

## EVALUATION OF SELF-MEDICATION PRACTICE IN SECOND YEAR UNDERGRADUATE STUDENTS AT A MEDICAL COLLEGE IN SOUTH GUJARAT

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### ABSTRACT

**Objectives:** Self-medication is the use of medicines by owns self without proper consultation. The practice of self-medication has increased, especially in medical students. Hence, this study was carried out to evaluate the self-medication practices among 2<sup>nd</sup> year undergraduate students of our institute.

**Methods:** This was a cross-sectional and observational study conducted among the 2<sup>nd</sup> year MBBS students for 1 month. The study comprised a pre-approved and pre-validated questionnaire in English consisting of two sections: Section 1 included questions regarding demographic details of the students and whether they practiced self-medication in the past 1 year. If they responded with a yes, they were asked to fill Section 2 which had questions about the details of their self-medication practice. The questionnaire was administered by the faculty of the pharmacology department after taking written informed consent. Only completely filled questionnaires were evaluated. The results were expressed using mean and percentages.

**Results:** 139 questionnaires were analyzed. About 80.58% students practiced self-medication. Female students (87.18%) were self-medicating more than male students (72.13%). Majority of the students who practiced self-medication obtained the medicine from the pharmacy (78.57%) and used it for 7 or fewer days. Analgesics (90.18%) were the most common group of drugs used followed by antipyretics. The most common indication was pain or headache (87.50%). Minor illness (73.21%) was the most common reason for self-medication.

**Conclusion:** The practice of self-medication was quite high in the 2<sup>nd</sup> year MBBS students of our institute. They lack awareness regarding the safe and rational use of medicines.

**Keywords:** Analgesics, Medical students, Rational use of medicines, Self-medication.

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### INTRODUCTION

Self-medication as defined by the World Health Organization is "the usage of medicines to treat disorders or symptoms which are self-diagnosed, or the intermittent or continued use of a prescribed drug for chronic or recurrent diseases or symptoms" [1]. Self-medication involves obtaining medicines using old prescriptions to purchase medicines or without a prescription, sharing medicines among each other or using leftover medicines from previous illness [2]. Self-medication is most common with easily available over the counter medicines. In recent years, it has become a form of self-care [3] and is being encouraged as a global trend for treating minor illnesses [4]. In countries such as India where rules regarding prescription and obtaining medicines are not strict, even prescription drugs such as antibiotics are also dispensed without prescription [5]. Rational self-medication has several benefits, such as an active role of patients in their personal healthcare, increased medication access for the patients, reduced burden on the governments regarding the health expenditure due to self-treatment of minor health conditions thus facilitating better use of clinical skills in health-care set up [6]. It also decreases the healthcare costs for the patients as it saves them the consultation fees and transport fees of seeing the doctors. Despite all these benefits, self-medication is associated with many risks, such as wrong diagnosis by patients or relatives, inappropriate drug dose or formulation, inadequate or prolonged administration of drug, incorrect drug selection leading to resistance, adverse drug reactions, polypharmacy, drug interactions, drug dependence or abuse, and delays in seeking appropriate medical advice [6]. Thus, it is imperative to exercise caution while practicing self-medication.

The young medical students of today are the future of India. Being in medical colleges, these students can easily acquire knowledge from

their surroundings, but they lack the necessary intellect to distinguish between the benefits and risks of self-medication. They are easily influenced by the internet and social media which promote self-medication. Advertising by pharmaceutical companies also poses a threat of self-medication in the younger population. They are also more likely to listen to their friends and family in terms of medication. All of this makes young medical students the most vulnerable segment of population who may start practicing self-medication at a young age. This may eventually get converted to a habit in their later life when they become practicing physicians. Various studies conducted globally have reported quite a high incidence of self-medication among undergraduate medical students since they also have some knowledge about various drugs [7-10]. Thus, this study was conducted with an aim to evaluate the knowledge, attitude, and practice of self-medication in 2<sup>nd</sup> year MBBS students at our institution.

### METHODS

This was a cross-sectional and observational study conducted over a period of 1 month among the 2<sup>nd</sup> year MBBS students in the medical college. The study was commenced after approval of the institutional ethical committee. The study included a pre-approved and pre-validated questionnaire to access the data on the self-medication practices among students. The questionnaire was in the English language. The questionnaire consisted of two sections: Section 1 consisted of questions regarding demographic details of the students such as age, gender, and whether they practiced self-medication or not in the past 1 year. If they responded with a yes to self-medication, they were asked to fill Section 2 of the questionnaire which had questions about the details of their self-medication practice. Only the students who practiced self-medication were instructed to fill in Section 2.

Before starting the study, students were briefed about the study and explained in detail the various sections in the questionnaire. They were provided the required guidance and assistance for filling out the questionnaire. Students were instructed to completely fill the questionnaire as guided. Written informed consent was taken from the students willing to participate in the study. Faculty members of the department of pharmacology administered the questionnaire to the students during the pharmacology lecture hours of 2<sup>nd</sup> year students. The questionnaires were assessed for their completeness and only the completely filled questionnaires were selected for final analysis. The data obtained from the questionnaires were documented and evaluated using Microsoft Excel 2016. The results were expressed in terms of mean and percentages. Tables were used to represent the results.

## RESULTS

The questionnaire was administered to 146 2<sup>nd</sup> year MBBS students. Out of 146, 139 students completely filled the questionnaires which were then included in the final evaluation; hence, the response rate was 95%. Out of 139, 112 (80.58%) students practiced self-medication. The mean age of students was 19.5±1.3 years. Among them, a large number of females (n=68, 87.18%) were self-medicating than males (n=44, 72.13%). Table 1 gives the details of the self-medication practice among the 2<sup>nd</sup> year MBBS students in the last 1 year. The majority of the students who practiced self-medication obtained the medicine from the pharmacy (78.57%) and used it for 7 or fewer days (85.71%).

Table 2 gives the list of medicines commonly used by the students for self-medication. Analgesics (90.18%) were the most common type of drugs that the students used on their own for different types of musculoskeletal pains and headache (87.50%) which is also the most common indication for self-medication in these students. As shown in Table 3, the second most common indication for self-medication was fever (83.04%). Consequently, antipyretics were the second most commonly used drug group for self-medication (83.93%). Among others, anti-anxiety and sedatives were used by students for anxiety

**Table 1: Self-medication practice by 2<sup>nd</sup> year MBBS students**

Question	No. of respondents		
	Yes	No	
Do you practice self-medication?	112	27	
For how long the treatment was used?	≤7 days	>7 days but ≤14 days	>15 days
	96	34	02
	From where did u obtain the medicine?	Pharmacy	Relative/Friend
Which type of medicine did u use?	88	42	07
	Allopathic	Homeopathic	Ayurvedic
	105	04	28
Did u obtain relief from self-medication?	Always	Sometimes/Most of the times	Never
	09	102	05
	Are you aware about rational use of medicines?	Yes	No
	128	11	

**Table 2: Types of medicines used for self-medication (n=112)**

Category of Drug	Number (%)
Analgesics	101 (90.18)
Antipyretics	94 (83.93)
Antiulcer agents	90 (80.36)
Hematinics/Multivitamins	82 (73.21)
Antitussives	73 (65.18)
Antihistaminic	62 (55.36)
Antibiotics	58 (43.75)
Antidiarrheal	35 (31.25)
Antiemetic	24 (21.43)
Others	16 (14.29)

and insomnia, respectively. Sore throat or pharyngitis (48.21%) was the most common reason for antibiotic (43.75%) self-medication. About 32.6% of the students stated to have stopped taking the antibiotics when the symptoms subsided and did not finish the entire course of the antibiotic regimen.

The majority of the students practiced self-medication because they considered the illness to be minor to warrant any kind of consultation (73.21%). A major portion of them self-medicated to save time (67.86%) and money (65.18%) as it is cheaper (Table 4). Most of the time they used previous prescriptions as a source of information on drugs (n=97, 86.61%) or borrowed medicines from their friends or relatives (n=42, 37.50%). The majority of the students (n=109, 97.32%) checked the expiry date of the medicines before using them for self-medication.

## DISCUSSION

Self-medication is the use of medicines by people on their own initiative without consultation with a physician. In recent years, self-medication is being considered an element of self-care [11]. People have always been keen to accept more personal responsibilities for their health status if provided with adequate knowledge. Self-medication has pros and cons depending upon who and what the patient chooses to self-medicate with [12]. The safety of a drug is dependent on its appropriate use. A few of the disadvantages associated with self-medication are wrong diagnosis, prolonged drug use, excessive or inadequate drug dosage, wrong drug selection, polypharmacy, and drug interactions. On the other hand, it can contribute to reducing the costs of prescribed drugs in government-funded public health programs and better channeling of limited clinical resources [3]. Medical students are especially prone to self-medicate themselves as they start learning about the diseases and their pharmacotherapy. Hence, this study was conducted in 2<sup>nd</sup> year undergraduate students of MBBS to learn about their self-medication practices.

In our study, the prevalence of self-medication was found to be 80.58%. This is comparable to the study conducted by Kumar *et al.* on medical students of South India; where they found self-medication prevalence among medical students to be 78.6% [8]. In other studies conducted in various parts of India, self-medication prevalence among medical students was found to range from 57.1% to 92% [13,14]. In studies conducted on students from a non-medical background, the prevalence was found to be 93% in a study conducted in Delhi University [15] and 87% in professional students

**Table 3: Indications or symptoms for self-medication (n=112)**

Indication/Symptom	Number (%)
Pain/Headache	98 (87.50)
Fever	93 (83.04)
Cough/Cold	87 (77.68)
Gastritis	76 (67.86)
Sore throat/Pharyngitis	54 (48.21)
Rash/Allergy	48 (42.86)
Diarrhea	34 (30.36)
Vomiting/Nausea	20 (17.86)
Others	16 (14.29)

**Table 4: Reasons for self-medication (n=112)**

Reason	Number (%)
Minor Illness	82 (73.21)
Saves time	76 (67.86)
Cheaper	73 (65.18)
Easily available	61 (54.46)
Privacy	56 (50.00)
Advice by friends/family	43 (38.39)
Sufficient knowledge about drug and disease	32 (28.57)
Distrust on doctor	04 (03.57)

in Uttar Pradesh [16]. Among the other developing countries, the prevalence of self-medication was found to be 43.2% in a study conducted in Ethiopia [17], 55.3% in a study in Pakistan [18], 55% in Egypt [10], and 80.9% in Malaysia [19]. Gender is considered an important factor in the evaluation of self-medication practices. In our study, self-medication was more common in female students (87%) as compared to male students (72%). This is similar to the findings observed in the study of James *et al.* who reported 45% self-medication in female students and 44% in male students [20]. However, this in contrast to the findings of Badiger *et al.* who reported more self-medication practice in male students (94%) compared to female students (91%) [14]. A majority (94%) of the students used allopathic medicines for self-medication which is similar to the findings obtained from a study done in Punjab by Gupta *et al.* [21].

In our study, analgesics (90%) were reported to be the most commonly self-medicated group of drugs by the students. Similar findings were reported by multiple studies performed in Egypt – 87.2% [10], Mozambique – 62.2% [22], and Pakistan (85%) [18]. Analgesics were followed by antipyretics (83.93%) as the second most common group of drugs to be used for self-medication. Antipyretics were found to be the most commonly self-medicated in a few studies performed in South India – 71% [14] and Ethiopia [23]. The other drugs commonly self-medicated by the 2<sup>nd</sup> year MBBS students included antiulcer agents (80.36%), multivitamins (73.21%), antitussives (65.18%), and antihistaminics (55.36%). Antibiotics (43.75%) were less commonly used by the students. The usage of the drugs by the students was found to be in accordance with the symptoms they experienced. As observed, headache or any kind of pain (87.5%) was the most common indication for self-medication in our study. This was followed by fever (83%) and cough and cold (77.68%). Fever was usually the most common indication for self-medication in a study conducted in South India [8]. However, cough and cold were also found to be the most common indication in a few studies [13,14].

In our study, students used previous prescriptions for the same illness (86.61%) as the most common source of information about the drugs which were similar to the observations made in a few studies conducted in South India [8] and Uttar Pradesh [16]. However, another study from South India [14] and one from Ethiopia [23], reported textbooks as the most common source of information.

In our study, the most common reason for self-medication was the illness being minor. This was reported by 73.21% of students; followed by self-medication being quick. This was similar to the findings reported in a few other studies [8,13,14]. However, in one study in Punjab, the most common reason for self-medication was reported to be attainment of quick relief [21]. Medical students are especially prone to make health-related decisions without any proper guidance as they feel confident about their knowledge regarding the disease and the drugs. In the present study, 28.57% of the 2<sup>nd</sup> year MBBS students practiced self-medication due to their belief that they have sufficient pharmacotherapeutic knowledge. About 38.39% students indulged in self-medication on the advice of their friends or family which can be dangerous for the student without any proper supervision. This irrational use of drugs by medical students can lead to adverse effects which may range from mild to severe, rarely even drug toxicity can also occur. Furthermore, unauthorized and unsupervised use of antibiotics by self-medication may lead to further propagation of antimicrobial resistance which is already a growing public health concern worldwide [24].

There were a few limitations in our study. For example, we did not include students from another field or a comparative group. Furthermore, the sample size of the study was small. Furthermore, interventions were not used, such as providing information regarding hazards of self-medication. The study findings are based on a single center study in south Gujarat, hence they cannot be generalized for the entire population.

## CONCLUSION

It can be said that a large proportion of 2<sup>nd</sup> year MBBS students at our institute practiced self-medication. Keeping this in mind, faculties should take responsibility to educate the students and create awareness regarding rational use of medicines with a special focus on the advantages and disadvantages of self-medication. Further studies in various parts of the state would help in directing the policies at the state level regarding the supply and dispense of medicines to the general population.

## AUTHORS' CONTRIBUTIONS

The authors declare that all the named authors have contributed equally to this article.

## CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

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