## **Original Research Article**

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# Study on usage of over the counter medication among college students in Telangana: a cross sectional study

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## **ABSTRACT**

Background: The use of over the counter medications (OTC) has been reported to be on rise internationally. The OTC drug market in India currently ranks 11th in the global OTC market. Since Indian patients have a huge tendency of self-treatment, the Indian market is characterized by a huge demand for OTC drugs. Hence the current study is undertaken to know the practices of over the counter medication among college students.

Methods: Institutional based cross sectional study carried out in Pharmacy College and all interested students were included with sample size of 141. Data was collected by interview method by using questionnaire. Results were presented in percentages using SPSS statistical package version 23.

Results: Subjects were opting for the over the counter medication. Most common drugs dispensed were cough remedies (52.4%) followed by antibiotics (38.2%). Most (47.5%) common source of medication was parents.

Conclusions: Majority of the students were opting for the over the counter medication and it is need of the hour to improve the knowledge regarding its adverse effects and about rationale use of drugs and drug resistance.

Keywords: Over the counter medication, Students, Antibiotics, Drug resistance

## 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. In India, though the phrase has no legal recognition, all the drugs that are not included in the list of 'prescription drugs' are considered as non-prescription drugs (or OTC drugs). Prescription drugs are those that fall under two schedules of the Drug and Cosmetics Rules, 1945: Schedule H and Schedule X. OTC medication abuse for the purpose of this review is defined as the use of non-prescription medications for non-medical purposes.<sup>2</sup>

Abuse is often intentional, unlike OTC medication misuse, which may be medication used for medical purposes but used incorrectly, for example, incorrect dosage, lack of interactions knowledge, inappropriate medication use and incorrect duration of use.3 The use of higher cost health care settings for minor ailments places a substantial burden on scarce National Health Service (NHS) resources. Many people with minor ailments prefer selfcare.4,5

Intentional drug abuse of prescribed and OTC medicines has climbed steadily. Data from the 2016 National survey on drug use and health demonstrated that 6.2 million (2.3%) people aged twelve or older had used prescription drugs for nonmedical reasons during the past month. Of these, 3.3 million used pain relievers, 2 million used tranquilizers, and 1.7 million used stimulants and 497,000 (0.5 million) misused prescription sedatives.<sup>6</sup>

The use of OTC medications has been reported to be on the rise internationally. The OTC drug market in India currently ranks 11th in the global OTC market. Since Indian patients have a huge tendency of self-treatment, the Indian market is characterized by a huge demand for OTC drugs. Published literature mentions that the mean age for the purchase of OTC drugs in India is 32.7 years with female preponderance.

OTC medication offers advantages like easy access to medicines, self-management of minor ailments with the involvement of pharmacists and utilization of available resources. However it is not always safe and has been associated with negative health consequences.<sup>8</sup> Exposure to OTC Ibuprofen and other OTC non-steroidal antiinflammatory drugs is substantial and leads to increased risk of gastrointestinal bleeding. OTC related adverse effects are predominantly gastrointestinal complaints, allergic reaction, psychosis, tachycardia, seizures and dizziness leading to increase in the number of hospital admissions.9 Hence the current study is undertaken to know the practices of over the counter medication in college students. Current study aimed to study the usage of over the counter medication in college students, to study the commonly reported illnesses for taking OTC drugs and to find out reasons for opting over the counter medication.

#### **METHODS**

## Study design

Institution based cross sectional study.

## Study setting

Pharmacy College located in Nalgonda town of Telangana state.

## Study population

All the four academic years' pharmacy students.

### Inclusion criteria

All the four academic years pharmacy students who were interested to participate in the study.

#### Exclusion criteria

Pharmacy students who were absent on the day of data collection were excluded.

## Sample size

Out of 231 total pharmacy students, 30 had participated in the pilot study, 34 students were absent on the day of data collection and 26 students were not willing to participate in the study. Hence a total of 141 students

were included after taking consent, hence sample size was 141.

#### Study period

This study was carried out from August 2018 to September 2018.

## Study tool

A pre-tested pre-designed semi-structured questionnaire. Pilot study was conducted on 30 students initially for standardization of the questionnaire. Questionnaire consists of socio demographic information, categories of drugs, symptoms for which medication is prescribed, source of medicine and other information.

## Method of data collection

After explaining the importance of the study, questionnaire was administered and data was collected by face to face interview method.

## Statistical analysis

Data was entered in Microsoft excel and analysis was done using SPSS statistical package version 23. Results were presented as proportions.

### **RESULTS**

Out of the 141 participants, 55 (39%) were males and 86 (61%) were females. Mean age 19.1±0.7. Majority of the study population were Hindus (83.6%) and urban residents (75.8%) (Table 1).

Table 1: Socio-demographic profile of study population (n=141).

	Frequency	
	N (%)	
Age distribution (in years)		
18-19	101 (71.6)	
20-22	40 (28.4)	
Sex		
Males	55 (39)	
Females	86 (61)	
Religion		
Christian	14 (9.9)	
Hindu	118 (83.6)	
Muslim	9 (6.5)	
Residence		
Urban	107 (75.8)	
Rural	34 (24.2)	

Majority of the students were opting for the over the counter medication (80.8%) at least once in a year (Table 2).

Table 2: Study population taking over the counter medication (n=141).

Over the counter medication	Frequency
	N (%)
Yes	114 (80.8)
No	27 (19.2)

Table 3: Different categories of over the counter drugs dispensed.

Type of medication	Frequency
	N (%)
NSAIDs	30 (21.2)
Antibiotics	54 (38.2)
Cough remedies	74 (52.4)
GI drugs	21 (14.8)
Anti-allergic drugs	4 (2.8)
Ear/eye drops	22 (15.6)
Urogenital medication	3 (2.1)

<sup>\*</sup>Total percentage exceeds 100 because of multiple responses.

Most common drugs dispensed over the counter were cough remedies (52.4%) followed by antibiotics (38.2%) (Table 3).

Table 4: Different symptoms for which over the counter medications are taken.

Symptoms	Frequency
	N (%)
Pain	34 (24.1)
Fever	79 (56)
Cough/cold	82 (58.1)
Ear/eye symptoms	10 (7)
GI symptoms	10 (7)
Insomnia	0 (0)
Skin diseases	7 (4.8)

<sup>\*</sup>Total percentage exceeds 100 because of multiple responses.

Most common symptom for which over the counter medication were taken was cough and cold (58.1%) followed by fever (56%) and pain (24.1%) (Table 4).

Table 5: Frequency of taking over the counter medication (n=141).

Frequency of taking medication	Frequency N (%)
Weekly	16 (11.3)
Monthly	25 (17.7)
2-6 months	32 (22.6)
6-12 months	68 (48.9)

Majority of study population were taking over the counter medication over the duration of 6-12 months (48.9%) (Table 5).

For majority of the study population source of medication was parents (47.5%) followed by chemist (33.3%) and peer group (7%) (Table 6).

Table 6: Source of the over the counter medicine (n=141).

Source	Frequency
	N (%)
Chemist	47 (33.3)
RMP	8 (5.6)
Peer	10 (7)
Parent	67 (47.5)
Relatives	5 (3.5)
Others	7 (3.1)

Majority of the study population preferred over the counter medication because of convenience (50.2%) followed by others reasons like life style factors, already knowing the drugs etc. (35%) (Table 7).

Table 7: Reasons for preferring over the counter medication (n=141).

Dagger	Frequency
Reason	N (%)
Poor access to health care	14 (9.9)
Lack of affordability to reach health care	7 (4.9)
Convenience	71 (50.2)
Others*	49 (35)

<sup>\*</sup>Life style factors, already knowing the drugs.

## **DISCUSSION**

In the current study, 55 (39%) were males and 86 (61%) were females. Mean age 19.1±0.7. Majority of the study population were Hindus (83.6%) and urban residents (75.8%). In the study conducted by the Shroti et al, 92.9% were males. Mean age was 37.4 years. In the study done by Nagaraj et al it was observed that 70.8% of study population were males and 28.2% were females. 10

Majority of the students were opting for the over the counter medication (80.8%) at least once in a year. Most common drugs dispensed over the counter were cough remedies (52.4%) followed by antibiotics (38.2%), NSAIDS (21.2%), ear and eye drops (15.6%), GI drugs (14.8%), anti-allergic drugs (2.8%) and urogenital medication (2.1%). In the study conducted by the Shroti et al analgesics were the most common over the counter mediations dispensed by pharmacists. In the study by Nagaraj et al most common dispensed drugs were analgesics (26.8%) followed by antihistamines (15.2%), antacids (14.8%), antibiotics (10%), antipyretics (7.8%), OC pills (5.09%), and miscellaneous (20%). A study done by Gazibara et al, showed that analgesics were the most commonly dispensed OTC drugs.

Most common symptom for which over the counter medication was prescribed was cough and cold (58.1%) followed by fever (56%), pain (24.1%), eye and ear symptoms and GI symptoms (7%) and skin diseases (4.8%). In the study by Nagaraj et al most common complaint for the use of OTC drugs was pain (26.80%) and other complaints were respiratory infections (24.50%), GIT problems (22.22%), gynaecological problems (5.00%), headache (6.01%), dermatological problems (5.09%), and others (10.18%). In study conducted by Ngado et al, showed that frequent reported reason for buying antibiotic was cough in urban setting and fever in the rural setting. <sup>12</sup>In this study, antibiotics were mainly dispensed for fever, cough and dental infection. <sup>13</sup>

Majority of study population were taking over the counter medication over the duration of 6-12 months (48.9%), followed by those taking 2-6 months (22.6%), monthly (17.7%), and weekly (11.3%). NSAIDs were the most common drugs used daily. For majority of the study population source of medication was parents (47.5%) followed by chemist (33.3%), peer group (7%), RMP (5.6%), relatives (3.5%) and others (3.1%). 113 (80.8%) perceived side effect after taking medication.

Study population preferred over the counter medication because of convenience (50.2%) followed by others reasons like life style factors, already knowing the drugs etc (35%), poor accessibility to health care (9.9%) and lack of affordability of health factors (4.9%).

## **CONCLUSION**

The current study revealed that higher proportion of students opted over the counter medication and antibiotics were one of those drugs which were commonly bought over the counter. Antimicrobial resistance poses a serious threat to the global public health and this can be attributed to increasing usage of over the counter drugs. The present study highlights that it is the need of the hour to bring the awareness among students regarding the adverse effects of over the counter medication and particularly about rationale use of antibiotics and drug resistance who in turn can take the message to the community.

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