ORIGINAL ARTICLE

Self-Care or Self-Harm? A cross sectional Study of Self-Medication among Healthcare Undergraduates.

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ABSTRACT

Background: Self-medication is an important public health concern, with varied presentation. The medicines widely used in self-medication are over the counter drugs which are used to treat common health problems. Self-medication is very commen in India. Healthcare students often self-administer drugs to simulate real-world scenarios and prepare for clinical situations, including managing adverse reactions or complications. **Aim & Objective**: To determine the prevalence, assess the knowledge, and explore the perceptions and attitudes towards self-medication practices among undergraduate healthcare students. **Settings and Design**: This is a cross-sectional study conducted at one of the medical college of western Maharashtra. **Methods and Material**: a cross-sectional study is planned using a self-administered questionnaire. It was conducted at one of the medical college in western Maharashtra with the sample population consisting of enrolled students in the Bachelor of Medicine & Bachelor of Surgery (MBBS) program. To gauge students' understanding and perceptions of self-medication practices, a 5-point Likert scale, from "strongly agree" (5) to "strongly disagree" (1) was used. **Statistical analysis used**: Epi info the statistical software used for data analysis. Descriptive like mean and standard deviation done for each item on the Likert scale. Frequency and percent measured for categorical veriable. **Results**: A total of 196 undergraduate medical students from different studing year participated in the study. The prevalence of self-medication among participants was 81.1%. Self-medication was more common in females as compare to males which found ststisticaly significantly. Participants denote high awareness towards self-medication. While many participants documented responsible practices of self medication, such as checking expiry dates and reading drug information befor administration. Fever, cough/cold and headache were most common conditions where self-medication done frequently. **Conclusions**: Our study admits that self-medication is highly dominant among undergraduate medical students, particularly among females and those in senior academic years. While participants displayed a commendable level of awareness regarding drug safety, a substantial gap between knowledge and practice persists.

KEYWORDS

Self-medication, Healthcare Undergraduates, Self-Care, Self-Harm, Practices

INTRODUCTION

The International Pharmaceutical Federation (1), endorsed by the World Health Organization (WHO) (2), defines self-medication (SM) as 'the medication without a current prescription and/or without consulting a healthcare professional'. WHO defines it as: "The use of medicines by the consumer to treat self-recognized disorders or symptoms, or the intermittent or continued use of a medication previously prescribed by a physician for chronic or recurring diseases or symptoms." (17)

Healthcare students often self-administer drugs to simulate real-world scenarios and prepare for clinical situations, including managing adverse reactions or complications. In developing countries, the reasons for engaging in self-medication include lack of health insurance, costly visits to hospital, high fees for physician consultation, easy public access to prescribed medications (3), suggestions from friends and the low cost of the practice(4-7). In addition to these, other contributing factors include influence from family, friends, and neighbors; reuse of old prescriptions or those previously used for similar conditions; and the impact of appealing advertisements in newspapers, online platforms, magazines, and periodicals. SM is used typically for minor problems like fever, headaches, respiratory issues like sore throat, gastrointestinal problems, skin disorders, and ear symptoms (8-13). The WHO recognizes SM as an essential way to achieve universal health coverage. Medicines namely analgesics and antipyretics such as paracetamol and ibuprofen; antibiotics like amoxicillin and azithromycin; antihistamines like cetirizine; gastrointestinal medications namely ranitidine and omeprazole; cough and cold preparations including dextromethorphan;

vitamins and supplements such as vitamin C, B-complex, iron, and calcium; and topical agents like clotrimazole and hydrocortisone were most commonly used drugs for self-medication.(14,15).

Self-medication, when practiced responsibly, can offer several benefits to both individuals and healthcare systems. One of the primary advantages is the promotion of self-reliance in healthcare. This autonomy can lead to faster relief from common ailments. In resource-constrained settings, self-medication can reduce the burden on healthcare facilities, allowing medical personnel to focus on more serious or emergency cases. This is particularly relevant in developing countries, where physician-to-patient ratios are often low. By managing minor symptoms independently, patients help streamline clinical workloads and potentially decrease waiting times in outpatient departments.

Furthermore, self-medication may contribute to cost savings, both for individuals and public health systems (18-21). Reduced health outcomes, increased antimicrobial resistance and economic waste can occur due to inappropriate self-medication. As future health professionals, students will be responsible for educating the public on the rational use of medication (16).

Our research aims to study the prevalence of self-administration, assess participants' knowledge towards safe and appropriate use of medicines, to learn their awareness regarding associated risks and benefits of self-medication and explore their attitudes toward its safety, effectiveness, and necessity.

Aim & Objective: To determine the prevalence, assess the knowledge, and explore the perceptions and attitudes towards self-medication practices among undergraduate healthcare students.

MATERIAL & METHODS

A cross-sectional study is planned using a self-administered questionnaire. It was conducted at one of the medical college in western Maharashtra with the sample population consisting of enrolled students in the Bachelor of Medicine & Bachelor of Surgery (MBBS) program. Written informed consent was taken from all participants and before commencing the study Ethics approval was obtained from the institutional ethics committee.

Inclusion Criteria: Eligible participants are students enrolled to the Bachelor of Medicine & Bachelor of Surgery (MBBS) program.

Exclusion Criteria: Participants who deny consent.

The questionnaire will consist of three sections:

Section A: the socio-demographic details of all students like age, gender, level of study and course of study.

Section B: questions assessing students' knowledge and views on self-medication.

Section C: address their self-medication habits.

Responses will be measured on a 5-point Likert scale, from "strongly agree" (5) to "strongly disagree" (1), to gauge students' understanding and perceptions of self-medication practices. The total scores for knowledge and perception categorized as 'good' or 'poor' based on each respondent's score in the respective areas.

Sampling and Data Collection: Students were informed about the option to withdraw from the study at any point of time as participation was voluntary. Anonymity and confidentiality was assured. Data was collected through interviews method.

Sample Size: According to a study done by Wuraola Akande-Sholabi et al, the prevalence of good knowledge of self-administration of drugs in healthcare students was 52.5%. Taking the prevalence 52.5% at 95% confidence interval with precision 7%, the sample size will be 195. Sample size calculated using OpenEpi Software.

RESULTS

The study included196 undergraduate students with the mean age of 21.3 ±1.9 years. A total of participated in the study.. Among them, 118 (60.2%) were female and 78 (39.8%) were male. Participants were distributed across academic years, with the highest representation from third-year students (32.7%). (Table 1)

Prevalence and Frequency of Self-Medication

The self-medication was prevalent in 81.1% (n = 159) participants. Regarding frequency, 33.2% reported frequent self-medication (multiple times/month), while 19.9% used medication very frequently (weekly or more). Only 18.9% of participants denied practicing self-medication (Table 2).

Self-medication was significantly more common in females (p = 0.006). No significant association was found with age group (p = 0.583) or year of study (p = 0.258), although the highest usage was noted among 3rd-year students (85.9%).

Awareness and Attitudes toward Self-Medication

High awareness regarding self-medication demonstrated by Participants (mean score = 4.1 ± 0.9). Participants understanding towards associated risks and the belief that self-medication is acceptable for minor illnesses were also notably high (Table 3).

Internship students show highest awareness about harmful effect and label reading practice indicating improved knowledge over time. Self-medication increases steadily as academic year progresses (Table 4).

Self-Medication Practices

While many participants reported responsible practices, such as checking expiry dates (4.0 ±1.1) and reading drug information (3.7 ±1.1), tendencies to share medicines or rely on advice from seniors or pharmacists were also present (Table 5).

Common Indications and Benefits /Drawbacks for self-medication.

The most common conditions for self-medication were fever (54.1%), cough/cold (37.8%), and headache (34.7%). Reported benefits included immediate relief (77.6%) and convenience (68.9%), while potential side effects (69.4%) and risk of incorrect diagnosis (65.8%) were acknowledged as significant drawbacks.

Table 1: Demographic profile of participants (N = 196)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	118	60.2
	Male	78	39.8
Year of Study	1st Year	23	11.7
	2nd Year	29	14.8
	3rd Year	64	32.7

	4th Year	34	17.3
	Internship	35	17.9
Age (years)	Mean ± SD	—	21.3 ± 1.9

Table 2: Prevalence and frequency of self-medication among participants.

Variable	Response	Frequency (n)	Percentage (%)
Ever used medication without prescription	Yes	159	81.1
	No	37	18.9
Frequency of use	Rarely	43	21.9
	Occasionally	49	25.0
	Frequently	65	33.2
	Very Frequently	39	19.9

Table 3: Awareness and attitude score towards self-medication among participants. (Likert scale 1–5)

Statement	Mean ± SD
I am aware of what self-medication means.	4.1 ± 0.9
Self-medication can be harmful if done without proper knowledge.	4.1 ± 0.9
I believe self-medication is acceptable for minor illnesses.	3.9 ± 0.9
I am aware of the potential side effects of the drugs I use.	4.0 ± 1.0

Table 4: Awareness and attitude score towards self-medication among participants from different academic years.

Academic Year	Awareness	Harmful effects	Label reading	Self-medicated (last month)
1st year	4.35	3.78	4.09	3.09
2nd year	3.65	3.72	3.97	3.51
3rd year	4.26	4.16	4.10	3.73
4th year	4.15	4.13	4.30	3.78
Internship	4.17	4.26	4.35	3.55

Table 5: Self-medication practices among participants (Likert scale 1–5)

Statement	Mean ± SD
I check expiry dates before using medicines.	4.0 ± 1.1
I seek advice from pharmacists or seniors when self-medicating.	3.6 ± 1.2
I read drug information online or from books before taking medication.	3.7 ± 1.1
I share medicines or advice with friends or family.	3.6 ± 1.1

DISCUSSION

The present study highlights a high prevalence (81.1%) of self-medication among undergraduate medical students, echoing trends observed in similar studies across India and globally. This aligns with findings by Rasania et al. (22), who reported a prevalence of 72.1% among MBBS students in Maharashtra. Similar patterns were observed in studies by Kumar et al. (10) and Akande-Sholabi et al. (16), supporting the notion that self-medication is common among healthcare students due to ease of drug access and developing clinical knowledge.

In our study, female students reported significantly higher self-medication prevalence (87.3%) compared to males (71.8%) ($p = 0.006$). This is consistent with prior findings from Serbia and Nepal, where gender differences influenced self-care behavior (4, 21). Such variation may be driven by differing health-seeking tendencies or comfort with self-treatment.

Though the association with academic year was not statistically significant, students in clinical years and internship reported more frequent self-medication. Similar results were reported by Kasulkar and Gupta (2), who found increased reliance on self-medication with advancing academic level, attributed to growing confidence and pharmacological exposure.

The most common conditions prompting self-medication were fever (54.1%), cough/cold (37.8%), and headache (34.7%), reflecting findings from Ethiopia, Nigeria, and India (5, 8, 13). These are typically perceived as minor ailments, though repeated unsupervised use especially of antibiotics remains a public health concern.

Despite high awareness scores (mean ~4.0), behaviors such as medicine sharing and reliance on informal sourcespersisted. This gap between knowledge and safe practice mirrors results from Abay and Amelo (12), underscoring the need for structured intervention.

Perceived benefits including convenience (68.9%), immediate relief (77.6%), and cost-effectiveness (51.0%) were consistent with global reviews and WHO guidelines (3, 19). However, risks like misdiagnosis, side effects, and antibiotic resistance (15) highlight the urgent need to sensitize medical students, who are future prescribers, about rational drug use.

CONCLUSION

This study reveals that self-medication is highly prevalent in undergraduate medical students, particularly among females and those in senior academic years. While participants displayed a commendable level of awareness regarding drug safety, a substantial gap between knowledge and practice persists. Behaviors such as using medicines based on peer advice or internet sources, and sharing medication, remain common.

RECOMMENDATION

Although self-medication for minor ailments may be viewed as a form of informed self-care, it carries significant risks including inaccurate self-diagnosis, inappropriate drug use, and potential for antibiotic resistance. Medical students, as future prescribers, must be educated early on to internalize principles of rational drug use, not just for their patients, but for themselves as well.

LIMITATION OF THE STUDY

This study may limit the generalizability of the findings to other institutions or geographic areas with varying

educational environments. Future research using longitudinal study design or multi-institutional study, augmented by qualitative components, could provide a more comprehensive knowledge and understanding towards topic.

RELEVANCE OF THE STUDY

Self-medication is important public health concern, as high prevalence rate frequently lead to drug résistance and harmful effect.

AUTHORS CONTRIBUTION

All authors have contributed equally.

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Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

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DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/AI assisted technologies in the writing process.

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