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## A STUDY ON SELF-MEDICATION PRACTICES AND ASSOCIATED FACTORS AMONG MBBS STUDENTS IN DURGAPUR, WEST BENGAL

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### Keywords:

Self-medication, Prevalence, Undergraduate medical students, OTC drugs

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**ABSTRACT: Background:** Self-medication is the practice of using drugs without the guidance of a trained health care professional. With the increase in antimicrobial resistance among the masses, this study aims to find the prevalence & behavioral pattern of the practice of self-medication among undergraduate medical students. **Materials & Methods:** A descriptive cross-sectional study was carried out among 427 MBBS students. The questionnaire was distributed among students via a Google link that was created for this purpose. **Result:** Our study found that the prevalence of self-medication practice was 74.5%, of whom 71.4% practice self-medication rarely, i.e., once or twice in a year. Practice of self-medication was found to be higher among the female (77.6%) students as compared to the male (71.6%) students. Practice of self-medication was found to be higher among hostelites (76%) when compared to the day scholars (69.8%). 84.2% of the 3rd year MBBS students were found to practice self-medication, which was found to be the highest when compared with students belonging to rest of the academic years. Almost 75% of the students with no history of chronic/recurrent diseases practice self-medication. Almost 75% of the students with no known family members with recurrent/chronic diseases practice self-medication. **Conclusion:** Self-medication is an alarming concept. The faculties need to step up the process of health education so that the rising trend of this practice that also among the undergraduate MBBS students, can be halted.

**INTRODUCTION:** The World Health Organization defines self-medication as the use of medicinal products by consumers for treating self-diagnosed disorders or symptoms, or the intermittent or continued use of medication that had been prescribed by a physician for chronic or recurrent diseases or symptoms <sup>1</sup>.

Self-medication also involves giving medicines to relatives or members of one's social circle or even the use of left over medication <sup>2</sup>.

Over-the-counter (OTC) drugs, which are typically meant for self-medication, but due to lack of knowledge about the side effects and interactions, has resulted in serious consequences, especially in extremes of ages (children and old age) and special physiological conditions like pregnancy and lactation <sup>4</sup>. In India, it has been found that the most commonly used group of drugs for self-medication was analgesics, antipyretics, and antibiotics <sup>3</sup>. Self-medication practiced globally is an important public health problem & the prevalence ranges

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from 11.7% to 92%<sup>5</sup>. In India, the burden of communicable diseases is quite high & with the inappropriate use of antimicrobials due to self-medication practice, the development of antimicrobial resistance has also increased<sup>3</sup>. However, good & proper use of self-medication can also provide potential benefits which include saving of precious medical resources from being utilised in treating minor conditions & also lowering the burden on the utilisation of the funded health care programmes & overall it reduces absenteeism from work due to minor symptoms:- A “double edged sword”<sup>5</sup>.

Self medication is practiced very commonly among medical students due to the easy accessibility & knowledge regarding drugs. It has been observed that as MBBS students reach their final semester, the practice of self-medication increases [91.75%]<sup>6</sup>. Medical students play an important role in advocating for antimicrobial stewardship programme so importance has to be given to preserve the health of the healthcare providers. Although numerous studies have estimated the prevalence of self-medication worldwide, very few have been conducted in India to examine this practice among medical students. With the growing burden of antimicrobial resistance, the following study aims to determine the prevalence, pattern & reasons behind the practice of self-medication among medical students.

### Objectives:

1. To determine the prevalence of self-medication among MBBS students in Durgapur.
2. To study the patterns and types of drugs used for self-medication.
3. To identify factors associated with self-medication practices.
4. To evaluate students' perceptions and attitudes towards self-medication.

### METHODOLOGY:

**Study Design & Setting:** A descriptive cross-sectional study on self-medication practice was conducted between April to September 2024 at IQ City Medical College & Hospital (MCH), Durgapur, West Bengal.

**Study Population:** All MBBS students [1st, 2nd, 3rd, 4th year] of IQ City MCH, Durgapur, West Bengal who were willing to participate were included for the study. Those students who were either sick or was found physically unfit to participate in the study were excluded from the study.

**Sampling Technique and Sample Size:** A complete enumeration method was followed as the study was meant for the prevalence of self medication practice among medical students without any restriction to the year of study. All 600 MBBS students of IQ City MCH were included as study participants. The student list was collected from the administrative section of IQ City MCH. Based on our inclusion & exclusion criteria a total of 427 students participated in the study.

**Study Tool:** Data was collected using a pre-structured and validated questionnaire. An online Google link was created the questionnaire was shared among the students using the link via social media platforms. The validation of the questionnaire was done by first distributing the Google link among the 10 intern MBBS students who were posted in the Department of Community Medicine & was then distributed among the MBBS students for the data collection. The data collected from the interns was not represented in the study but was used to modify the questionnaire before the final data collection from the MBBS students. The questionnaire consisted of 7 sections, with a total 50 questions, which are as follows: -Self-medication practice and factors, Categories of medicines practiced, Awareness regarding the advantages & disadvantages of practice of self-medication, Reasons for self-medication, Source of information on self-medicated drugs, Attitude towards self-medication practices. A response time of 72 hours was given to each of the study participants after sharing the Google link.

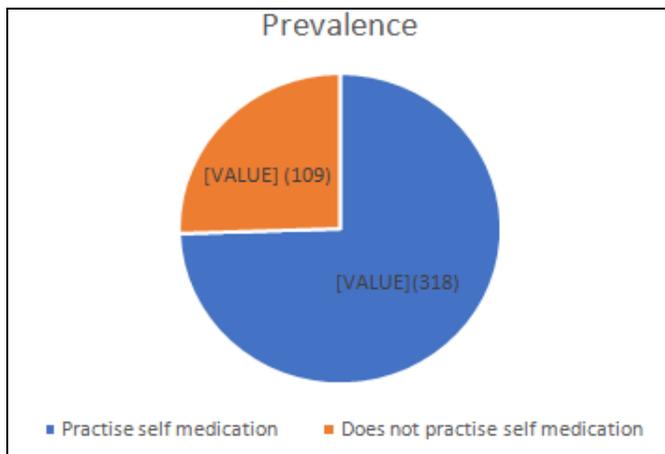
**Data Analysis:** Data were entered using Microsoft Excel and analysed using SPSS v26.0. Descriptive statistics (bar & pie diagrams) were used to summarize the findings. Statistical significance was set at  $p < 0.05$ .

The study protocol received approval from the Institutional Ethics Committee of IQ City Medical

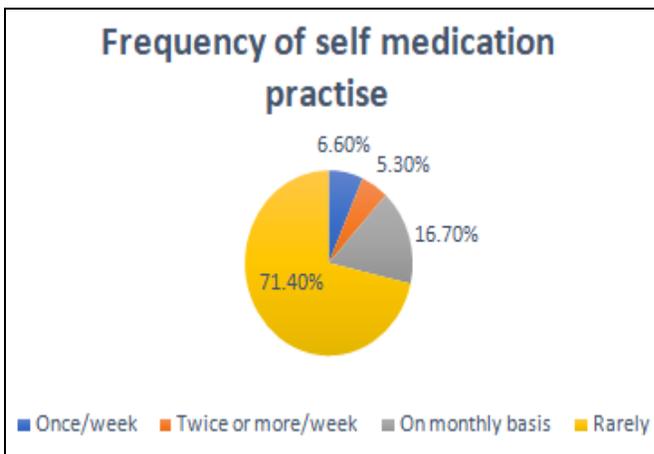
College and Hospital, Durgapur. Verbal consent was obtained from all participants. Confidentiality and anonymity were maintained throughout.

**RESULTS:** Among 427 students who had participated in the study 74.5% was found to practice self medication.

Among 318 students preferring self-medication, 227(71.4%) practice self-medication rarely (once or twice a year), 53(16.7%) students self-medicate every month, 21(6.6%) students self-medicate once a week & 17(5.3%) self-medicate twice or more in a week.



**FIG. 1: PIE DIAGRAM SHOWING PREVALENCE OF SELF-MEDICATION PRACTICE AMONG MBBS STUDENTS: (N) (N=427)**



**FIG. 2: PIE DIAGRAM SHOWING FREQUENCY OF SELF-MEDICATION PRACTICE**

**TABLE 1: SOCIO-DEMOGRAPHIC & HEALTH PROFILE CHARACTERISTICS BASED ON THE PRACTICE OF SM (N=427)**

Variable	Practice SM n (%)	Do Not Practice SM n (%)	Total n (%)	Chi-square	p-value
<b>Any past/present chronic/recurrent health problems</b>					
Yes	26 (72.2)	10 (27.8)	36 (100.0)	0.7	0.1
No	292 (74.7)	99 (25.3)	391 (100.0)		
<b>Any family member had/has chronic/recurrent health condition</b>					
Yes	86 (73.5)	31 (26.5)	117 (100.0)	0.08	0.78
No	232 (74.8)	78 (25.2)	310 (100.0)		

Of the total 427 study participants, ~79% in the age group of 21-23 years old, ~78% females & ~84% 3<sup>rd</sup> year of MBBS practice self medication.

**TABLE 2: LIST OF SYMPTOMS TREATED BY THE PRACTICE OF SELF-MEDICATION (N=318)**

Health problems*	n(%)
Fever	230(72.3%)
Headache	153(48.1%)
GI problems	132(41.5%)
Allergy	102(32%)
Respiratory problems	63(31.2)
Nutritional deficiencies	42(13.2%)
Skin problems	41(12.9%)
Stress	41(12.9%)
Obstetrics & gynaecological problems	20(6.2%)
Eye/ear infection	19(6%)
UTIs	6(1.9%)

\*Mixed response

~72% of the students practice self medication because of the complaint of fever.

**TABLE 3: CATEGORIES OF MEDICINES USED FOR SM PRACTICE (N=318)**

Categories of medicine*	n (%)
Analgesics & antipyretics	191(60.1%)
Antibiotics	190(59.7%)
Vitamin tablets	112(35.2%)
Anti-allergic	112(35.2%)
Cough syrups & nasal decongestant sprays	117(34.6%)
Antidiarrheals	79(24.8%)
Anti-emetic	47(14.7%)
Anti-hypertensives	10(3.1%)
Ophthalmic preparation	9(2.8%)
Statins	5(1.5%)
Anti-Diabetics	4(1.2%)

\*Mixed response

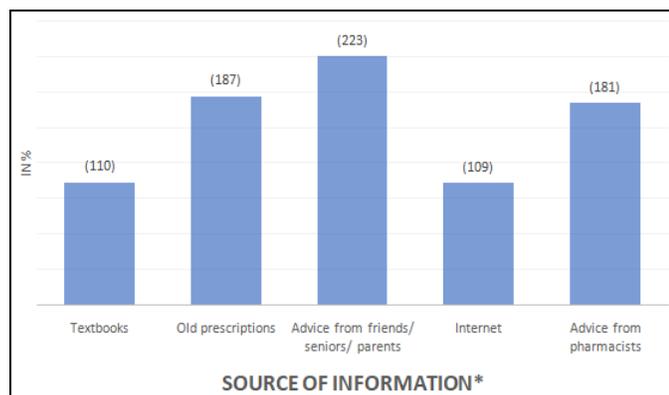
~60% of the students antibiotic or analgesics respectively as their preferred drug group for self medication practice.

**TABLE 4: REASONS FOR THE PRACTICE OF SELF-MEDICATION (N=318)**

Reasons*	n(%)
Symptomatic treatment	308(96.9%)
Prior experience with illness	148(46.5%)
Illness too trivial for consultation	146(45.9%)
Self-confidence regarding awareness of medicines	96(30.1%)
Avoiding excessive crowds at hospitals/clinics	58(18.2%)
Reluctance to spend money and doctor's fees and laboratory investigation	50(15.7%)
Confidentiality	30(9.4%)
Non-availability of healthcare personnel	26(8.1%)
Lack of trust in healthcare services	20(6.2%)

\*Mixed response

~97% of the students practice self medication for symptomatic treatment.



**FIG. 3: BAR DIAGRAM SHOWING SOURCE OF INFORMATION REGARDING THE PRACTICE OF SELF-MEDICATION (N=318).** \*mixed response

~70% of the students practice self medication on advice from friends/ seniors/ parents.

**TABLE 5: ATTITUDE TOWARDS SELF-MEDICATION PRACTICES (N=318)**

Attitude towards self-medication*	n(%)
Self-medication is a part of self-care	191(44.7%)
I had a personal experience with this type of disease	190(44.4%)
It's alright to take self-medication advice from friends and family members	117(27.4%)
I will continue with Self-medication	79(18.5%)

\*Mixed response

~45% of the students has the perception that self medication is a part of self care.

**TABLE 6: PERCEPTION TOWARDS PREVENTION OF THE GROWING TREND OF SELF-MEDICATION PRACTICE AMONG THE STUDY PARTICIPANTS (N=318)**

Reasons to prevent growing trend of self-medication*	n(%)
Spreading awareness of adverse effects of self-medication.	194(45.4%)
Prevent the supply of medicines without a valid prescription	172(40.2%)
Making health facilities affordable and readily available.	163(38.1%)
Enforcing strict rules regarding misleading pharmaceutical advertisements	127(29.7%)
No opinion	66(15.5%)

\*Mixed response

~45% of the students feel that spreading awareness about the adverse effects of self medication can prevent in the practice of self medication among the population

**DISCUSSION:** Our study found that among 427 students, prevalence of self-medication practice was 74.5%, of whom 71.4% practiced rarely, i.e., once or twice a year. Practice of self-medication was found to be higher among the female (77.6%) students as compared to the male (71.6%) students. Practice of self-medication was found to be higher among hostelites (76%) when compared to the day scholars (69.8%). 84.2% of the 3rd-year MBBS students were found to practice self-medication, which was the highest percentage compared to students from the other academic years. Almost 75% of the students with no history of chronic/recurrent diseases practice self-medication. Almost 75% of the students with no known family members with recurrent/chronic diseases practice self-medication. Our study was unable to find any statistical significance when comparing the variables mentioned above except for the age group thus statistically proving that as age increases the practice of self medication also increases.

Our study found fever to be major symptom for self medication practice among the students followed by headache & GI problems. Analgesics & antipyretics are the major drug groups that are being used for self medication practice followed by antibiotics. ~65% & ~70% of the students who practice self medication were found to be aware of the OTC medications & ADR respectively.

~97% of the students practice self medication for symptomatic relief & most of the students were advised about self medication either from their parents/ seniors/ friends. ~45% of the students believe that self medication is a part of self care & spreading awareness about the ADR of self-medication can help in the prevention of the practice of self-medication.

In a study conducted by Patil SB, et al<sup>6</sup>, in Karnataka, it was found that 88.18% students practiced self-medication & cold and cough (78.35%) was found to be the major symptom for which medications were used. Antibiotics were most commonly (63.91%) used for self-medication & only 40% students opined that self-medication is part of self-care. In a study conducted by Banerjee I, et al<sup>7</sup>, in West Bengal, it was found that 57.05% respondents practiced self-medication. The main reason for seeking self-medication included cough and common cold (35.21%) followed by diarrhea (25.47%), fever (15.73%), headache (14.98%) & pain due to heartburn/ peptic ulcer (8.61%). Drugs/ drug groups commonly used for self-medication included antibiotics (31.09%) followed by analgesics (23.21%), antipyretics (17.98%), antiulcer agents (8.99%), cough suppressants (7.87%), multivitamins (6.37%) and anthelmintics (4.49%). Regarding reasons for seeking self-medication, 47.19% students felt that their illness was mild while 28.46% preferred it for time-saving. About 15.73% cited cost-effectiveness as the primary reason & 8.62% preferred the practice because of urgency.

In a study conducted by Khadka S, et al<sup>8</sup>, around 74.2% of the respondents took medicines without a proper prescription and the commonly self-medicated drug group was NSAIDs.

In a study conducted by Albasheer OB, et al<sup>9</sup>, 87% reported that they involve in self-medication. The practice of self-medication was found to be more prevalent among female students. Sedatives were found to be the most common drugs used by students for self-medication (58 %). The most common reason was found to be their belief that they have sufficient information, previous experience, and the experience of others, such as family members and colleagues, with regard to the drugs. A huge proportion (84.5 %) of the students

agreed that the practice could be harmful & associated with adverse effects, whereas 52.6 % stated that they would not advise other to indulge in self-medication.

In a study conducted by Kasulkar AA, et al<sup>10</sup>, the prevalence of self-medication was 71.7 % & it was more among final year students. Fever and headache were found to be the most frequently reported illnesses, and commonly used drugs were antipyretics and analgesics. The information was obtained mainly through reading material, and the reasons for the practice were minor ailments and quick relief. The majority of the students had agreed that medical knowledge is necessary for the administration of medicine by self.

In a study conducted by Lukovic JA, et al<sup>11</sup>, self-medication was reported by 79.9% students & the most frequently self-prescribed medications were analgesics (55.4%). In a study conducted by Al-Qahtani AM, et al<sup>12</sup>, the prevalence of SM was 60%, out of which 25% used antibiotics as SM drugs. Headache (65.9%), fever (30.2%), cold/flu (31.2%), and gastric acidity (28.3%) were the major illnesses for which SM was sought, using analgesics and NSAIDs (52.7%), antipyretics (13.7%), and antacid (12.7%) medications. The most common reason for SM, were illness being minor and quick relief. 48.3% of the students suggested spreading awareness and education regarding the implications of SM and medications to be dispersed with prescriptions (46.8%).

In a study conducted by Hassan NM, et al<sup>13</sup>, the prevalence of self-medication was found to be 71%. The key determinants of self-medication among students were their own medical knowledge & from self- experience and studies (55.9%). Headache was the most common complaint for self-medication (80.4%). Majority of them (88.3%) use analgesics (92.4%). The popularity of the medicine was the primary reason for a specific drug selection (52.5%) and recommendation from the pharmacist (43.6%) were the main determinate for drug selection.

In a study conducted by Banerjee K, et al<sup>14</sup>, 81.6% respondents practiced SM. The most common symptom for seeking SM were fever 66.2% followed by cough cold, and sore throat 55.0%,

diarrhea/nausea, and vomiting 40.4%. The most common drug used for SM was Paracetamol (73.51%), followed by H1 antihistaminic and proton pump inhibitors. Among the common reasons for seeking SM, 72.2% felt that their illness was mild & 57% preferred it due to their prior experience. In a study conducted by Yadav PK, *et al*<sup>15</sup>, the prevalence of self-medication was found to be 67%. Most of the respondents were male (61%) and 2nd-year students (32.5%). Self-medication was common for minor illnesses (76%), with antacids (83%) and analgesics (74%) being the most commonly used drugs. 70.2% acknowledged the risks of self-medication. In a study conducted by Kundu R, *et al*<sup>16</sup>, 91.50% of medical students practiced self-medication. The common indication for self-medication were fever (89.2%) followed by headache (69.6%). Previous prescriptions for the same type of illness (68.87%) were the main source of information for self-medication. Common reasons for the practice of self-medication were urgency (53.33%) and quick relief (50%). Over-the-counter (88.14%) drugs were found to be the most common sources of medications.

**CONCLUSION:** Self-medication is an alarming concept. With almost 75% practicing self medication without prior knowledge & practice proves the fact that the future health care providers may themselves become a victim of AMR. Unregulated & unrestricted symptomatic treatment of ailments will only increase the diseased burden. Awareness regarding self medication practice although is present among students was not seen in practice regarding the use of drugs. More studies need to be focused on the health seeking behavior of undergraduate medical students so that the practice can be halted before the future of the health practitioners themselves suffer.

**Recommendation:** The involvement of the faculties needs to be prioritized regarding health education to prevent the practice of self-medication. The call of the hour should not only focus on the celebration of AMR week but also on individual development. Student development programme with a faculty being the mentor for a small group of students from the beginning of the first year MBBS should be the focus. The sell of OTC drugs should be regulated with strict

government policies which should include hefty fines & cancellation of registration.

**Limitations:** We were unable to capture the data from all the MBBS students during our study period which might have given us results with some significant statistical significance.

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**CONFLICTS OF INTERESTIN:** Nil

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