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Original Research Paper

Self-Medication Practices Among Undergraduate Medical Students at Tertiary Health Care Institute in Nagpur District of Maharashtra – A Cross-sectional Study

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ABSTRACT:

Introduction: Despite the fact that self-medication forms an essential element of self-care, the key issues like enhanced resistance of microorganisms, wastage of resources, and adverse drug reactions are linked with it. The published literature states a high prevalence of self-medication ranging from 12 % to 99% among medical students and medical practitioners. The current study was undertaken to gauge the perceptions of undergraduate medical students about self-medication. **Material and Methods:** A Cross Sectional study was carried out on 266 UG medical students from first to final year at one of the government's medical colleges in Nagpur district of Maharashtra. A structured, pre-tested, validated questionnaire, focusing on various aspects of self-medication, was administered to the participants and the responses were gathered. The data were entered into Microsoft Office Excel and analyzed using Graph Pad Prism Version 6. Results: A total of 139(52.25%) males and 127(47.74%) female students from first to final year participated in the study. The prevalence of self-medication among study participants was 221 (83.08%). The most common perceived reasons for SM were 'past experience of taking drugs for similar health problems' and 'for immediate relief from the clinical symptoms.' The Commonest Health problems reported by the participants for self-medication were Fever (86.87%), Common cold (79.18 %), Headache (77.85%) and cough (72.85%). **Conclusions**: The Study noted a high prevalence of self-medication among UG medical students. Although the students reported positive perceptions towards few aspects of SM, the study states the need for sensitization about self-medication among the students about its benefits and harmful aspects.

Key words: Academic; Awareness; Self-Medication; Undergraduate Medical Students

INTRODUCTION:

Self-medication (SM) is now progressively being considered as an element of self-care [1]. It encompasses acquiring medicines without a prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home [2]. Even though self-medication forms an integral part of self-care, major concerns like enhanced resistance of microorganisms, wastage of resources and adverse drug reactions are associated with it [3]. Self-medication is a significant health issue especially in developing nations like India [4]. In such nations, where universal access to health care is yet to be accomplished, SM is one of the most common and preferred modes opted by the individuals. The published literature indicates that self-medication can predispose to delay in seeking health care, resulting in paradoxical economic loss due to subsequent delay in the diagnosis of underlying health problems and its appropriate management [3-5]. Therefore, it reiterates the need for continuous check on these practices [3-5]. The conclusive evidence through published studies shows a high prevalence of self-medication ranging from 12 % to 99% among medical students and healthcare specialists [6]. Another study in Nepal not only revealed surprisingly high self-medication rate among undergraduate (UG) medical students but also that it was augmented with medical knowledge [7]. Medical students are future medical practitioners and SM has a significant impact among medical students and therefore, it is imperative to assess the self-medication practices (SMPs) among them [7]. Very few studies, emphasizing SM practices among UG medical students, have been conducted so far in India.

Various patterns of SM practices among this group need to be understood for further interventions and policy formulation. The present study was implemented to evaluate knowledge, attitudes, and practices of self-medication among UG medical students at one of the public medical institutes in Maharashtra. An attempt was also made to assess the gender wise and academic level specific differences in SM among students.

MATERIAL AND METHODS:

Ethics Procedures:

An ethics approval was obtained from the Institutional Ethics Committee (IEC) of the respective institute. (3562) An informed consent was received from the study population.

Study design and Study Area:

This was a cross-sectional study which was carried out at one of the government's tertiary health care institutes in Nagpur District of Maharashtra State.

Study Population and Sampling Technique:

The sampling frame consisted of students from first year to third year of undergraduate MBBS medical programme. The study was conducted on 266 students of all batches from the selected academic years through convenience sampling method. All targeted 266 students were considered as study participants and provided an informed consent for participation in the study. The study duration was 6 months from May 2021 to October 2021.

Data Collection:

Face to face orientation sessions were organized in different batches and periods with adequate social distancing and other COVID-19 related appropriate behavior. The study participants were sensitized about the purpose of the study, filling up the questionnaire etc. All queries raised by participants were addressed and necessary clarifications were provided for it. A structured, pre-tested, validated questionnaire was administered to participants and the responses were collected. The questionnaire comprised of three parts: Part 1: Demographic characteristics of the participants-age, gender, year of study; Part 2: Common reasons for self-medication, self-prescribed or reference to a previous prescription, most common self-prescribed drugs, and Part 3: Awareness about side effects, efficacy of self-prescribed medicines, any side effects experienced due to self-medication. The questionnaire included close ended questions highlighting knowledge, attitudes, and practices related aspects about self-medication.

Data Analysis:

The data were entered into Microsoft Office Excel and analyzed using Graph Pad Prism Version 6. Numerical continuous variables were expressed as mean and standard deviations. Categorical variables were considered as counts/percentages. The demographic characteristics and various aspects of self-medication were compared by 'Fisher's Exact Test' for categorical variables and 'Unpaired t test' for numerical variables. All statistical tests were considered significant at 95% confidence interval and p value less than 0.05.

RESULTS:

Out of 266 participants, 120 (45.11%) were from the first year and 116 (43.60%) belonged to the second year. The percentage of participants in the final year was only 11.53%. The average age of the participants from first year, second year and final year were 19.48±1.22, 20.4±1.16 and 24±0.72 years respectively. In the current study, the prevalence of self-medication among study participants was 221 (83.08%). There were 139(52.25%) males and 127(47.74%) female participants in the study.

Table 1: Reasons for Self-Medication Among Study Participants (n=221)

Reason for self-medication	Participants	
	Number	Percentage
Time Saving	91	41.17
Economical	53	23.98
Instant relief from symptoms	103	46.60
Laziness	28	12.66
Using a drug previously prescribed for the same illness	169	76.47
Feeling of self confidence	47	21.26
Easy availability	62	28.05

The participants stated multiple reasons for practicing self-medication which is illustrated in Table 1. The most common perceived reasons were past experience of taking drugs for similar health problems and for immediate relief from the clinical symptoms (Table 1). One of the most significant findings in the study was that

the SM prevalence was found to be more among females than males ($p<0.05$). The commonest health problems reported by participants for self-medication were fever (86.87%), common cold (79.18%), headache (77.37%) and cough (72.85%). Few other health ailments like body pain, nausea and diarrhea, dyspepsia, allergies, constipation and depression were also included in the list with reduced frequency. Figure 1 depicts the use of various drugs by participants during self-medication practices.

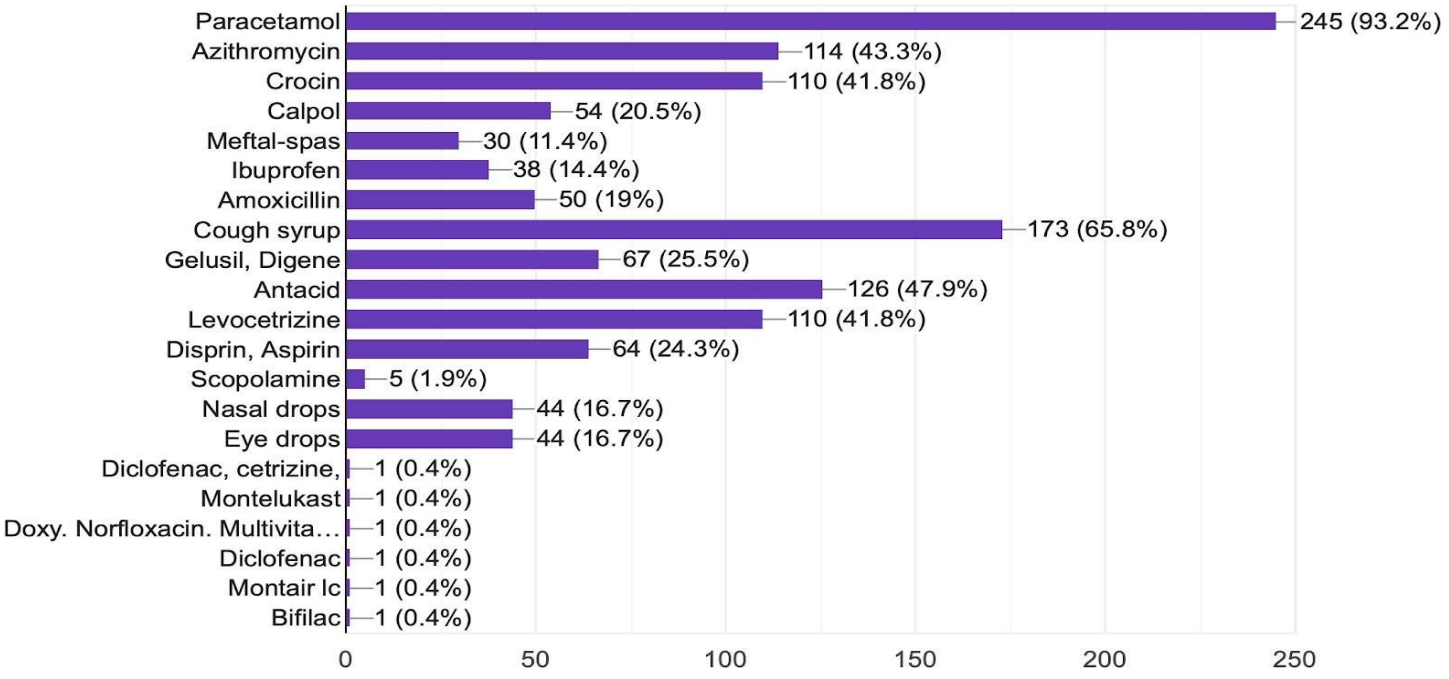

Figure 1: Drugs Used in Self Medication Practices

It was found that 237 (89.09%) participants experienced side effects after consuming self-prescribed drugs. Regarding the harmful effects of SMP, the common harms informed by participants headache, drowsiness, nausea and vomiting followed by rash. (Figure 2). However, other harms reported by participants occurred with limited percentage (Figure 2).

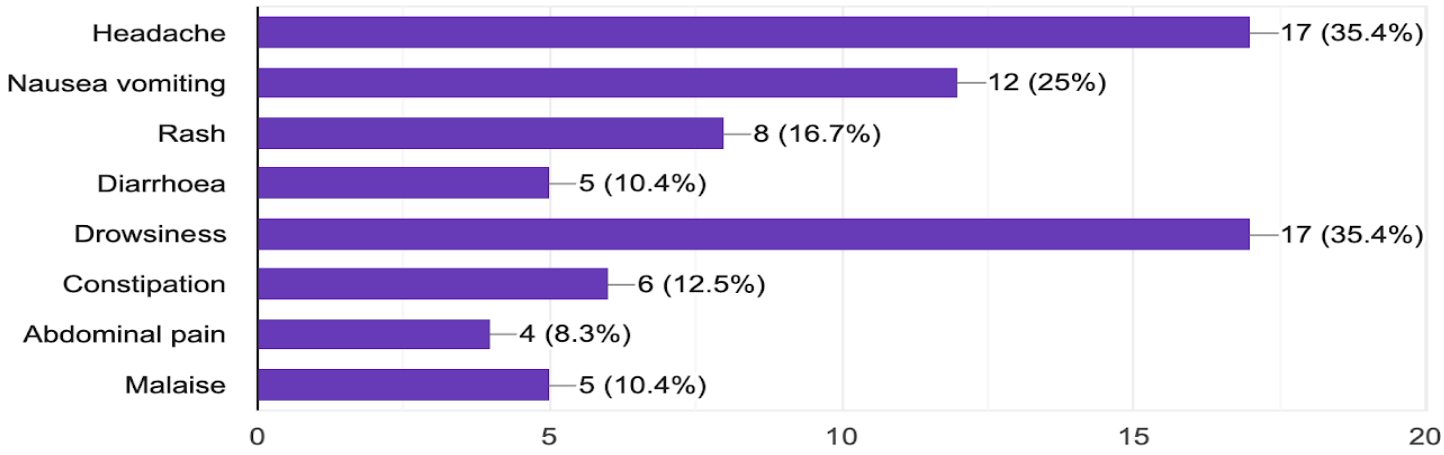

Figure 2: Side Effects Experienced by Participants Due to Self-Medication

In the present study, the awareness level about frequency, dose and duration of self-prescribed treatment among participants was observed to be high. Around 89% of participants were well versed with it. Almost

similar participants (88.20%) were familiar with adverse drug reactions of different self-prescribed medicines. More than 90% of participants knew the importance of completing the course of treatment. Except 2 (0.90%) participants, remaining all expressed the need to consult a doctor if symptoms are not relieved. Among 221 participants who practiced self-medication, 178 (80.54%) received their required drugs from pharmacies, 20 (9.04%) participants obtained leftover medicines from similar illness in the past and 13 (5.88%) participants got it from friends and relatives. The participants showed favorable attitudes towards certain areas in self-medication like need for community education, legislative strategies etc. [Table 2]. However, around one third of participants thought that SM is an integral part of self-care and it can be continued without harm [Table 2].

Table 2: Perceptions of Participants Towards Self-Medication (n=266)

Parameter	Number	Percentage
SM is a part of self-care.	144	54.13
Continue SMPs.	129	48.49
It is important to stop SMPs.	169	63.53
It is crucial to prevent the supply of medicines without prescription.	212	79.69
People should be educated about the implications of self-medication.	229	86.09
Enforcing stringent rules about misleading pharmaceutical advertising could be one of the ways to control SMPs.	113	42.48

SM- Self Medication, SMPs- Self medication practices

DISCUSSION:

Self-medication implies the utilization of drugs by individuals on their own in the absence of expert medical supervision. In developing nations like India, SMPs are common due to easy accessibility of non-prescription medicines. It is one of the predominant barriers in warranting safe and efficient use of drugs. It seems to be inappropriate without comprehensive and correct knowledge even though it is becoming a common practice in recent periods particularly by UG medical students [2-7]. In the current study, an estimated prevalence of self-medication (SM) among the participants was 83.08%. Other studies implemented in different states of India revealed the prevalence ranging between 57% to 84% among UG medical students [8-12]. In studies carried out in other countries, comparatively low prevalence (59%, 62.9% and 79.9%) was observed in Syria [13], Egypt [14] and Serbia [15] respectively. The variation in prevalence rates could be ascribed to differences in demographic features, socioeconomic environment as well as drug availability. In this study, the commonest indication for SM was fever which was similar to the findings of the study carried out in Mangalore and Ethiopia. Analgesics and Antipyretics were the most common group of medicines self-medicated in the present study and similar findings corroborated with the studies performed in Mangalore [16] and Ethiopia [17]. However, in the current study, antibiotics were one of the preferred SM drugs by the participants. Contrasting observations were noted in the study done in Bahrain which reported very limited use of antibiotics among medical students [18]. One of the identified reasons for high utilization of antibiotics in the present study might be lack of regulatory policy governing the prescription and OTC sale of antibiotics. It is usually projected that SM would be more widespread in senior medical students as they are more exposed to the knowledge about medicines and health problems. A prominent outcome in this study was that final-year participants practiced SM more often than first- and second-year participants and the difference was observed to be statistically significant (P <0.05). This observation was in congruence with the study carried out by Klemenc-Ketis et al [19]. Similar inferences were also documented in the study conducted by James et al. This proves that a higher level of medical education is related with enhanced practice of self-medication. However, another study conducted by Sontakke et al. [20] did not reveal any significant correlation among junior and senior medical students. In our study, regarding the source of SM procurement, Pharmacy (80.54%) was the main source, and this was in accordance with other studies [7,12]. However, none of the participants followed the Pharmacist's advice for self medication. Few of the participants acquired SM knowledge from previous illness, family members, friends and relatives. This underlines the importance of appropriate knowledge of pharmacology for pharmacists

to dispense medicines correctly. The existing literature also indicates the internet is being acknowledged as a rising source of procurement [7-10]. This may call for the requirement of authentic websites on which the public can rely to obtain knowledge regarding the drugs. The present study reported few limitations. It was based only on self-reported information about SM in the last few months, the possibility of recall bias could not be ruled out. Due to restricted sample size, the generalization of results can not be done as there is a need to conduct multicentric studies with large sample size to explore the study outcomes. All the participants were asked to complete the questionnaire independently, but mutual influence could not be ignored. The study could not also emphasize on how many participants had health care practitioners in their families, so their impact as a source of prescription could not be under-estimated.

CONCLUSIONS:

There was a high prevalence of self-medication among undergraduate medical students in the current study. Although the students reported positive perceptions towards few aspects of SM, the study reiterates the need for sensitization about SM among the students about its advantages and disadvantages. The study can be expanded to cover wider sections of health care professionals to assess the magnitude of self-medication in the medical fraternity.

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