information for non-medical students. This is an obvious difference as medical students are more aware of uses of drugs, as they study about them in their medical curriculum when they are taught pharmacology.

A positive finding as a good behavior among students was that almost all of them (96.5%) were conscious about the expiry date of drugs and used them only after checking it. It was found that although half of the subjects (47.5%) chose to use self-medication initially for any illness, this trend was not the same among medical and non-medical students, 40% of medical students disagreed to it, probably because they were aware of the problems and adverse effects of medicines.

The students gave many reasons for taking self-medication. One of the reasons was that self-medication saves time, which was found to be more among the non-medical students. Self-medication was found to be more economical and this trend was also observed more among the non-medical students. It can be due to the fact that when one self-medicates, there is no cost of a doctor's consultation. The person only has to bear the cost of the medication.

High extent of self-medication by students could be due to their belief that it would provide quick relief from illness, that was also seen in a study done by Angamo and Wabe in 2012.²⁰ When asked about if self-medication provides confidence to the user, more of the medical students disagreed to it which may be due to the fact that they know how difficult it is to actually select the right medicine for a patient. The selection is also

based on knowledge and skills. All this requires a lot of hard work. Thus, self-medication does not add to self-confidence.

The medical students had a more cautious attitude towards the use of self-medication reflected by the fact that more medical students disagreed to the statements that self-medication can be advised to others or self-medication advise can be taken from others. Most of the students agreed that monitoring of therapy was required even after the use of self-medication. This was a quite positive attitude of students as monitoring can help in early diagnosis and decrease chances of adverse effects which may be caused by some of the drugs used for self-medication.

Self-medication was considered to be safe by many non-medical students in comparison to medical students. This could be because medical students are aware of the fact that no drug is totally safe and each can have adverse effects, ranging from mild to severe. The knowledge about self-medication was found to be appropriate among both medical and non-medical students as both agreed that self-medication may lead to use of wrong drug, it may delay diagnosis of disease, it may cause adverse drug reactions and may lead to use of an incorrect drug for an incorrect period of time. More number of non-medical students considered homeopathy to be safe for self-medication when compared to medical students. More number of medical students disagreed that allopathy was safe for routine medication probably because of appropriate knowledge about adverse effects of various drugs. As expected, the knowledge about the correct dose was found to be more among the medical students.

The study results revealed that self-medication is commonly practiced amongst both medical and non-medical college students and students are aware of some aspects of self-medication, but health education programs must be launched to increase awareness among students about prospective harmful effects of self-medication and to caution about its use.

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