A STUDY ON KNOWLEDGE AND PRACTICES OF OVER THE COUNTER MEDICATIONS AMONG 2ND YEAR MEDICAL STUDENTS

Aritra Ghosh*, Suvadip Biswas, Krishnendu Mondal, Mithilesh Haldar, Supreeti Biswas

Department of Pharmacology, Burdwan Medical College and Hospital, Burdwan-713104, West Bengal, India.

ABSTRACT

Use of Over the counter drug as well as self – medication is a very common problem in India. Medical students are of no exception at this mal-practice. This study was to assess the extent of knowledge and practices of over the counter (OTC) drugs among 2nd professional MBBS students in Burdwan Medical College. A questionnaire based study was conducted among 250 numbers of 2nd year medical students. Among the participants, 84% know what is OTC drug and 71% know which drugs fall under OTC category. They took self-medication approximately four to five times on average in last one year. Most common conditions/symptoms for self-medication were fever (89%), cough and cold (75%), headache (67%), diarrhoea (33%), any type of pain (53%) followed by minor cut, vomiting. Antipyretics (82%), cough and cold preparation (51%) and pain-killers (49%) were the most common medicines taken. 15% of them experienced adverse reactions on OTC self medicated drugs. 58% followed the instructions as per Package Insert and 40% recommended the medicine to others with similar problem. OTC medication is widely used among medical students who are studying pharmacology. It is important to create awareness about harmful effects of OTC drugs among medical students as they are future health care providers and prevent untoward consequences.

KEYWORDS: Over the counter drug, Self-medication, Questionnaire.
INTRODUCTION

‘Over The Counter (OTC) Drugs’ means drugs legally allowed to be sold over the counter, i.e. without the prescription of a Registered Medical Practitioner.\(^1\) In India, though the phrase ‘over the counter drugs’ has no legal recognition, so all the drugs not included in the list of ‘prescription drugs’ are considered as OTC drugs. In India, Central Drugs Standard Control Organization (CDSCO) regulates import, manufacture, distribution and sale of drugs and cosmetics by Drugs and Cosmetics Act (DCA) and its subordinate legislation, Drugs and Cosmetics Rules (DCR), 1940. All the non-prescription drugs which are sold over the counter to the general population also fall under these act and legislation. Prescription Drugs fall under two schedules of the Drug and Cosmetics Rules, 1945: Schedule H and Schedule X. The Ministry of Health and Family Welfare in India published a notification in 2012, to incorporate a separate schedule H1 under the Drugs and Cosmetics Rule, 1945 for regulating sale of antibiotics, certain anti-TB drugs and habit forming drugs to decrease illicit use of OTC drugs.

Trend of using OTC drugs/self-medication is high in India. Self medication increases the chances of illicit use of drug\(^2\) and drug dependency. Due to uncontrolled use of OTC drugs, signs and symptoms of underlying diseases are suppressed hence incidence of delayed diagnosis, complications, treatment failure and drug resistance are increasing.\(^3-6\) In several studies it has been shown that resistance of pathogens, adverse drug reactions and drug dependence increase to a very high level due to this inappropriate use of drugs without expert opinion.\(^7-9\) These are major causes of concern worldwide particularly in developing countries where antibiotics are often available without a prescription.\(^10\)

In our society, it is a common practice to treat most illnesses by self medication. Self medication is very common in medical students.\(^11,12\) A high level of education and professional status has been mentioned as predictive factor for use of OTC drugs/self medication,\(^13\) medical students are important member in this self-medicated group. There are many reasons for the increased likelihood of self- medication among medical students. Very few studies were conducted with usage of OTC drugs in our State. In this scenario, we planned a study to assess the level of Knowledge and practice of OTC drugs among 2\(^{nd}\) Professional medical students who presently read Pharmacology in our rural Medical College.
OBJECTIVES
1) To assess knowledge, practices of self-medication patterns and over the counter (OTC) drug usage among 2nd professional MBBS students.
2) To assess for which symptoms/diseases they use OTC drugs most of the time.
3) To overview which groups of drugs mainly used by them as OTC drugs.
4) To overview the occurrence of ADR due to usage of OTC drugs.

MATERIALS AND METHODS
A cross-sectional questionnaire based study was conducted for a period of one month in the Department of Pharmacology of a Govt. Medical College. Students studying Pharmacology of 2nd Professional MBBS were selected for this study. Overlapping two Batches (one of 100 and next of 150 strength) of Pharmacology students were recruited. The participants were briefed about the nature of the study. Written consent for participation in the study was obtained and a pre-tested semi-structured questionnaire administered to them. The information pertaining to the pattern of OTC drugs use, reason and indication for OTC drugs use, list of drugs commonly used for self-medication were included in the questionnaire. The investigators were present in case the respondents required assistance. For the purpose of the study, certain medical terms were explained to the students if they could not understand. Data were collected in a pre-structured format. Collected data were entered in excel sheet and analyzed with proper statistical method.

RESULTS
Among 250 students, 235 consented for the study and agreed to fill in the supplied questionnaire. 197 students (84%) know what OTC drugs are and 71% know name of some drugs which fall under this category. On an average 5 times in last one year they practiced self-medication and used OTC drugs.

Table no-1, Reasons of using OTC drugs

<table>
<thead>
<tr>
<th>REASONS OF USING OTC DRUGS</th>
<th>RESPONSE NO(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking disease is not serious</td>
<td>146 (62)</td>
</tr>
<tr>
<td>Familiar with the disease and its remedy</td>
<td>110 (47)</td>
</tr>
<tr>
<td>Ease and convenience</td>
<td>17 (7)</td>
</tr>
<tr>
<td>Time saving</td>
<td>14 (6)</td>
</tr>
<tr>
<td>Cost of physician’s service</td>
<td>2(&lt; 1)</td>
</tr>
</tbody>
</table>
Among participating students, as they are allowed to fill multiple options in questionnaire, so response Percentage is taken (N=235). In above table-1, it is seen that reasons of using OTC drugs are various, though majority or 62% response is due to disease is not serious, 47% is due to familiarity of the disease and its remedies, 6% due to time-saving, 7% due to ease and convenience and less than 1% due to cost of physician service.

![Bar chart of OTC drug indications](image1)

**Figure 1: Indication for using OTC drugs (N=235, maximum possible response in single option).**

From figure no-1, it is clear that they used OTC drugs for fever (89%); cough and cold (75%); headache (67%); pain (53%); minor cut and wounds (47%); diarrhoea (33%); vomiting (31%); allergic problem (24%); indigestion (20%); stomach pain (15%); constipation (15%); nutritional deficiency, skin problem, anxiety (each less than 10%).

![Bar chart of drugs used](image2)

**Figure 2: Drugs used commonly as self-medication (N=235, maximum response possible on single option)**
Fig. 2 shows the classes of commonly used drugs which were anti-pyretics (82%), cough and cold preparation (51%), analgesics (49%), acid blockers and antacids (47%), vitamin (31%), antibiotics (29%), antihistaminics (27%), anti emetic (7%), anti-anxiety drugs (4%) and ophthalmic preparation (2%).

Among the 235 students, 35 (15%) experienced some sort of adverse reaction mainly diarrhoea, nausea, vomiting. Though few of them experienced sedation due to anti-anxiety drugs, allergy and abdominal cramp due to usage of some antibiotics. 136 (58%) took the drug as per instruction on the Package Insert and 99 (42%) took the drug from opinion of others who previously used the drug. 150 (64%) of them think self-medication is harmful. 94 participants (40%) recommended the drug who had similar problems, like one suffered from diarrhoea, he advised the drugs he used, to another who had similar problem.

DISCUSSION
Use of OTC drug and self-medication is becoming an increasingly important area within healthcare. World Health Organization considers self medication as part of the self care that helps efficient use of the burdened health care system[17] with guidelines for the regulatory assessment of medicinal products for use in self-medication. The recent trend is to expand the list of over the counter medicines and to increase the availability of controlled drugs; this will give more liberty and choice to the people to take informed treatment decisions.[8,18] In this scenario, this study has shown that it is even also prevalent among 2nd professional MBBS students who are now studying pharmacology. In our study it was found that among 235 students who filled up questionnaire, only two did not use any OTC drug in last one year. As they are studying medical science and know more about drugs, they use more self-medicated OTC drugs. Our study denoted that the most common reasons for self-medication were minor ailments (62%), knowing remedy of disease (47%). Easy and convenient availability of OTC drugs (7%), time saving (6%) were other two reasons. 47% response were knowing remedy of disease which is unique to this study group that lead them too far to inappropriate self-medication and can expose the participants to all the risks associated with inappropriate use of medications motioned earlier. Results were almost similar to those reported in other studies.[8,14]

In the study it was noticed that the classes of drugs that were commonly used were anti-pyretic (89%), cough and cold preparation (75%), analgesics (49%), antacid and acid-blocker (47%). Use of OTC antibiotic was also remarkable (29%) that can lead to harmful condition
like antibiotic resistance which is a major concern in recent days. We have found, however, that 9 among them (4%) used anti anxiety drug and sleeping pills. Similar results have been observed in number of other studies.[15, 16] These drugs may not be as easily available to the general population as they are to medical students, who can obtain them by virtue of their Profession. Despite studying in detail about all these drug reactions, 40% recommended drugs to others with similar problem. 15 % experienced some sort of adverse reactions. 64% knew self-medication and reluctant use of OTC drugs are harmful, but majority use them.

There are many reasons for the increased likelihood of self-medication among medical students. These students have easy access to information from medical books, drug indices, literature, internet search and from other senior medical students, so they irrationally use drugs more commonly than general population. In addition, as they are medical students, they can have medications more easily than other general people from pharmacy. The study group cited their source of information for self-medication in most cases as per instruction on the Package Insert (58%) and 42% took the drug from opinion of others who previously used the drug.

Limitations: The limitations of this study included the absence of a comparative group, such as students from another field; the small sample size; not a prospective study and the absence of interventions, like providing information regarding hazards of self-medication

CONCLUSION
This cross-sectional study has found that use of OTC drugs is very common among medical students, facilitated by the easy availability of drugs, and information from textbooks/seniors. A significant number of students are unaware of the adverse effects of the medication that they themselves take and suggest to others. Being medical students, use of OTC drugs emerge as a huge problem, they not only use OTC drugs but also suggest these drugs to their friends, family members and other members of society who seek their help. Potential problems of inappropriate use of OTC drugs should be emphasised to the students to minimise this risk. Restriction of sale of drugs with potentially harmful effects should be implemented effectively with monitoring systems between the physicians and pharmacists. Steps can also be taken to educate pharmacists on the need to cross-check with the prescribing physician while dispensing such drugs.
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Websites

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