

PATTERN OF UTILIZATION AND PERCEPTION OF MEDICAL UNDERGRADUATES REGARDING OVER THE COUNTER DRUGS

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ABSTRACT

Background: Over the counter, drugs are used with increased propensity in medical undergraduates as they have some knowledge and good exposure to drugs. Assessment of the knowledge and perception of self-medication in them is extremely crucial as they are future prescribers of medicine. **Material and Methods:** A pre-tested and validated semi-structured questionnaire regarding the use of over the counter drugs was shared with 250 second year medical undergraduate students in the form of Google forms. The responses generated in MS Excel spreadsheets were tabulated and subjected to statistical analysis. **Results:** Among the respondents, 36% did not know what does over the counter drug mean. 90.8% of the respondents have used over the counter drugs. Most of the respondents have taken self-medication approximately three times on an average in last one year. Most common conditions/symptoms for self-medication were cough and cold (74.3%), pain (71.5%) followed by fever (61.5%) and diarrhea (28.89%). 15% of them experienced adverse reactions to self-medication with over the counter drugs. 58% followed the instructions as per Package Insert and 40% recommended the medicine to others with similar problem. **Conclusion:** Over the counter medication is extensively used among medical students. It is imperative to impart them better understanding about over the counter medications and their possible adverse effects during their phases of pharmacology learning itself.

KEY WORDS: Over the Counter drugs, Google forms, Self Medications, Medical Undergraduates

INTRODUCTION:

Food and Drug Administration (FDA) defines over the counter (OTC) drugs as “drugs that are safe and effective for use by the general public without seeking treatment by a health professional” (1). India currently ranks 11th in terms of the market of over the counter (OTC) drugs and it is further expected to reach to ninth position in next five years (2). Central Drugs Standard Control Organization (CDSCO) is the governing body that 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. OTC drugs which are sold by pharmacies without a prescription of medical doctor also falls under this act. (3).

In our country, an OTC Committee under the aegis of the Organization of Pharmaceutical Producers of India (OPPI) functions to promote the responsible self-medication among general public (3). Excessive use of OTC drugs now days have led to many problems like suppression of signs and symptoms of the underlying diseases, thereby delaying the

diagnosis of a disease, leading to complications, failure of treatment (4-6). By determining the pattern of OTC drug use among medical students we can have better understanding of how the profession can influence the prescribing of OTC drugs in this group of population.

MATERIALS AND METHODS:

A cross-sectional questionnaire-based study was conducted for a period of one week in the Department of Pharmacology of an SMS Medical College, Jaipur. Students studying Pharmacology of 2nd Professional MBBS were selected for this study. The participants were briefed about the nature of the study. Following which a brief lecture of 20 minutes on introduction to Google forms including how to open the form via the link given to them then how to fill and submit it was delivered during the demonstration class of

Pharmacology. Written consent for participation in the study was obtained from the students. A pre-tested semi-structured questionnaire was prepared through Google forms. The questionnaire was self-developed and pre-validated consisting of twelve closed-ended questions. Password protected access to the URL link gave students around the clock access to the questionnaire from anywhere. The various components included in this form were the indication of OTC drug use, common brands of OTC drugs which were preferred among the students. They were taught to open the forms, fill and then submit them after their demonstration classes in Pharmacology. For the purpose of the study, certain medical terms were explained to the students if they could not understand. Responses were collected through Microsoft Excel 2007 spreadsheets which were generated as the student filled the forms.

Figure 1: Flow diagram showing the recruitment of participants at each step of the study

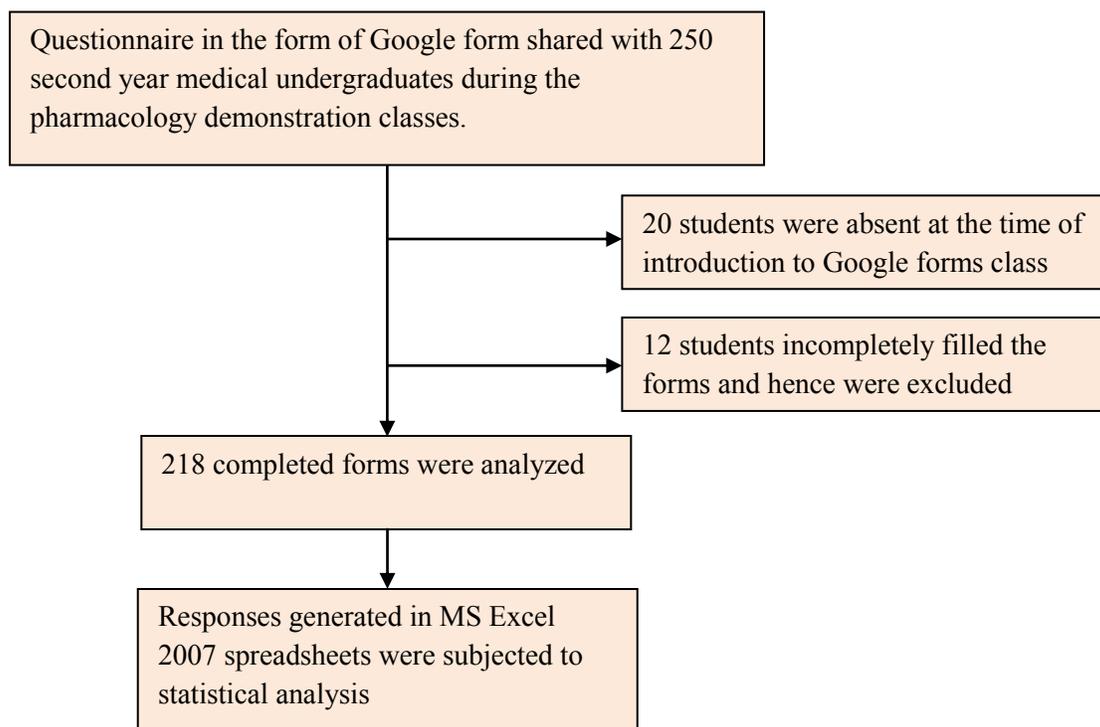


Table 1: Responses of the students for different questions regarding over the counter drug use

Questions	Responses (Frequency , %)
What does Over the Counter Drug Mean (OTC) drug mean?	Correct Answer: 140 , 64.2% Incorrect Answer: 78, 36%
Have you ever used Over the Counter drugs in the past?	198, 90.8%
How many OTC drugs have you taken on an average in past 3 months?	3
Have you ever suffered from adverse drug reaction because of use of over the counter drugs?	15
Do you follow the instructions as per Package Insert while using over the counter drugs?	58%
Will you recommend over the counter drugs to others with a similar problem?	40%

Table 2: Indication for use of over the counter drugs among participants (n = 218)

**** Multiple responses**

Indications **	Frequency (n = 218)	Percentages
Cold and Cough	162	74.3%
Pain (head, body, tooth)	156	71.5%
Fever	134	61.5%
Diarrhea	63	28.89%
Dysmenorrhoea	45	20.6%
Vomiting	103	47.24%
Acidity	48	22.01%
Nutrition Supplementation	47	21.55%

Figure 2: Various reasons for use of over the counter medications

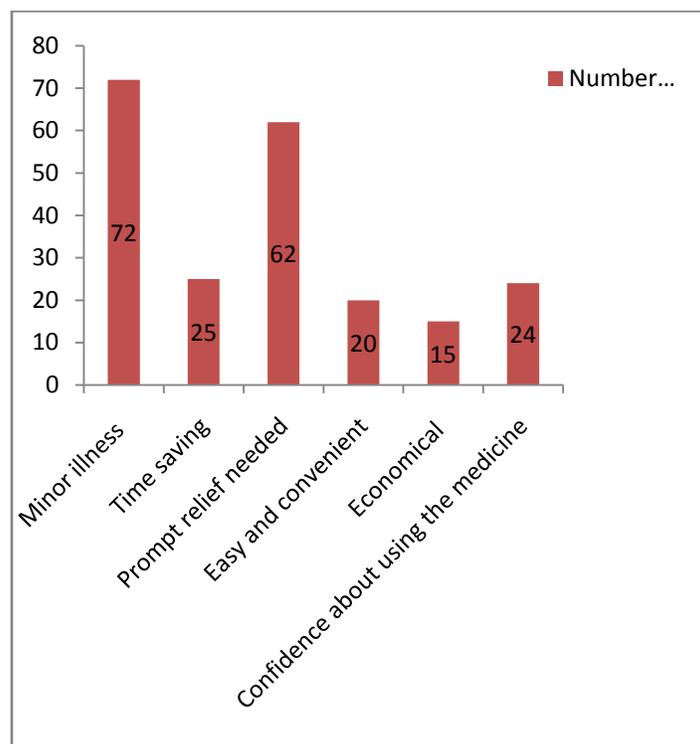


Table 3: Pattern of common brands of the drugs used for various indications

Indications	Most Common Brand Used	Frequency
1. Cough and Cold Preparation	Sinarest	54
2. Pain	Ibugesic Plus	42
3. Fever	Crocin	106
4. Diarrhoea	Oflox OZ	48
5. Dysmenorrhoea	Meftal Spas	32
6. Vomiting	Dom DT	74
7. Acidity	Digene	25
8. Nutritional Supplements	Dexorange	23

RESULTS:

Out of 250 students, 218 students were included as they filled the complete Google form. Figure 1 depicts each step followed for the recruitment of the study participants. The response rate for our study is 87.2%. 90.8% of the respondents have used over the counter medications. Among the respondents, 36% did not know what does over the counter drug mean. The participants took self-medication approximately three times on an average in last one year as depicted by Table 1. 187 (85.7%) of the respondents were males and 31(14.2%) were females. The mean age of the respondents was 20 + 1.6 years. The most common reason for the use of over the counter drugs is a cough and cold (74.3%) followed by pain (71.5%) as shown in Table 2. Figure 2 illustrates the main reason for the use of over the counter drugs among the respondents is minor illness (33.02%), followed by prompt relief needed (28.4%). The most common brands used for cough and cold was Sinarest (35), for fever Crocin (106), for pain Ibugesic Plus (42), for diarrhea Oflox OZ (48), for dysmenorrhoea Meftal Spas (32), for vomiting Dom DT (74), for acidity Digene (25), for nutritional supplements Dexorange (23) [Table 3].

DISCUSSION:

Our study reveals that medical students confidently self-treat various diseases like cough, cold, fever, pain and sprains, vomiting, acidity, dysmenorrhoea and diarrhea. 90.8% of the students used OTC drugs in our study. In contrast in another previous study done in West Bengal it was found that only 57.05% of the students used OTC drugs (7). While in another similar studies in Bahrain (2006) 44.8%, (8) and in Karachi 76% students, used OTC drugs (9). However, there is a wide variation in the data regarding the use of OTC drugs in our country and globally. So, there occurs great difficulty while comparing the extent of use of OTC drugs among the medical undergraduates of any institute at national level.

Cough and Cold was the most common reason for use of OTC drugs among the participants followed by pain which differs from the previous study of Gosh A et al (10) where anti-pyretic were used commonly. Another previous study conducted in Ethiopia (11) revealed that fever and headache were the most commonly reported symptoms for using OTC drugs followed by cough and common cold.

Regarding the reasons which prompted the participants to use over the counter drugs, mild nature of the illness was the most common one reported by 72 of them. This necessitates attention as those students with a mild illness practiced self-medication has got serious implications as many diseases may initially appear to be mild but misdiagnosis and wrong treatment may invite serious health hazards. This finding is mirrored in another previous research study carried in Bahrain in 2006, in which 45.5% of the respondents preferred self medication with OTC drugs because they considered it as time saving (5).

In both the developed and the developing countries antimicrobial agents are dispensed as over the counter drugs by the pharmacies in order to treat or prevent infections. The antibiotics are well-recognized prescription only drugs that are to be sold only after the prescription of registered medical practitioner, still they are frequently dispensed as OTC drugs from pharmacies for treating or

preventing infections (12). These habits also promote antimicrobial resistance which is prevalent now a days. Few limitations of the study is that the results of the study would have been more generalized if it could involve students of other medical colleges in various parts of our country. As different illness comes in cycles and few are seasonal too so a longer timeframe is needed for future studies. It is the need of the hour to impart the undergraduate medical students' better understanding about the use of over the counter medications and their possible adverse effects during their phases of pharmacology learning itself.

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