



SELF-MEDICATION: AWARENESS AND ATTITUDE AMONG UNDERGRADUATE MEDICAL STUDENTS IN A TERTIARY CARE MEDICAL COLLEGE, DHULE

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ABSTRACT

Background: The practice of self-medication is becoming more common worldwide and currently plays a major role in self-care. The objectives of our study were to determine the perception and level of awareness regarding over the counter (OTC) medications, among the medical students and to assess the pattern of self-medication practice.

Methods: In this cross-sectional study, a validated self-administered, questionnaire was used to collect data among undergraduate medical students from a medical college.

Results: Of the 464 respondents, 151 (32.6%) were female and 313 (67.4%) were male. Overall, 389 (84%) participants consumed OTC medications. The commonly consumed OTC drugs were supplements and vitamins followed by painkillers, flu/ cough remedies and sore throat products. The OTC medications were most frequently bought from pharmacies. Easy access, convenience and time saving were the most frequent reasons for self-medication. Of the study participants, 74 were on regular prescription medications and half of them were unsure or disagreed that OTC drugs could interfere with the regular prescription drugs.

Conclusion: Lack of awareness regarding drug interaction is an issue that warrants further intervention by increasing the knowledge so as to prevent adverse events from the drugs.

Key words: self-medication, over-the-counter, non-prescription, drugs, awareness, attitudes

INTRODUCTION

Self-medication is the act of taking medicines or medical devices especially designed and labeled for use in the treatment of common health problems without the authority or prescription of a physician.¹It is one of the rapidly growing areas of concern to medical professionals, government and the general public. Self-medication may initially result in reduction of distress but in the

long-run however, it can cause many serious problems.² Symptoms may rebound, resulting in stronger desires to take more drugs. Poisoning, allergy, habituation, addiction, dependence and resistance could occur. In extreme of cases negative consequences such as depression, suicide attempt, interpersonal problems, legal problems, medical problems, and in-patient psychiatric hospitalization could also occur.

The use of OTC drugs has been studied in many different populations and the results demonstrate that about 25-75% of the population consume OTC medications.³⁻⁵

Self-medication assumes a special significance among the medical students as they are the future medical practitioners and have a potential role in counseling the patients about the advantages and disadvantages of self-medication. Medical students also differ from the general population because they are well-exposed to the knowledge about diseases and drugs.

The search revealed that few studies have been conducted to ascertain the self-medication practice among medical students.^{3,6-11}

However, since the majority of these studies were conducted outside India,⁶⁻¹⁰ the pattern of self-medication among medical students of India remained unexplored. On this background we conducted this study with the aim to determine the perception and level of awareness regarding OTC medications, among the medical students and to assess the pattern of self-medication practice among the undergraduate medical students.

METHOD

This was a cross-sectional, questionnaire-based study. The study was conducted in a tertiary care medical college and hospital at Dhule during the month of February 2012. During the study period five batches (2006-07, 2007-08, 2008-09, 2009-10, 2010-11) of MBBS students were available in the institute, each batch comprising 100 students. All the 500 students were considered eligible for participating in the study.

Prior permission was obtained from the ethics committee of the institution for conducting the study. The purpose of the study was explained to the participating students and confidentiality was ensured. Informed consent was obtained from every student before filling the questionnaire.

It was decided to include all the undergraduate medical students of our college. Out of 500 students, 22 students were found absent on the day we filled up the questionnaire. The purpose of the study was explained to the remaining 478 students, all of whom consented to the study. After obtaining informed consent, they were asked to fill up a printed, semi-structured questionnaire.

Out of 478 students 464 students filled the questionnaire completely. The questionnaire was designed and pretested on 50 internees (Batch 2005-06) who were not included in the study. The questionnaire contained questions regarding demographic information, whether the student sought self-medication in the preceding month, illness for which the medication was used, drug/drug group used by them and the reason for not consulting a healthcare professional. It also included certain statements regarding the safety and effectiveness of the use of self-medication. For the purpose of the study, certain operational terms were defined. Self-medication was defined as the use of medicine for self-treatment without consulting a healthcare professional.

A healthcare professional was defined as a person: Who has obtained a bachelor of medicine and bachelor of surgery (MBBS) degree in allopathic medicine and registered with Medical Council of India/ State Medical Council or possessing Bachelor of Homoeopathic Medicine and Surgery [BHMS degree] (for homeopathic practitioners) or possessing Bachelor of Ayurvedic Medicine and Surgery [BAMS degree] (for ayurvedic practitioners).

The data obtained from the completed questionnaires were analyzed in the computer by using Statistical Package for Social Sciences (SPSS) program Version 17. Descriptive data were expressed as percentage, frequency. Chi-square test was used for testing statistical significance. A P value less than 0.05 was considered to be statistically significant.

RESULTS

The preliminary results of this on-going study included four hundred and sixty four completed questionnaires and all the data was included in the analysis. Of the 464 respondents, 151 (32.6%) were female and 313 (67.4%) were male. Self-declared weight and height was used to calculate the body mass index (BMI) of the participants which was compared to the World Health Organization's BMI classification for Asians. Of the participants, 12% were obese, 29% were overweight, 13% were underweight and only 38% were of normal weight. Almost half of them had a history of chronic illness in the family with diabetes and hypertension being the most common followed by cardiovascular disease. Seventy four (16%) participants were on regular prescription medications for various conditions.

Table 1: Level of Awareness on OTC Drugs (Frequency - %) (n = 464)

	Strongly agree/ agree	Strongly disagree/ disagree	Unsure
OTC Drugs better option compared to obtaining PMs from your doctor	43.2	23	33.8
Consuming OTC drugs are safe	39	20	41
OTC drugs could interfere with your natural healing process	28.2	28.8	43
With continuous use of OTC drugs, it may lose effectiveness	43.3	24.6	32.1
Continuous use of OTC drugs may result in adverse effects	32.2	32.2	31.9
Continuous use of OTC drugs may cause dependency or addiction	42.2	31.1	24
I consume OTC drugs according to recommended dosage	60.2	18	15.8
I follow recommended consumption duration of OTC drugs	57.4	24.5	17.2
I consume OTC drugs to get high or lose weight	14.2	69.2	16.6
I usually follow the instruction on the label of OTC drugs packaging	66.5	18.7	14.8
I obtain the desired outcome from the usage of OTC drugs	52.3	16.9	30.8
I had experienced adverse effects from the usage of OTC drugs	12.2	60	27.8
OTC drugs can sometimes worsen certain disease	31.6	28.1	40.3
OTC drugs could interfere with other prescribed medicines	32.7	24.7	42.6

OTC- over the counter

Consumption of OTC medication: Overall 389(84%) participants consumed OTC medications. The number of males that consumed OTC drugs was significantly higher when compared to females ($\chi^2 = 6.27, p=0.012$). There were no significant associations between the use of OTC drugs and body mass index ($\chi^2 = 0.692, p=0.875$) and family history of illness ($\chi^2 = 0.11, p=0.741$). The OTC medications that were commonly consumed among medical students are shown in **Figure 1**. Supplements/ vitamins (53%) were the most frequently used OTC medications followed by painkillers (34%), flu/ cough remedies (31%), sore throat products (32%) and medication for skin care (25%). Most of the participants purchased the OTC medications from the pharmacy (69%) with the rest obtaining them from the retail shops.

Reason for consumption of OTC drugs: Minor illness was the most common (91.2%) reason for the use of OTC medications. However 18 participants (3.9%) used OTC drugs for severe illness as well. Almost half the participants stated that self-prescription was more convenient (53%), easier to access (51%) and time-saving (42%), when compared to consulting a doctor. About 43% of the participants also thought that consulting a doctor were unnecessary as the condition that required self-medication, was a minor problem.

Knowledge and attitude regarding OTC medications: About 82% of the respondents stated that their level of knowledge regarding OTC medications was moderate to low. Eighty one

percent of the participants said that they would stop using the OTC drug if it did not work within the proposed time frame, while a small number of them would increase (7%) or decrease (5%) the dose. Almost three quarter of the subjects didn't seek for advice regarding OTC medications and 61% of remaining obtained this advice from the friends, while 33% from family. The participants' views on 14 statements regarding the safety and effectiveness of the use of self-medication are presented in Table 1. It is noteworthy that out of the 74 participants who were on regular prescription medications, only 35% agreed that OTC drugs could interfere with the prescribed ones, while the rest either disagreed or were unsure.

Table 2: Consumption of OTC drugs (n=464)

Conditions/Drugs	Students (%)
Painkillers	158 (34)
Indigestion/heart burn	88 (19)
Laxative for constipation	37 (8)
Flu/cough remedies	144 (31)
Sore throat products	148 (32)
Allergy relief medicine	56 (12)
Herbal medicine	74 (16)
Medicated eye care	79 (17)
Medicated foot care	56 (12)
Medicated ear care	28 (6)
Antidiarrheals	32 (7)
Sleep aids	42 (9)
Supplements/vitamins	246 (53)
Medicated skin care	116 (25)

DISCUSSION

This study has identified that 84% of the medical students consume OTC medications which is comparable to another study which showed that 75% of the participants used self-medications.¹³ Previous reports have demonstrated a wide variation in the frequency of OTC drug use, ranging from 25-75%,³⁻⁶ which may be due to the different socio-demographic background and different methodologies adapted in the studies.

The results of many studies have pointed out that analgesics were the most commonly used self-medication, followed by cough remedies and supplements.^{5,6,13,18} Our study also shows that painkillers, flu/ cough remedies and sore throat products were commonly consumed drugs.

However, it was found in our study that supplements and vitamins were more frequently used than the rest of the medications. This was similar to the results from an American study and it may be attributed to the perception that supplements are safe, effective and a necessity for good health.¹⁹

Minor illnesses such as fever, pain, cough, cold were the most common indication for using OTC drugs. For these indications, self-medication was the preferred option among the majority, when compared to consulting a doctor, as this was more convenient, easier to access and timesaving.

These medications were most of the time obtained from the pharmacists with a few of the participants purchasing them from retail shops. Other studies have also quoted similar results.^{3,14} In the recent years, many pharmacies have been strategically located in convenient places such as shopping malls and supermarkets, with a wide display of advertisements. This has resulted in easier access to OTC drugs from the pharmacies. Along with this, the busy schedule of the students incline them more towards the option of self medication.

Majority of the participants stated that their level of knowledge regarding self-medication was moderate to low. Self-medications were consumed at recommended dosages and duration, by most of them. However, more than a third of them were unsure regarding the side effects and drug interactions of the OTC medications. This was similar to the results of other studies.¹⁴⁻¹⁷ Furthermore, half of the participants, who were on regular prescription medications and consumed OTC drugs, were unsure or disagreed

that there can be potential drug interactions between the prescribed and non-prescribed drugs.

This lack of awareness may possibly lead to major and even fatal adverse events from the drugs. Hence, as suggested by Indermitte et al, efforts should be made to raise awareness regarding these drug interactions.¹⁷ Pharmacists as well as health care professionals would be able to play a major role to overcome this identified issue.

LIMITATIONS

The study was based on self-reported data about self-medication thus prone to recall bias. Moreover, although the students were encouraged to complete the questionnaire independently, mutual influence between the students could not be entirely ruled out. The results of the study would have been more generalized if it could involve students of other medical colleges

CONCLUSION

Self-medication is widely prevalent among the undergraduate medical students. The study shows that supplements and vitamins are most commonly consumed followed by analgesics, flu/ cough remedies and sore throat products. Participants had a higher level of awareness regarding the dosage and duration of OTC drugs compared to side effects and drug interactions. Hence, pharmacists and doctors should make the effort to educate the public on this deficiency in knowledge.

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