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RESEARCH ARTICLE
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A CROSS-SECTIONAL STUDY TO ESTIMATE THE PREVALENCE OF SELF-MEDICATION AMONG MEDICAL STUDENTS AT CHHATTISGARH INSTITUTE OF MEDICAL SCIENCES, BILASPUR

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Introduction: - Self-medication, defined by the WHO as the use of drugs for self-diagnosed conditions without professional consultation, is a growing public health concern. Medical students are particularly prone to this practice due to their medical knowledge, stress, and easy access to pharmaceuticals. While self-medication may provide convenience, it also carries risks such as incorrect diagnoses, drug resistance, and adverse drug reactions.
Objective: This study aimed to estimate the prevalence of self-medication among medical students at Chhattisgarh Institute of Medical Sciences (CIMS), Bilaspur, and explore the influencing factors, common symptoms, and frequently used medications.
Methods: A cross-sectional study was conducted among 500 MBBS students from first to final year. Data were collected using a structured, self-administered questionnaire assessing self-medication practices, reasons, and awareness of risks. Descriptive statistics were used for data analysis.
Results: The prevalence of self-medication was 46.2%, with most students self-medicating occasionally (30.6%). The most common reasons were minor ailments (34.4%), time savings (31.6%), and cost savings (15.2%). Fever (69.6%), cold/flu (57%), and headaches (55.6%) were the most common symptoms treated. Frequently used medications included antibiotics (63.6%), cough syrups (47.8%), and painkillers (42.2%). The primary sources of medication information were previous prescriptions (25.15%) and pharmacists (17.91%).
Conclusion: Self-medication is prevalent among medical students, primarily for minor ailments. The high use of antibiotics raises concerns about antimicrobial resistance. Educational interventions are necessary to promote responsible medication practices and awareness of associated risks.

Keywords: Self-medication, medical students, antibiotics, prevalence, public health.

Introduction:

According to the WHO definition, self -treatment is to use an intermittent or continuous use of drugs for the use of drugs or chronic or recurrent diseases or symptoms for the treatment of self -diagnostic disorders or symptoms. [1] Self -guidelines are more and more severe in public care in developing

and developed countries. Self -demonstration can result in serious consequences, such as delayed disease diagnosis, drug stability, development of companion diseases, and in some cases. [2] The practice of self -guidelines cannot be considered completely harmful. Preparations classified as "over the counter" can be purchased without a prescription and can save the time and cost of patients several times. [3] Health workers are considered a role model for others in terms of health behaviour. In the active role in the media and cyber space, college students can play more important in this field. On the other hand, university students are more vulnerable and more vulnerable and self -treated due to social status, contact with people in the community, and duty as a future parent. [4] Continuous drugs between young people, especially students, are misused by acquaintances of media and advertising. This has become a serious disease that caused concerns about wrong diagnosis and drug reactions. SM, a future doctor, has a special influence on medical students. [5] Medical students experience a great psychological burden in the essence of research with unlimited approach to pharmaceutical drugs. This burden can increase the possibility of inappropriate drug use. Due to the complexity and lack of time of independent order, medical students can handle irrational diseases and prefer drugs recommended by colleagues. [6] Medical students can easily access the pharmaceuticals themselves through the doctor's sample provided by the pharmaceutical drug representative, and "The white coat" guarantees a problem without a problem with the drug available in pharmacies [7]

AIMS & OBJECTIVES

A cross-sectional study to estimate the prevalence of Self-medication among medical students at Chhattisgarh institute of medical sciences, Bilaspur.

1)To estimate the prevalence of self-medication among medical students.
2)To find common symptoms among medical students for self-medication.
3) To find out common medicines used among medical students for self-medication.

MATERIALS & METHODS

This observational cross-sectional study was conducted in the Department of Community Medicine at Chhattisgarh Institute of Medical Sciences (CIMS), Bilaspur, over six months (May 2024 – November 2024). The study included MBBS students from Phase-I to Phase-III Part 2, with a sample size of 720, selected using the universal sampling method.

Inclusion & Exclusion Criteria

Inclusion:

- MBBS students (first to final year) at CIMS Bilaspur.
- Students willing to provide informed consent.

Exclusion:

- Students on leave during data collection.
- Students with chronic illnesses requiring continuous medication.

Study Tools & Data Collection

A self-structured closed-ended questionnaire was used for data collection. A pilot study (n=72) was conducted to assess reliability and validity, with modifications made accordingly. Questionnaires were distributed and filled forms were collected through personal interviews.

Ethical Considerations

Confidentiality was maintained by anonymizing data, ensuring only aggregated results were reported.

Statistical Analysis: Data were entered into Microsoft Excel, coded, and checked for completeness. Descriptive statistics (frequencies and percentages) were used for categorical variables (e.g., gender, year of study, self-medication reasons).

Study Variables

• Dependent Variables: Year of study, fear of facing seniors for treatment, OTC medication availability, awareness of adverse effects.

• Independent Variables: Age, gender, residence (hosteller/day scholar).

RESULT AND DISCUSSION

Table 1: Gender wise distribution (n=500)

Gender	Frequency	Percentage
Male	219	43.80%
Female	281	56.20%
Total	500	100%

Table 1 illustrates the gender distribution within a study population of **500 participants**, comprising **219 males (43.80%)** and **281 females (56.20%)**. The findings indicate a **higher proportion of female participants** in the study sample compared to males.

Figure 1: Age wise distribution (n=500)

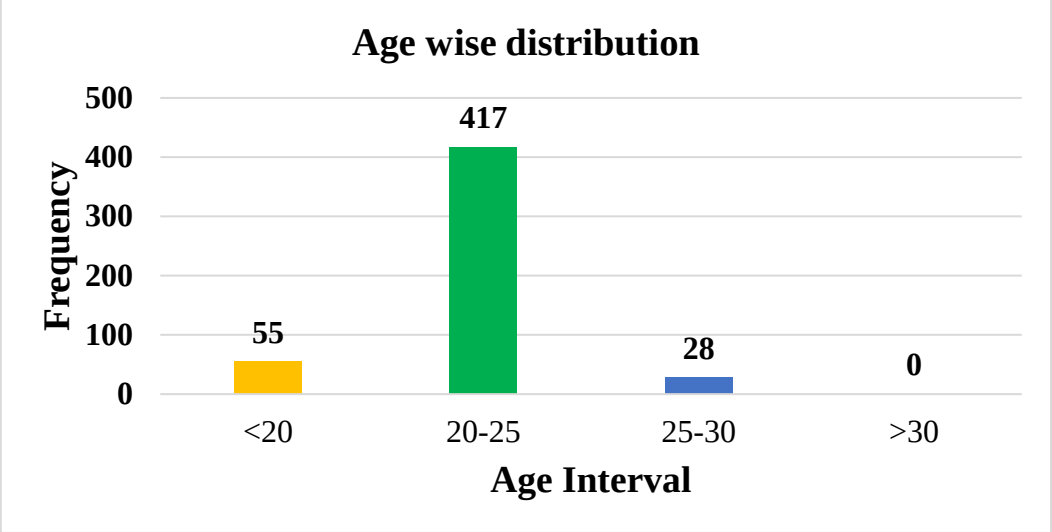


Table 2: Batch wise distribution of study subjects (n=500)

Batch	Frequency	Percentage
1st year MBBS	127	25.3%
2nd year MBBS	129	25.7%
3rd year MBBS	123	24.7%
4th year MBBS	121	24.3%

Table 2 presents the distribution of MBBS students across different academic years within the study population. The **highest proportion** of participants belongs to the **2nd-year batch (129 students, 25.7%)**, followed closely by the **1st-year batch (127 students, 25.3%)**. The **3rd-year (123 students, 24.7%)** and **4th-year (121 students, 24.3%)** batches have slightly lower representation. Overall, the distribution remains **fairly balanced**, with no significant variation in student numbers across the academic years.

Figure 2: Have to Take Medicine on Your Own (n=500)

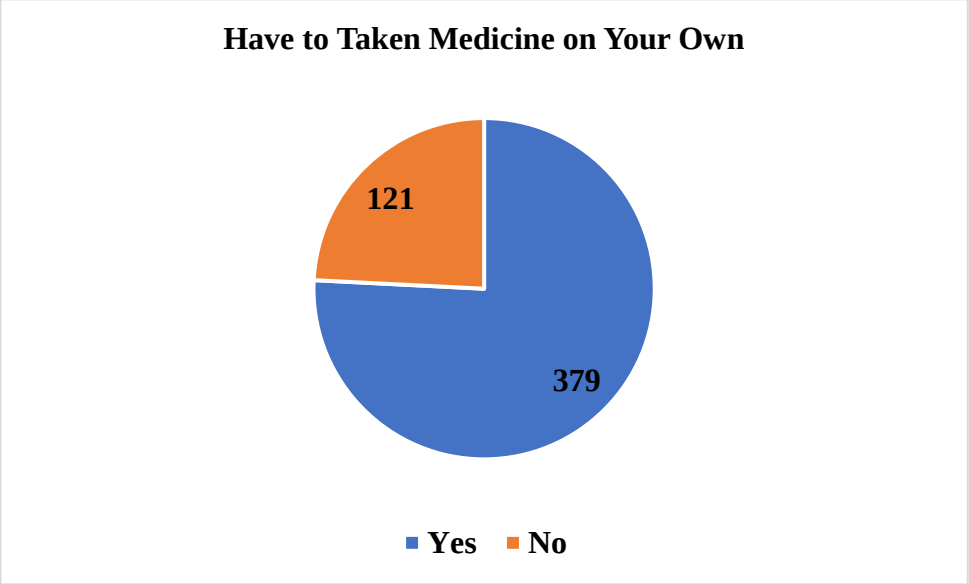


Table 3: How often do you self-medicate (n=500)

Response	Frequency	Percentage
Rarely	269	53.9%
Occasionally	153	30.6%
Frequently	56	11.2%
Very frequently	22	4.4%
Total	500	100%

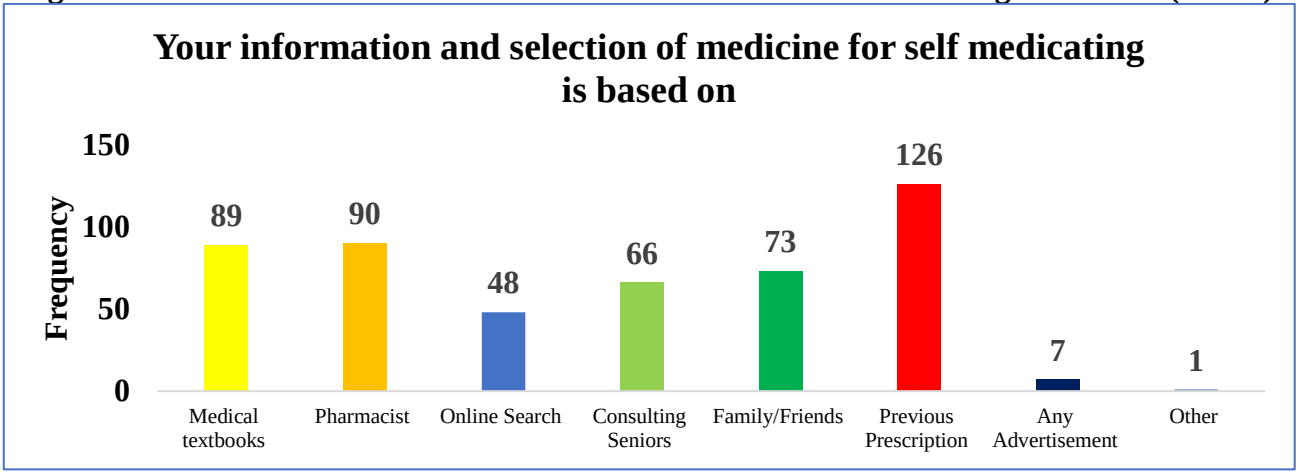
The table presents the frequency distribution of responses among 500 participants. The majority, 269 (53.9%), reported experiencing the event "rarely," followed by 153 (30.6%) who experienced it "occasionally." A smaller proportion, 56 (11.2%), reported experiencing it "frequently," while only 22 (4.4%) experienced it "very frequently." This indicates that most participants encountered the event infrequently, with only a minority reporting frequent occurrences.

Table 4 : For what symptoms do you usually self-medicate (n=500)
(**Multiple response)

Response	Frequency	Percentage
Fever	348	69.6%
Headache	278	55.6%
Digestive Issues, (diarrhoea, vomiting, constipation, etc)	164	32.8%
Cold/Flu/Cough	285	57%
Stress/Anxiety	22	4.4%
Insomnia/ Sleep problems	12	2.4%
Pain(eg. Backpain, menstrual cramps, etc)	111	22.2%
Other	12	2.4%

The table illustrates the distribution of health issues reported by participants. **Fever (69.6%)** is the most frequently reported condition, followed by **cold/flu/cough (57%)** and **headache (55.6%)**. **Digestive issues (32.8%)** and **pain (22.2%)** are also commonly experienced. In contrast, **stress/anxiety (4.4%)** and **insomnia/sleep disturbances (2.4%)** are less frequently mentioned. The **"Other" category (2.4%)** includes additional health concerns. Overall, **infectious illnesses**, particularly fever and respiratory conditions, are the most prevalent, while **stress-related and sleep disorders** are reported less frequently.

Figure 3: Your information and selection of medicine for self-medicating is based on(n=500)



The table summarizes the sources of information utilized by participants. The **most common source** is **previous prescriptions (25.15%)**, followed by **pharmacists (17.91%)** and **medical textbooks (17.81%)**. **Family and friends (14.69%)** and **consulting seniors (13.28%)** also serve as significant sources. **Online searches (9.66%)** are used to a lesser extent, while **advertisements (1.41%)** and **other sources (0.2%)** are the least relied upon. These findings suggest a preference for **professional and familiar sources** over **advertisements and online searches** for medical information.

Table 5: What is your primary reason to self-medicate yourself (n=500)

Response	Frequency	Percentage
Cost savings	76	15.2%
Time savings	158	31.6%
Minor ailments	172	34.4%
Confidence on self-diagnosis	56	11.2%
Fear of facing seniors /Professors in the hospital	29	5.8%
Other	9	1.8%
Total	500	100%

The table presents the reasons behind participants' choices. The **most common reason** is **minor ailments (172 participants, 34.4%)**, followed by **time savings (158 participants, 31.6%)** and **cost savings (76 participants, 15.2%)**. **Confidence in self-diagnosis** accounts for **56 participants (11.2%)**, while **fear of facing seniors or professors** is reported by **29 participants (5.8%)**. The **"Other" category** includes **9 participants (1.8%)**. These findings highlight that **practical considerations, such as convenience and cost-effectiveness, play a major role in decision-making**.

Figure 4 - Are you aware of the possible adverse effects of taking these medicines (n=500)

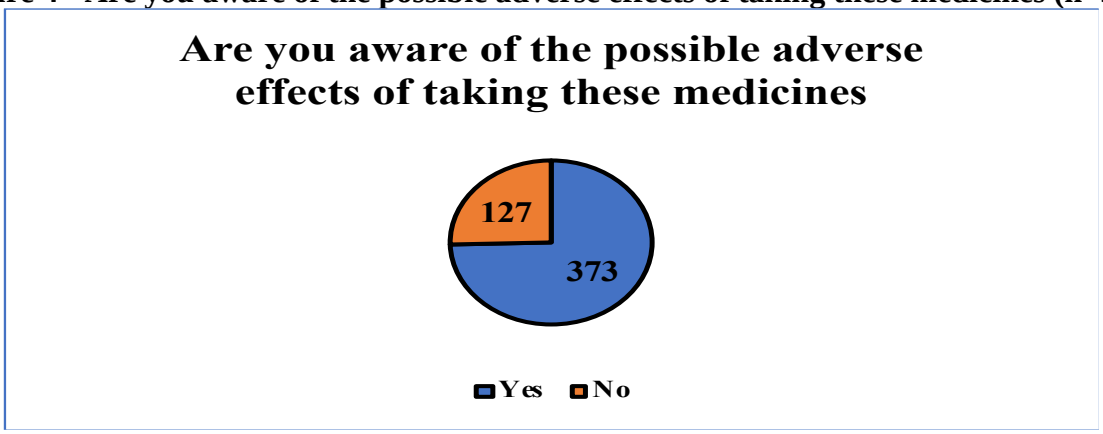


Table 6: What medicine do you commonly used for self-medications (n=500)
** (Multiple response)

Medicine	Frequency	Percentage
Antibiotics	318	63.6%
Antacid	159	31.8%
Vitamins/Supplements	141	28.2%
pain killers	211	42.2%
Antihistamine	74	14.8%
Cough syrup	239	47.8%
Herbal remedies	53	10.6%
Other	9	1.80%

The table outlines the types of medicines used by participants. **Antibiotics (318 participants, 63.6%)** are the most commonly used, followed by **cough syrup (239 participants, 47.8%)** and **painkillers (211 participants, 42.2%)**. **Antacids (159 participants, 31.8%)** and **vitamins/supplements (141 participants, 28.2%)** are also frequently utilized. **Antihistamines (74 participants, 14.8%)** and **herbal remedies (53 participants, 10.6%)** are less commonly used. The **"Other" category** includes **9 participants (1.8%)**. These findings suggest a **high dependence on antibiotics, cough syrup, and painkillers** among participants.

Table 7 –Prevalence of self-mediation (n=231)

frequency of self-medication	Yes	No
Self-medication	**231 (46.2)**	**269 (53.8)**

The table illustrates the prevalence of self-medication among participants. Out of the total study population, **231 students (46.2%)** reported practicing **self-medication**, while **269 students (53.8%)** did not. These findings suggest that **nearly half of the students engage in self-medication** as a means of managing minor health concerns.

Table 8 – overall prevalence of self-mediation (n=231)

Overall frequency of self-medication	Frequency	Percent
Occasionally	**153**	**30.6**

Frequently	**56**	**11.2**
Very Frequently	**22**	**4.4**
Total	**231**	**46.2**

The table highlights the prevalence and frequency of self-medication among participants. **A total of 231 students (46.2%)** reported engaging in **self-medication**, with the majority **(153 participants, 30.6%)** doing so **occasionally**. A smaller proportion **(56 participants, 11.2%)** self-medicate **frequently**, while **22 participants (4.4%)** reported **very frequent** self-medication. These findings indicate that **almost half of the study population practices self-medication**, primarily on an **occasional basis**, with a **smaller subset relying on it more regularly**.

Discussion- The results from this study indicate that nearly half (46.2%) of the participants engaged in self-medication, with most doing so occasionally (30.6%). The primary reasons cited were minor health issues (34.4%), saving time (31.6%), and saving money (15.2%), aligning with trends observed in previous studies on medical students (Alghanim et al., 2019; Mbaka et al., 2019). The most commonly used medications were antibiotics (63.6%), cough syrup (47.8%), and pain relievers (42.2%), raising concerns about antibiotic misuse and resistance, a significant global health issue (Bennet et al., 2018). Self-medication with antibiotics is widely recognized among medical students, contributing to the increasing challenge of antimicrobial resistance (Shaikh et al., 2020). The most frequent conditions treated through self-medication included fever (69.6%), cold/flu/cough (57%), and headache (55.6%), consistent with findings from previous studies that emphasize the self-management of common illnesses (Shah et al., 2015). Participants primarily relied on prior prescriptions (25.15%) and pharmacists (17.91%) for information on self-medication, indicating a preference for professional guidance over informal sources like family or friends. This contrasts with findings from a study in Pakistan, where students frequently turned to family and friends for advice (Shaikh et al., 2020). The gender distribution showed a majority of female participants (56.2%), reflecting typical medical school demographics worldwide (Alghanim et al., 2019). However, there was no significant difference in self-medication habits between males and females, as both groups exhibited similar patterns of use. Self-medication was prevalent across all academic years, suggesting it is a widespread practice independent of medical knowledge level. However, prior research indicates that advanced students tend to exercise greater caution due to their improved understanding of pharmacology and the risks associated with improper medication use (Aina et al., 2019).

Conclusion: -

The study identified a higher proportion of female participants and a relatively even distribution of students across all academic years. Self-medication was practiced infrequently, primarily for fever, cold/flu, headaches, and digestive issues. The predominant sources of information included previous prescriptions, pharmacists, and medical textbooks. The primary motivations for self-medication were the management of minor ailments, time efficiency, and cost reduction. The most frequently utilized medications were antibiotics, cough syrups, and analgesics.

Limitations:

- Single-center study limits generalizability.
- Cross-sectional design prevents causal analysis.
- Lack of qualitative data restricts insight into personal motivations.

Recommendations:

- Conduct educational workshops and integrate self-medication risks into the curriculum.
- Provide stress management counselling.
- Strengthen regulations on over-the-counter drug access.
- Encourage professional medical consultation over self-diagnosis.

• Raise awareness among family and peers to discourage informal medical advice.

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