

Knowledge, attitude, beliefs and use of over the counter drug products among medical undergraduates

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ABSTRACT

Background: Over the counter (OTC) drug products are available without prescription and considered safe, effective, affordable and easily accessible. Among medical students use of OTCs and even prescription drugs available as OTCs is increasing day by day. The objective of the study was carried out to assess the knowledge, attitude and beliefs about OTCs, their use, safety and regulatory issues of OTCs among medical undergraduates.

Methods: A questionnaire-based study was conducted and 151 medical students participated in this study. A preformed and validated questionnaire consisting of 2 parts was used. Part 1 consisted of general information regarding OTCs and Part 2 consisted information about knowledge, attitude, beliefs and use of OTCs. Data were analyzed and the results were expressed as percentages.

Results: 100% participating students were aware about OTCs. 70% used them a lot because of availability and belief on safety. Chemist was a good source of advice over minor medical problems according to 38% of students. Information to be read on drug label was known to 62.5% of them. Affordability and accessibility (84%) was the main reason for OTCs use. Common medications bought without prescription were antibiotics, antihistaminics (100%) and cough syrups (90%). Headache and fever (100%), acidity (91%) were common indications for OTC use. Common OTCs stored at home were painkiller, antacids and skin care products.

Conclusions: All students though were aware of OTCs but had little knowledge of regulation and usage. Many prescription drugs were also available as OTCs. Medical students need to be educated and trained about OTCs and the related issues.

Keywords: Medical undergraduate students, Over the counter, Questionnaire

INTRODUCTION

As consumers are more informed, live a running life and therefore to keep pace with speed of life, face higher stress now a days. Increasing pollution, overstressed work place environment and fast evolving technology put load to adapt and adjust according to changing lifestyle with junk food habits, consuming addictive products to stay awake and alert for longer hours and eating in hurry put more stress on the body, expressing in the form of psychosomatic disorders like constipation, backache, acidity, chronic fatigue, frequent headache, allergy,

common cold, etc. Which they are trying to manage with Over The Counter (OTC) drugs.

Over-The-Counter drugs (OTC) or Non-prescription drugs are the drugs like vitamins, antacids, paracetamol which are sold over the counter, by the chemist/ pharmacist without prescription of registered medical practitioner.¹ All drugs which are not included in the list of "Prescription-only" drugs in the schedules H and X of the Drugs and Cosmetics Act of 1940 and Rules, are considered to be Non-prescription drugs.²

Although some drugs in the schedule G, like the antihistaminics, are allowed to be purchased and

consumed as over the counter, requiring following mandatory text on the label: "Caution- It is dangerous to take this preparation excepting under proper medical supervision". A provision has been made to sell certain medicines, considered as the "Household drugs" in the Schedule K of Drug and Cosmetics Rules, by the non-pharmacist in certain remote areas in non-licensed drug stores where the population is less than 1000.

As the general rule OTC drugs have to be primarily used to treat a condition that does not require the direct supervision of a doctor and must be proven to be reasonably safe and well tolerated.

Recently, trend of self medication with over-the-counter (OTC) medicines available in pharmacies and in retail outlets is increasing. The list of OTC drugs list is expanding day by day with the inclusion of new formulations and prescription to OTC switches.

At present, there is no regulation for the use of OTC drugs in India. Absence of strict rules for the use of OTC drugs further complicate the situation, supported by idea that patients want to have a greater role in choosing their treatment. Increased availability of non-prescription medicines may encourage to believe that there is a drug treatment for every ailment. Research shows that self medication improves the health care awareness and reduces the economy related to health care.^{3,4} Although OTC drugs are believed to be safe and effective, indeed they are not. They mask the underlying disease and may cause several adverse effects.^{5,6} These are major causes of concern worldwide particularly in developing countries where antibiotics are often available without a prescription.⁷

In India, it has been shown that literate people were 76% more likely to self-medicate than illiterate people.⁸ An elevated level of education and professional status has been mentioned as predictive factor for use of OTC drugs/ self medication, medical students are major contributors.⁹

This study was carried out to assess the levels of knowledge, attitude and beliefs about over the counter drug product categories, their uses, popularity and reasons for their use, safety and regulatory issues in india among medical undergraduate of this institute.

METHODS

The study was conducted in Department of Pharmacology of PGIMS, Rohtak. Medical students studying Pharmacology were selected for this study with an aim to evaluate trend of OTC drugs among the medical students, with an objective to determine awareness and disadvantages on use of OTC drugs.

Objectives and procedure of the study were explained to the participants and those who were willing to fill the

informed consent form were included for the study. A preformed and prevalidated questionnaire covering various aspects of OTC drugs like knowledge, attitude, beliefs and use of OTCs were distributed among the participants. The filled questionnaires were retrieved from 151 participants.

Statistical analysis: Data were analyzed using the Microsoft Excel software. Results were expressed as percentages of total (151) responses.

RESULTS

Study was conducted on 151 participants to know interest about OTCs, 100% participants were aware about OTCs. 70% used them a lot because of availability and belief on safety. 74% considered herbal and natural products use for memory and attention as harmful. 91% considered OTCs as beneficial. A self made questionnaire was given to them and questions regarding knowledge, attitude, beliefs and use of OTCs.

Regarding knowledge about OTCs

70% knew that OTC drug product are the product marketed for use by consumer and are safe and effective for use by general public without the intervention of health care professional. 92% related word "counter" in phrase over the counter as chemist shop counter, only 16% knew that products they are buying at grocery/general store were also OTC drug products.

There were various categories of OTC drug products and we found 100% response regarding Paracetamol, Analgesic balms, Antacids and ORS as OTCs, 92% for absorbant cotton wool and bandages, 81% for syrups and lozenges, 75% for skin ointments, 75% for cosmetics and health supplements, 65% for nasal decongestants and 52% for Aspirin. 1st aid kit supplied with vehicles is very important but only 48% were aware about its inclusion in OTC drug list, same was the case for gripe water for infants (45%), tincture iodine (45%), inhalers (28%) and castor oil and eucalyptus oil (20%). 91% knew that Boroplus was among top 5 OTCs in india, 90% for Iodex and Vicks, 72% for Dabur chwanprush, only 36% knew that Revital is also in list of top 5 OTCs.

Only 36% knew that sell and purchase of OTC drugs in India is not regulated. None had the idea that license is not required for stock and sell of OTC drug products under Drugs and Cosmetic Act section 18 (c). Only 20 % knew that Schedule K drugs do not need license for sale and can be sold by other shop besides chemist shop. Schedule K drugs per se are OTCs in India but 52% knew that quinine and chloroquine are included in schedule K, 48% for contraceptives, 18% for insecticides and disinfectants and Only 10% knew that white and yellow petroleum jelly were also in schedule K. 54% also considered antibiotics as schedule K drugs which is

wrong and ultimately cause misuse of antibiotics by medical students.

81% read medication leaflet before using OTCs. 62.5% knew the information to be read on drug label (92% read warnings and directions for use, 64% active ingredients, 57% indications). Inactive ingredients are also important in drugs, especially in OTC drugs in which harmful substances also can be there as ingredients but only 9% responders read inactive ingredients on drug labels.

None knew correctly the worldwide position of India in OTC drug market. 38% knew that traditional medicine have maximum share in Indian OTC drug market. 45% were aware that production cost of OTCs in India is lowest.

76% knew the various OTC medicines advertising commonly on TV in India (analgesic balms 91%, cough syrups 81% and also health supplements 81%, Dcold and Dispirin 75% and least was medicated skin treatments and digestives such as Eno, Hajmola 63%). 90% knew that Aspirin containing products can't be given to children, 74% were aware of fact that OTCs can't be given under age four and 82% knew that OTCs are never

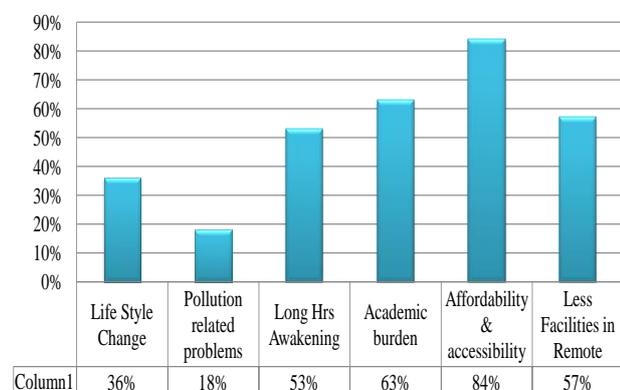
to be used to make the child sleepy. 90% were aware that two medicines with same active ingredients should never be used at same time in children. 64% responders agreed that salicylates prolong pregnancy and also increase risk of bleeding. 67% were aware that OTC medicines can be harmful if taken for longer time and 74% agreed that prescription medicine cannot be combined with OTC drugs without talking to doctor first. 77% knew the drug interaction of various OTCs (Paracetamol, Benadryl and Aspirin) with alcohol. 73% followed the precautions while using OTC drugs like ask doctor about interactions and take only directed doses.

84% knew that OTCs can change the effect of prescription drugs and 55% were aware that diseases symptoms can be masked by OTC drugs. 77% were aware of abuse liability of OTC drug products like codeine and inhalers. Various reasons for ADEs due to OTCs use might be like- according to 74% participants it might be due to overdose, 72% alcohol interactions, 56% due to addiction to OTCs and 28% said that ADEs might be there if OTCs were used for losing weight. To know the attitude of participants to OTC drugs certain statements were included in the questionnaire and results were shown in (Table 1).

Table 1: Attitude of participants towards OTC drug products.

Statements	SA*	A*	U*	D*	SD*
Chemist as good source of advice/information about minor medical problems	25.8%	37.7%	3.3%	8.6%	17.8%
Importance of having medicine/ treatment that can be bought by self for minor medical problems	16.5%	83.5%	0	0	0
Reading label is one of ways to decide about medicines to be bought	19.8%	52.9%	27.17%	0	0
Avoidance of any medicine/ treatment while having problem	9.9%	29.8%	27.15%	16.5%	16.5%
Non-affordability to get all the items on prescription.	0	45.6%	9.9%	17.8%	27%
Not to bother doctor with minor problems now a days	8.6%	75.49%	0	15.8%	0
Only medicine / treatment from a doctor will really help	27%	27%	38%	9.9%	0
Same medicine too often, may not be effective in real need	0	52.9%	38%	8.6%	0

*SA (Strongly agree), A (Agree), U (Unsure), D (Disagree), SD (Strongly disagree)



N= 151- Maximum possible response in single option

Figure 1: Beliefs of participants regarding reasons for growth of OTC drug products in India.

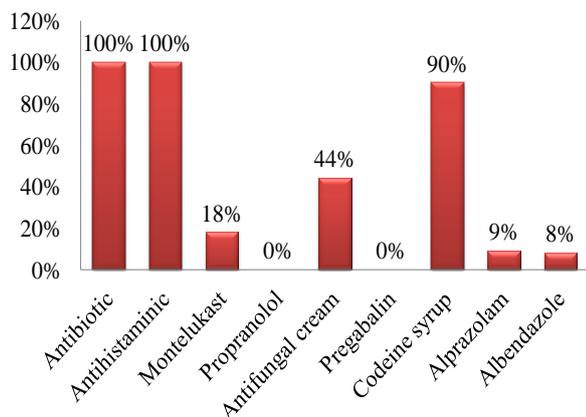
When participants were asked about their beliefs on reasons for growth of OTC drugs in India affordability, accessibility and academic burdens were the main reasons (Figure 1).

Regarding use of OTC drugs

Antibiotics and antihistaminics were common prescription only drugs bought by participants without prescription (Figure 2).

53% participants purchased OTCs monthly and while purchasing OTCs 64% asked the doctor, 38% followed their family/friend advice, advertisements and previous experience influenced 35% and 36% participants

respectively while only 27% asked the pharmacist while purchasing OTCs.



N= 151- Maximum possible response in single option

Figure 2: Prescription only drugs bought by participants without prescription.

100% followed doctors and only 9% made further enquiries from pharmacist after consultation from doctor.

Headache, fever and acidity were common indications for use of OTCs among participants (Figure 3).

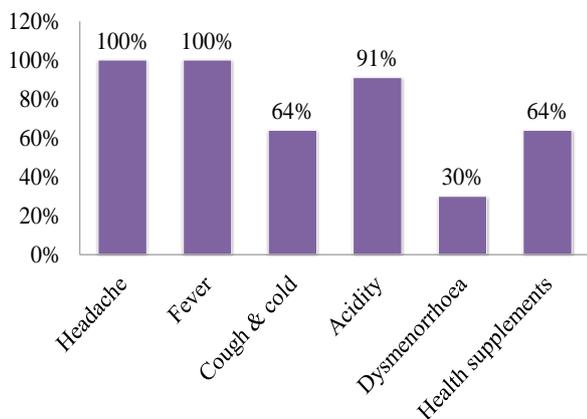


Figure 3: Common indications for use of OTC drugs (N=151, maximum possible response in single option).

91% used OTCs due to the time and money required for consultation, 81% felt familiarity to self medication with OTCs, 80% used them for mild illness, previous good experience with OTCs affected 64 % of participants, 36 % used them in emergency and negligence to health and poverty influenced 17% of participants for using OTCs.

OTCs were also stocked at home by the participants for future use like painkiller were stocked always by 73% of participants, antacids and medicated skin products by 36% and 35% respectively (Table 2).

Table 2: Frequency of stocking of common OTC medicines at home by participants.

OTC product	Always	Sometimes	Seldom	Never
Pain killer	74%	18%	8%	0
Vit./minerals	19%	46%	8%	27%
Antacids	36%	38%	9%	17%
Medicated skin care product	35%	29%	20%	16%
Cough remedy	18%	55%	0	27%
Sore throat products	17%	55%	18%	10%
Laxatives	0	10%	54%	36%
Sleep aids	8%	0	10%	82%
Antidiarrhoeal	17%	28%	28%	27%

DISCUSSION

OTC drug use is increasing within healthcare. According to World Health Organization (WHO) self medication is part of the self care that helps to use efficiently the overburdened health care system with guidelines for the regulatory assessment of medicinal products for use in self-medication.¹⁰

In the current trend, our study has shown that OTC use was even also prevalent among medical students who were currently in touch with pharmacology. Out of 151 students who filled the questionnaire, all had used OTCs and were aware of them. As they were medical students and knew more about drugs, they used more OTC drugs.

91% used OTCs due to the time and money required for consultation, 81% felt familiarity to self medication with OTCs, 80% used them for mild illness, previous good experience with OTCs affected 64% of participants, 36% used them in emergency and negligence to health and poverty influenced 17% of participants for using OTCs. Similar results are also reported in other studies.¹¹

Prescription only drugs were also freely available to them. 100% of them had bought antibiotics without prescription, which may be one of contributory factor for resistance development. So, emerging problems due to inappropriate use of OTC drugs should be taught to the students to minimise the risk. Regulation of sale of drugs with potentially harmful effects should be implemented effectively with proper monitoring system.

CONCLUSION

Problems due to inappropriate use of OTC drugs should be taught to minimise the risk. Education is mandatory on the type of illnesses to be treated with OTCs, along with implementation of stringent rules and regulations on their use.

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