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### A questionnaire based study to assess the knowledge of 2<sup>nd</sup> year medical students on self-medication / OTC

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#### ABSTRACT

The aim of our study was to assess the knowledge of medical students about OTC drugs.

#### Materials & methods

150 students who are in 2<sup>nd</sup> year MBBS studying at MVJ Medical College and Research Hospital, Hoskote were given a questionnaire covering about awareness & various aspects on usage of OTC drugs & responses obtained were noted.

#### Results

120 (80%) students knew that OTC means Non-prescription drugs. Among 150 students, only (54%) used OTC & majority of them have taken treatment from physician in the past 6 months. The frequently reported illness that prompted self-medication included respiratory diseases [cough, cold, sore throat, pharyngitis, tonsillitis etc.] & viral fever. Majority of them obtained OTC by telling the drug name - self decision (64%), telling symptom (11.33%), showing old prescription (8.66%) & 10 (6.66%) students have practiced self-medication by advice from an herbalist / Ayurveda. Most common reasons for self-medication was its less time consuming (43.33%) & previous experience of similar illness (26.66%) which lead to repeated use of self-medication for same problem in (82%) students. Commonly used self-medication was analgesic (97.33%). Gastrointestinal side effects (47.33%) & sedation (39.33%) were more with OTC drugs used. We have found that (51.33%) people share OTC among relatives and friends. About (81.33%) students were aware about precautions to be taken as per instructions & label, whereas (57.33%) students knew about possible drug interactions / contraindications of OTC drugs.

#### Conclusion

Even though self-medication was not common among our students because most of them were aware about OTC drugs their advantages & disadvantages, it's inevitable to stop its usage among the public. The intervention will require better education of public and health professionals to avoid the irrational use of drugs.

**Keywords:** Over the counter drugs (OTC) / Self-medication, Awareness, Questionnaire.

## INTRODUCTION

The need to save on healthcare spending and the trend to enhance self-care have led to more emphasis on patients taking their own responsibility for the management of minor ailments, including the use of medication, available without a prescription [1].

According to WHO's definition, self-medication is "the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms" and one of the major causes which ultimately become the major factor for irrational use of medicines [2]. Globally, self-medication practices are more frequently observed for over the counter (OTC) medicines. [3]

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. But indeed they are not safe & effective [4]. Furthermore, the use of such products may delay/mask the diagnosis of serious illness, with increased risks of interactions, adverse reactions & increased healthcare costs. [5]

The list of OTC drugs in the modern society is over expanding with the inclusion of new formulations and prescription [4]. In developed nations there are growing concerns about the use of OTC and non-OTC medicines, in the same way in developing countries, people self-medicate for common illness & the tendency of misuse of OTC is reported among high school and university students [2, 6] Common reasons cited for self-medication are inaccessibility of health care facilities, economic constraints and previous experience of illness.

The OTC Committee of the Organization of Pharmaceutical Producers of India (OPPI) is aiming to get regulatory support for issues related to OTC remedies and increasing the awareness of self-medication with the general public and the Government [5]. In one study in India, self-medication was reported among 92% of the medical students in contrast to 59% of the non-medical students [7]. Self-medication is common in health care providers also.

Second year MBBS students may differ from the general population because they are exposed

to knowledge about diseases and drugs. Hence, the aim of this survey was to assess the determinant of student choice of over-the-counter medicines available in the market as well as to assess their knowledge & awareness related to the warnings, contraindication, incompatibility and side effects of OTC drugs.

## MATERIALS & METHODS

This Descriptive cross sectional questionnaire-based study was carried out among 2<sup>nd</sup> year MBBS students of MVJ Medical College and Research Hospital Hoskote, Bangalore, India. Data was collected through structured, validated questionnaire which was filled up by 150 students after being explained about the type & purpose of the study and were assured about confidentiality of all information. Consent was obtained from each student prior to the study. The questionnaire included questions pertaining to knowledge about over the counter drugs (OTC), conditions for which drugs were used, why they have not consulted doctors, sources of drug information, details regarding the drug used, reasons for favouring self-medication and knowledge of possible adverse effects.

### Inclusion and Exclusion Criteria

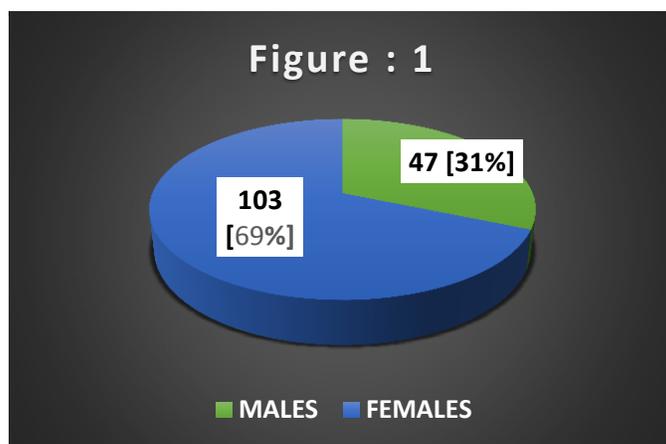
- Students who were studying in the MBBS 2nd year and who took medications / drugs during last six months for any diseases were included.
- Students who were not willing to participate in the study and who filled forms incompletely were excluded.

### Statistical analysis

Data was analysed using MS Excel spreadsheet and SPSS software & percentage of observations was noted.

## RESULTS

A total of 150 students who had taken drugs for any diseases suffered in past 6 months were given questionnaire, among them 103 Females & 47 Males [Figure -1] they were in age group of 17-25 years.



Respiratory diseases [cough, cold, sore throat, pharyngitis, tonsillitis etc.] are the most frequently reported 48 (32%) causes of illness, Viral fever & gastrointestinal diseases [gastritis, nausea, vomiting, diarrhoea etc.] were the second and third most common causes of morbidity, with a

frequency of 39 (26%) & 24 (16%) respectively. Other episodes of illness included headache, myalgia, ear pain, urticaria, dengue fever, malaria etc. [Table - 1]. 2% students didn't mention any illness.

**Table – 1: Commonly reported symptoms / disease**

Type of symptoms / diseases	N = 150	Percent (%)
Cough and Common cold (Respiratory diseases)	48	32%
Viral fever	39	26 %
Gastric pain, nausea, vomiting, Diarrhoea (Gastrointestinal diseases)	24	16 %
Headache	19	12.66%
Myalgia	10	6.66 %
Malaria , Dengue	3	2%
Dysmenorrhea , Ear pain & others	4	2.66 %

To treat the symptoms / disease, Self-medication was used by 54 (36%) students & 80 (53.3%) students of them have taken treatment from Physician [Table – 2]. Among 150 students

120 (80%) knew OTC means Non-prescription / Self prescribed drugs & 23 (15.33%) students think they are same as prescription drugs.

**Table – 2: Measures taken by students who reported an illness**

Visiting physician	80	53.33 %
By family members	10	6.66 %
Self-medication	54	36 %
Pharmacist / nurse	6	4%

The most common information source for self-medication was self-decision 96 (64%) by

telling the drug name, 13 (8.66%) took as per family/friends & others recommendations, 6 (4%)

by showing old prescription & 17 (11.33%) by telling symptoms to pharmacist but without prescription. Around 10 students have practiced self-medication by advice from an herbalist /

Ayurveda in the current study. [Figure -2] Around 12% students among them have given multiple options regarding information source.

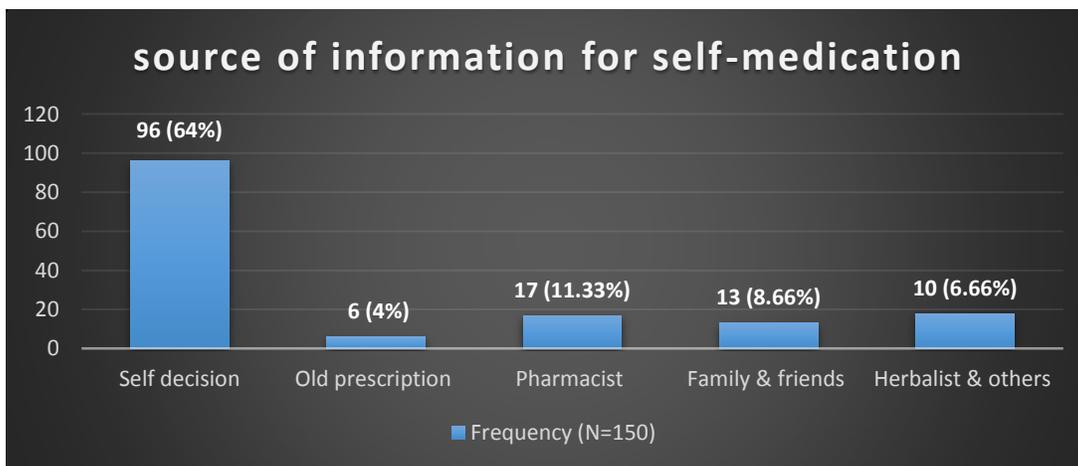


Figure – 2: Source of information for self-medication

The reasons given for self-medication was less time consuming 65 (43.33%), they had previous experience of treating a similar illness 40 (26.66%), few i.e. 16 (10.66%) felt that OTC is economical & others took because of

unavailability of doctor 11 (7.33%). [Figure – 3] Students have taken it in the form of pills 93 (62%), 13% injections, 6% syrup, 13.33% topical agents & 12% used multiple dosage forms.

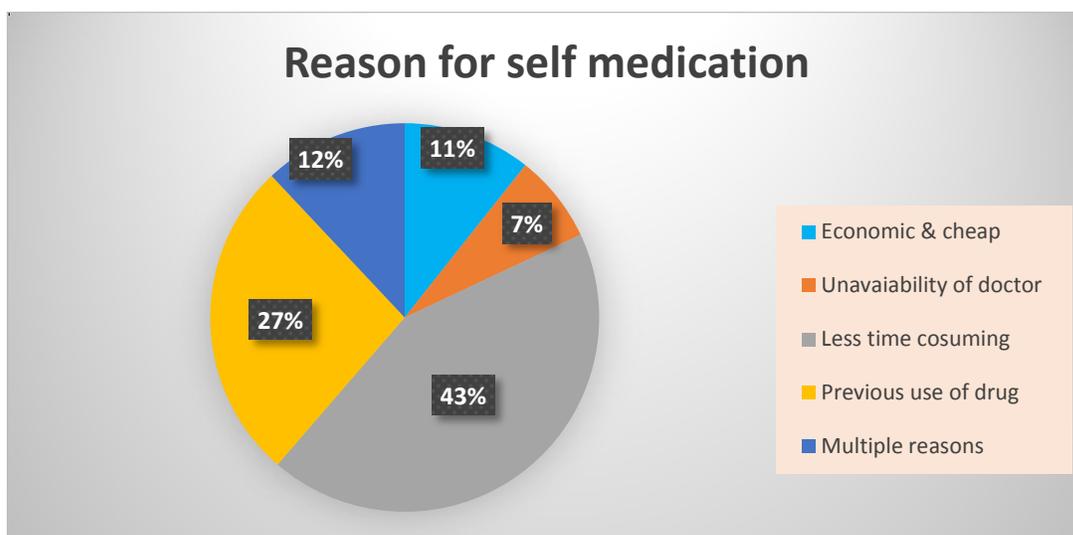


Figure – 3: Reason for Self-medication

The most commonly used drugs for self-medication in our study were analgesics 146 (97.33%), among them Paracetamol was used by 93 (63.69%) students, respiratory drugs 116 (77.33%) in which Cetirizine is commonly used

77 (66.37%) & Nutritional supplements 104 (69.33%) in particular, Vitamin supplements were used by 60 (57.69%). Other common types of medications reported were antiulcer drugs 90 (60%), topical preparations 69 (46%), antibiotics

63 (42%) & other preparations 10% as shown in [Table – 3].

With self-medication drugs 69 (46%) students got intermittent relief & 47 (31.33%) got complete relief of symptoms. In addition 22.33% of students had consulted the doctor after self-medication either because of no improvement or

worsening of condition. Despite studying in detail about drugs 17 (11.33%) students were unaware of any side effects. [Table – 4] Whereas in 71 (47.33%) students gastrointestinal side effects were most common followed by sedation 59 (39.33%) as reported by them & other side effects were rashes etc.

**Table – 3: Drugs used for Self-medication**

Drugs / group of drugs used	N = 150	Percentage (%)
Analgesics	146	97.33 %
Respiratory drugs	116	77.33 %
Nutritional supplements	104	69.33 %
Antiulcer drugs	90	60 %
Antibiotics	63	42 %
Topical preparations	69	46 %
Other drugs (herbal, Ayurveda, siddha)	15	10 %

Among 150 students 122 (81.33%) students were aware about taking precautions as per instructions & label, 28 (18.66%) were unaware of taking any precautions before taking any drug. [Table – 4]

Around 86 (57.33%) students know about the possible drug interaction / contraindications of the drugs whereas 64 (42.66%) said no drug interactions with OTC drugs [Table – 4].

Self-medication was taken repeatedly for same problem by 123 (82%), for different problem by 6 (4%) & 6 (4%) have never taken again . Same medications were shared with family/friends for similar symptoms by 77 (51.33%), shared

after consulting the doctor 25 (16.66%), not shared but recommended 21 (14.10%) & around 24 (16%) didn't share any medications.

Among 150 Students, 77 (51.33%) felt that most of the drugs used by them should be available as OTC in market, 41 (27.33%) want analgesics, 13 (8.66%) antibiotics, 10 (6.67%) respiratory drugs & 6% students recommend antiulcer drugs to be made available as OTC.

61 (40.66%) students felt that this questionnaire was very useful, 39 (26%) little useful & 35 (23.33%) felt it's not much useful questionnaire.

**Table – 4: Awareness about disadvantages of OTC**

Questions	Response	Number of students
Awareness of any side effects	Yes (%)	133 (88.66%)
	No (%)	17 (11.33%)
Any precautions to be taken with OTC	Yes (%)	122 (81.33%)
	No (%)	19 (12.66%)
Awareness about contraindications & drug interactions	Yes (%)	86 (57.33%)
	No (%)	64 (42.66%)

## DISCUSSION

William Osler once commented, “The desire to take medicine is perhaps the greatest feature which distinguishes man from animals.” This desire is perhaps the key factor for the practice of self-medication [8] which can be defined as obtaining and consuming drugs without the advice of a physician or pharmacist either for diagnosis, prescription or surveillance of treatment. The increase in self-care is due to a number of factors viz. patient satisfaction, socioeconomic factor, life style, ready access to drugs, the increased potential to manage certain illness through self-care, public health and environmental factors, demographic and epidemiological factors. [9]

The present study revealed that self-medication practices was not so common among medical students in 2yr. only 54 (36%) students took self-medication & majority of them 80 (53.3%) have taken treatment from Physician compared to other studies conducted within India, the prevalence of self-medication among the medical students was 57.05% in West Bengal [10] & in Nagpur it is observed that self-medication was much more (77.98%) [11].

Respiratory diseases are the most common illness (32%) reported in our study for which they have taken self-medication (Table-2) similar to a study done by Joshi et.al [12] where cold was the most common indication (26.25%), whereas fever was common cause (48.93%) in study done by Sathisha Aithal et.al, [13] for self-medication.

The source for self-medication by 96 (64%) students was by telling the drug name / self-decision (Figure-2), because of their knowledge about drugs & around 10% students followed advice from herbalist / Ayurveda. In similar studies the common source for self-medication was Pharmacy (66.6%) in a study done by Zafar SN et.al, [14] & Text books (46.8%) [13]. The common reason for self-medication reported is less time consuming / ease 43.33%, same reason is given in a study by Goel D & Gupta S [7] but few studies have shown that mild illness, experience of similar illness [8,15] & for quick relief they used self-medication commonly according to a study from Punjab [16].

Among 150 students majority of them 120 (80%) have knowledge about self-medication,

similar to other study by Bhuvana. KB et.al, [10]. The commonly used drug was analgesics (97.33%) among which Paracetamol 93 (63.69%) & respiratory drugs (77.33%) – in which Cetirizine was used by 77(66.37%). Most drugs in the form of pills 93 (62%). (Table-3) but 22.33% students had consulted the doctor after self-medication either because of no improvement or worsening of condition. In other studies also the commonly used drugs were analgesics in which Paracetamol was also included [12, 13 & 17].

In comparison with other study about 40.37% & 48.74% students were unaware about possible side effects & drug interactions respectively [13], where as in our study most of the students were aware about side effects with OTC & 71(47.33%) of them reported common side effects of gastrointestinal tract whereas only 17 (11.33%) students were unaware of any side effects & despite studying in detail about drugs (Table-4).

Based on the knowledge obtained from books & internet around 122 (81.33%) students are aware about taking precautions as per instructions & label but 18.66% are still unaware of any such precautions to be taken. Even after studying about drugs students are practicing self-medication either for similar illness or by sharing the OTC knowledge with friends & family.

## CONCLUSION

Although in our study self-medication was not much practiced by 2 year students, it's inevitable among the other population. Drug authorities and health professionals need to educate students & public about the pros and cons of self-medication to avoid the irrational use of drugs. Interventions can be made to discourage this practice and ensure safer usage of drugs & avoid their irrational use by educating the students about advantages & disadvantages of OTC in their curriculum.

## Limitations

Our study sample size is small & requires a multi-centric study. The other limitation of our study is, the questionnaire was self-reported one and this could have led to bias in reporting of the self-medication practices.

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