

ORIGINAL RESEARCH

Prevalence of Self-Medication among Undergraduate Medical Students of Medical College in Gwalior

¹Dr. Mahendra Chouksey, ²Dr. Rahul Sharma, ³Dr. Shiwani Lilhore, ⁴Dr. Rani Verma

^{1,3,4}Department of Community Medicine/ P.S.M., G.R. Medical College Gwalior, Gwalior, Madhya Pradesh, India

²Department of Anatomy, G.R. Medical College Gwalior, Gwalior, Madhya Pradesh, India

Corresponding Author

Dr. Rani Verma

Department of Community Medicine/ P.S.M., G.R. Medical College Gwalior, Gwalior, Madhya Pradesh, India

Email: raniverma19933@gmail.com

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ABSTRACT

Objective: Self-medication (SM) is the self-administration of a treatment without a prescription from a physician. Present study was conducted to know the prevalence of self-medication among medical students at Gwalior. **Methods:** A cross-sectional study was conducted with the participation of undergraduate medical students by using a short, self-administered questionnaire. Data was collected and analyzed for counts and percentage. Chi Square test applied and Odds ratio with their CI were calculated. P value was judged at 5% level of significance. **Results:** Total 285 medical undergraduate students were participated in this study; the prevalence of self-medication was 69.8%. The prevalence of medicine use was significantly same among males and females. Majority of the participants were taking SM as they think illness was mild in nature (72.4%). About half (53.3% and 52.8% respectively) were taken SM from the Old prescription for same illness and consulting their seniors and friends. The most frequent symptoms and illness reported by students who practiced self-medication were headaches (94.5%) followed by coughs (40.2%). **Conclusion:** The use of medicines, self-medication was found high among the undergraduate medical students. This underscores a need for advocacy on responsible self-medication practice during the formal training of these future health professionals, in order to avert its widespread negative consequences.

Keywords: Illness, Prevalence, Self-Medication.

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INTRODUCTION

Self-medication is a booming problem for the health scenario which may lead to adverse drug reactions, emergence of antimicrobial resistance, and prolonged suffering. Self-medication (SM) is the term used to describe when the general public treats the majority of common health problems on their own and without medical supervision. Self-medication is a behavior that people engage in when they self-diagnose minor symptoms or disorders. Because it involves the use of drugs so SM may be harmful to user due unknown adverse drug effect. It is widely used since many drugs can be obtained without a prescription over the counter, giving people a low-cost alternative.^[1] The term "self-medication" is used to describe a wide range of behaviors, from self-care to disease management and prevention. As a result, self-medication encompasses interventions aimed at changing lifestyle as well as drug use.^[2] As far as a

person's health is concerned, it is a significant issue. To prevent irrational drug use, which can waste resources, increase pathogen resistance, and create serious health risks like prolonged suffering, drug reactions, and drug dependence, SM must be practiced based on reliable medical information. SM is now more frequently seen as a part of self-care.^[3] Due to exposure to media and advertisements, non-prescription drugs are being misused by young people, particularly students. It has developed into a serious illness, raising concerns about inaccurate diagnoses and adverse drug reactions. Medical students experience SM in a unique way because they will one day practice medicine. In earlier studies, it was discovered that the prevalence of SM varied among medical students from various nations.^[4-10] The present study was conducted with the objective to determine the prevalence of self-medication among medical students and to evaluate the Reasons for self -

medication, Source of Information about drugs, Condition for Self-medication.

MATERIALS AND METHODS

This cross-sectional study was carried out among the undergraduate medical students of G.R. Medical College, Gwalior. The sample size was calculated assuming that 78.6 % (Kumar et al ,2013) of medical students practice self-medication, and with 5% absolute precision and 95% confidence interval the sample size was calculated to be 258.36 which are approximated to 260. Accounting for a non-response error of 10%, final sample size was calculated to be 285. A pre designed semi structured questionnaire was used to collect the relevant information pertaining to the study variables. The questionnaires were distributed to the medical undergraduates from the 1st, 2nd, 3rd and 4th year of MBBS. The students were briefed on the aims and objectives of the study and a written informed consent was obtained from those who were willing to participate in the study. A structured and validated questionnaire was used for the study to collect information regarding age, gender, SM practice, reasons for SM ,source of information, common illness for SM practice. Prior to administrating the questionnaire, the students were addressed regarding the purpose and process of data

collection. The questionnaires were assessed for their completeness and only the completed questionnaires were considered for the final analysis. Questionnaires were distributed among the participants after taking informed consent. Data was analyzed statistically using SPSS-22 version for counts and percentage.

RESULTS

The present study was carried out among 285 MBBS students, of which 122 (42.8) were males and 163 (57.2) were females. In the present study 183 (64.2%) students older than 20 years. Most of the students (71.9%) were the followers of Hindu religion. Among these 285 students, 72 (25.3), 76 (26.7), 72 (25.3) and 65 (22.8) were studying in I MBBS, II MBBS, III MBBS, and IV MBBS, respectively. Among the male students SM prevalence was 64.8% while among the females it was 73.6%. Older students (>20 year) have high SM prevalence (71.6%) . Among the underweight students SM prevalence observed high (77.4%). The prevalence of SM varied amongst different years of students, the prevalence significantly increasing from first (58.3%) to final year (87.7%). As compared with first year, the third year students [2.31 (1.13-4.74)] and the fourth year students [5.09 (2.12-12.22)] were at higher risk for SM as depicted in (Table 1).

Table 1: Prevalence of Self Medication among the Under Graduate Medical Students

Variables		Number (285) N(%)	Self- Medication (199) n(%)	No Self Medication (86) n(%)	Chi Square/ P Value	OR (95% CI)
Gender	Male	122 (42.8)	79 (64.8)	43 (35.2)	2.60/0.11	1 (ref)
	Female	163 (57.2)	120 (73.6)	43 (26.4)		1.52 (0.91-2.53)
Age	<=20	102 (35.8)	68 (66.7)	34 (33.3)	0.75/0.38	1 (ref)
	>20	183 (64.2)	131 (71.6)	52 (28.4)		1.26 (0.75-2.12)
Religion	Hindu	205 (71.9)	147 (71.7)	58 (28.3)	3.01/0.22	1 (ref)
	Muslim	73 (25.6)	49 (67.1)	24 (32.9)		0.80(0.45-1.43)
	Others	7 (2.5)	3 (42.9)	4 (57.1)		0.29 (0.06-1.36)
MBBS-Year	I	72 (25.3)	42 (58.3)	30 (41.7)	19.90/0.0001*	1 (ref)
	II	76 (26.7)	45 (59.2)	31 (40.8)		1.04 (0.54-1.99)
	III	72 (25.3)	55 (76.4)	17 (23.6)		2.31 (1.13-4.74)
	IV	65 (22.8)	57 (87.7)	8 (12.3)		5.09 (2.12-12.22)
BMI	<18.5 (Underweight)	62 (21.8)	48 (77.4)	14 (22.6)	3.99/0.26	1 (ref)
	18.5-24.99 (Normal)	209 (73.3)	142 (67.9)	67 (32.1)		0.62 (0.32-1.20)
	25-29.99 (Pre Obese)	11 (3.9)	8 (72.7)	3 (27.3)		0.78 (0.18-3.33)
	30-34.99 (Obese Class 1)	3 (1.1)	1 (33.3)	2 (66.7)		0.15 (0.01-1.72)

*significant at 5% and 1% level of significance

Majority of the participants were taking SM as they think illness was mild in nature (72.4%), while 64.8% Undergraduate medical students think that they have sufficient pharmacological knowledge, about quarter (29.6%) of the participants taken SM to save time and 15.6 % for the cost effectiveness. Among the user of SM 5.0% were taken SM as they not want to share their health problem to other (maintaining privacy). While

students were interrogated about the source of information regarding the drugs/ medication , it was found that 53.3% were taken SM from the Old prescription for same illness, while 52.8% were taken advice from their seniors and friends. About half 44.7% SM user said they have academic knowledge while 28.6% were taken SM with the suggestion of pharmacist. Some user (6.5%) gets information of medication from the internet sources. (Table 2)

Table 2: Table showing factors related with Reasons (Factors) for self –medication, Source of Information about drugs

Factors #	Prevalence n=199 (%)	
	number	%
Reasons/factors for self -medication		
Illness too trivial for consultation/ Mild Nature of Illness	144	72.4
Sufficient pharmacological knowledge	129	64.8
To save time	59	29.6
Cost-effectiveness	31	15.6
Urgency	17	8.5
Avoid crowd at OPD	16	8.0
Privacy	10	5.0
Source of Information about drugs		
Old prescription for same illness	106	53.3
Friends & Seniors	105	52.8
Academic knowledge	89	44.7
Pharmacist	57	28.6
Internet sources	13	6.5

Multiple response obtained from the participants

The most frequent symptoms and illness reported by students who practiced self-medication were headaches (94.5%, n = 188) followed by coughs (40.2%, n =80), Sore Throat (39.7%, n=79), Pain (32.2%, n=64), Fever (27.6%, n=55), Colic (26.1%, n=52). Other comorbidities reported by students for self-medication were Hair Health, Skin Health, Rash/Allergies, Diarrhea, Ulcer in Mouth, Influenza, Constipation, Vomiting, Drowsiness, and Insomnia. (Table 3)

Table 3: Conditions for Self-medication of Among the Students

Condition/illness for Self-medication #	Prevalence (n =199)	
	number	%
Headache	188	94.5
Cough/cold	80	40.2
Sore Throat	79	39.7
Pain	64	32.2
Fever	55	27.6
Colic	52	26.1
Hair Health	46	23.1
Skin Health	45	22.6
Rash/Allergies	41	20.6
Diarrhea	37	18.6
Ulcer in Mouth	37	18.6
Influenza	36	18.1
Constipation	33	16.6
Vomiting	32	16.1
Drowsiness	24	12.1
Insomnia	8	4.0

Multiple responses obtained from the participants

DISCUSSION

In this study, we investigated the prevalence of self-medication as well as the reasons/factors for self -medication, Source of Information about drugs, Conditions towards self-medication practice among

undergraduate medical students in Gwalior. This study was conducted to explore the information regarding the self-medication. Present study findings reveals that majority (68.6%) participants were using the self-medication. Previous studies also reported

high prevalence of self-medication among the medical students. A meta-analysis conducted by Behzadifar et al. (2020) calculated from the analysis of 89 studies which included 60 938 students and calculated overall prevalence of self-medication among university students as 70.1% (95% CI: 64.3–75.4%) and also reported female students self-medicated more often than male students: odds ratio = 1.45 (95% CI: 1.17–1.79).[10] Study by Kasulkar AA et al.(2015)revealed that 71.7% of students reported SM practices in the preceding one year. [11] Another study by Sharma et al. (2023) found 63.2% of participants were taken self-medication. [12] Study by Shrestha A et al. found that the prevalence of self-medication among dental students was 83.3 %. [13] The prevalence of self-medication among medical students was reported 76.6 % in the study conducted by Khadka et al.(2020).[14] Kumar et al. (2013) in their study found that the prevalence of self-medication was 78.6% and females were more prone to SM (81.2%)as compared with the males(75.3%).[15] These studies showing the similarity with our study. The prevalence of SM varied amongst different years of students and found increasing from first year to final year; this finding is similar to the previous study. [11] The reason for year wise increasing trend might be the knowledge of medicines in final year students increased with increasing exposure to medical scenario.

In the present study most common source of information of SM was Old prescription for same illness (53.3%) while 52.8% were taken advice from their seniors and friends,44.7% had academic knowledge and28.6% were taken SM with the suggestion of pharmacist.Kasulkar AA et al.(2015)observed thatInformation about SM among the medical students were obtained through the reading material (52.3%), followed by previous prescriptions (17.4%) and pharmacist (17.4%). [11] Shrestha A (2020) found that the source of information for the drug selection was own pharmacology knowledge (51.4%) ofstudents.[13]

Current study found that most of the medical students were taking SM as they think illness was mild in nature (72.4%), while 64.8% taken SM with thinking they had sufficient pharmacological knowledge and (29.6%) were taken SM to save time. Khadka et al. in their study revealed multiple reasons for practicing SM i.e. previous experience of taking drugs or similar illness 24 (66.7%), fast relief from illness 9 (25%), not willing to visit doctors 8 (22.2%), exposure to drug advertisements 6 (16.7%). [14] Kumar et al. in their study reported that the majority of the students self-medicated because of the illness being too trivial for consultation (70.5%), followed by their confidence about the pharmacological knowledge (45%) and more than half of the study participants (53.1%) used old prescriptions for the same illness as a source for information about the drug.[15]

In the present study most common illness reported by students for SM were headaches (94.5%), coughs (40.2%) , Sore Throat (39.7%) Pain (32.2%) , Fever (27.6%) and Colic (26.1%) . Shrestha A (2020) found that the major indication for practicing self-medication was common cold and cough (50%).[13] Sarraf DP et al. (2017) observed common cold (53.3%) was the most common symptom for SM followed by Headache (48.3%) , fever (39.2) and Pain (23.8).[16] Kumar et al observed that fever was the most common (75.1%), followed by headache (64.7) and cough/cold (58.7), Sore throat (31.6%) was the most common indication for SM . [15] Some other studies found that fever, headache, acidity were the most commonest illnesses that led to SM. [17-18] The medical students should be educated that appropriate self-medication is recommended by WHO.[19]

CONCLUSION

Prevalence of self-medication among the studied undergraduate medical students is moderately high. It was found that stimulation for self-medication practice largely arises from the perception of treating minor ailments. The awareness about the increasing incidence of antibiotic resistance is the need of the hour. There is need for awareness regarding the negative consequences of self-medication practice among the medical students who are these future healthcare professionals.

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CONFLICTS OF INTEREST

There are no conflicts of interest

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