UNDERSTANDING SELF-MEDICATION PATTERNS AMONG MBBS STUDENTS: AN EXPLORATORY STUDY

Dr. Harsh Salankar[1], Dr. Sonali Rode[2], Dr. Prasad Udhoji[3], Dr. Shailesh Parate[4]

[1]Professor, Department of Pharmacology, NKP Salve Institute of Medical Sciences & Research Centre, Nagpur, Maharashtra, India
[2]Professor and Head, Department of Pharmacology, Shri Balaji Institute of Medical Sciences, Raipur, Chhattisgarh, India
[3]Assistant Professor, Department of Physiology, Dr. Rajendra Gode Medical College, Amravati, Maharashtra, India
[4]Additional Professor, Department of Forensic Medicine & Toxicology, AIIMS, Rishikesh, Uttarakhand, India

Corresponding Author: Dr. Shailesh Parate
Email: shailesh.fmt@aiimsrishikesh.edu.in

ABSTRACT

Introduction: The unauthorized purchase of scheduled drugs without prescriptions is a significant concern. The educational background of individuals plays a crucial role in determining their tendency towards self-medication. Medical students are particularly susceptible to self-medication due to their easy access to drug information and medications. This study aimed to investigate the self-medication patterns among medical students.

Materials and Methods: The study was conducted among medical students of an Indian medical College, using a questionnaire-based interview approach.

Results: Out of 289 students interviewed, 66.78% practiced self-medication, while 24.57% followed prescribed treatments. The prevalence of self-medication was significantly higher. Monotherapy was more common among students who self-medicated, whereas polytherapy was more prevalent among those adhering to prescriptions. There was a notable difference in the satisfaction levels reported between self-medication and prescribed medication users.

Conclusion: Self-medication among medical students was notably high, but the outcomes were generally unsatisfactory to them.

Keywords: Self-medication, MBBS, Students, Drug Utilization, Prescription.

INTRODUCTION

Drug utilization encompasses the entire process of marketing, distribution, prescription, and use of drugs within society, with a focus on the resulting medical, social, and economic consequences, as highlighted by the World Health Organization. Research on drug utilization delves into factors related to prescribing, dispensing, administering, and taking medications, along with associated events, covering both medical and non-medical determinants, as well as the effects, both beneficial and adverse, of drug use [1,2].

Despite existing legislation, the supply of over-the-counter and prescribed drugs in pharmacy stores is not always properly regulated, and documentation of patients' treatment is often limited to hospitals. This lax implementation, coupled with factors like self-prescription, easy access to drugs without prescriptions, low literacy levels, and alternative medicine systems, exposes communities to the risks of irrational drug use [3].

In recent years, there has been a significant increase in the cost of drugs, leading to concerns about the availability of scheduled drugs without prescriptions. Educational status plays a crucial role in self-medication practices, highlighting the importance of ensuring that drug use aligns with the burden of diseases and essential healthcare needs [4]. Surveys on student drug use (SDUS) provide valuable insights into the prevalence, frequency, associated harms, socio-demographic factors, and identification of high-risk groups among youth populations. The SDUS working group developed core indicators to assess alcohol and drug use among students, aiming to understand trends and address potential risks [5,6].

Encouraging people to purchase only over-the-counter drugs and avoid scheduled drugs is essential, emphasizing the need for effective legislation and implementation to control drug-related health care costs and risks [4]. Medical education is recognized as a highly stressful environment, impacting the psychological and physical well-being of students. The volume and complexity of learning material are significant stressors, contributing to self-medication practices among medical students, who often have easy access to drug information and samples [7-9].

Therefore, this study was conducted to explore self-medication patterns among medical students, aiming to understand and address the factors influencing these practices within the context of medical education.

MATERIALS AND METHODS

Data for this study were gathered from 289 medical students at an Indian medical college, over a period of seven months. The study design employed was cross-sectional and descriptive in nature.

Inclusion criteria for participation in the study were students aged between 18 to 25 years, irrespective of gender. Exclusion criteria included individuals below 18 or above 25 years of age, as well as monitoring the use of known non-formulated substances of abuse like tobacco, alcohol, or heroin.

A specially designed questionnaire was utilized to collect data from the students. The questionnaire was structured with the following sections: Demographic information, including name, age, and gender. Medical history, covering past illnesses, patterns of drug use (self-medication, prescribed medication, or a combination of both), and any history of adverse drug reactions.

The collected data were tabulated using MS Excel 2007 and analyzed using Epi Info 2 software, including the Chi-square test for statistical analysis.

RESULTS

Table 1 displays the pattern of medication and types of illnesses among MBBS students. The prevalence of self-medication was 66.78%, significantly higher than prescription medication. Most medications were used to treat acute illnesses.

Table 2 illustrates the drug utilization pattern in the study population. Monotherapy was more frequent in self-medication cases, while polytherapy was more common in prescription medication scenarios.

Table 3 shows the outcomes of different medication types in the study population. Participants reported that most self-medication outcomes were unsatisfactory.

Table 4 lists the symptoms for which self-medication was taken. Fever, headache, body ache, acidity, and common cold were the most common symptoms for which self-medication was practiced.

Table 5 describes the types of drugs used in self-medication. Analgesics, antipyretics, antiallergics, and antacid/proton pump inhibitors (PPIs) were the most commonly used classes of drugs in self-medication cases..

Table 1: Pattern of medication and type of illness in MBBS students

Type of medication	Acute illness	Chronic illness	Total	%	p Value
Self-medication	161	32	193	66.78	
Prescription medication	4	67	71	24.57	<0.05
Mixed	23	2	25	8.65	

Table 2: Drug utilization pattern

Type of medication	Monotherapy	Polytherapy	n	%	p Value
Self-medication	161	32	193	66.78	
Prescription medication	12	59	71	24.57	<0.05
Mixed	2	23	25	8.65	

Table 3: Outcome of type of medication in study population

Type of medication	Satisfactory	Unsatisfactory	n	%	p Value
Self-medication	30	163	193	66.78	
Prescription medication	56	15	71	24.57	<0.05
Mixed	20	5	25	8.65	

Table 4: Symptoms for which self-medication taken

Symptoms	n	%
Fever	177	91.71
Headache/body ache	174	90.16
Common Cold/flu	175	90.67
Acidity	164	84.97
Abdominal Pain	159	82.38
Diarrhea/constipation	159	82.38
Anxiety/insomnia	114	59.07
Weight gain/energy	100	51.81

Table 5: Type of drug used in self-medication

Medication	n	%
Analgesics	177	91.71
Antipyretics	175	90.67
Antiallergics	174	90.16
Antacid/PPI	150	77.72
Antibiotics	130	67.36
Vitamins	100	51.81
Herbals	47	24.35

DISCUSSION

Self-medication refers to the practice of obtaining and consuming drugs without consulting a physician for diagnosis, prescription, or treatment surveillance. In developing countries, individuals not only use over-the-counter drugs but also prescription medications without medical supervision [10-12].

The current study involving 289 students revealed that 66.78% practiced self-medication, while 24.57% used prescription drugs for their illnesses. Comparatively, a study by Kasulkar and Gupta reported a

higher rate of self-medication at 71.7% among students [13], whereas Abay and Amelo found a lower rate of 38.5% [14].

The majority of students in the present study who suffered from acute conditions preferred self-medication, while those with chronic conditions opted for prescription medications. This trend aligns with findings from Badiger *et al*., where acute ailments were the most common reason for self-medication [7].

Monotherapy was prevalent among self-prescribers in the current study, while polytherapy was more common among prescription users. A study by Singh and Singh found a high prevalence of drug use among undergraduate students, with poly-drug use being common [15].

The study also identified a significant association between students' satisfaction levels and their approach to drug therapy. Medical students, due to their profession, have easy access to prescription-only drugs and are often not deterred by potential adverse effects, addiction risks, or abuse potential [7,16,17].

CONCLUSION

Self-medication rates among medical students were notably elevated, yet the resulting outcomes were deemed unsatisfactory by them. In contrast, students who adhered to prescription medications reported higher satisfaction levels. The practice of self-medication evolves over time, influenced by technological advancements. It is expected that self-medication will remain prevalent among medical students, highlighting the importance of robust implementation of regulations concerning drug dispensing by pharmacists and the distribution of complimentary samples by medical representatives to doctors, especially physicians.

REFERENCES

1. Pramila Y, Vanita K, Preety L, Siddharth J. Drug utilization trends in ENT outpatient department in a teaching hospital. Int J Pharm Bio Sci. 2010;1(4):153-60.
2. Essential Medicines and Health Products Information Portal. A World Health Organization Resource. Available from: http://www.apps.who.int/medicinedocs/en/d/Js4876e/2.html.
3. Nasir MA, Hashmi RI, Ahmad NS. Drug utilization patterns in Rawalpindi and Islamabad, Pakistan. J Pak Med Assoc. 2012;62(5):426-9.
4. Drug Consumption Pattern in Urban and Rural Areas of India and Their Health Implications. Available from: http://www.healthpolicy.cn/rdfx/jbywzd/gjjy2/yd/yjwx/201002/P020100227570971897892.pdf.
5. Clark H. A coordinated approach to student drug use surveys in Canada. Contemp Drug Probl. 2009;36:409-25.

6. Bryant AL, Schulenberg JE, O'Malley PM, Bachman JG, Johnston LD. How academic achievement, attitudes, and behaviors relate to the course of substance use during adolescence: A 6-year, multiwave national longitudinal study. J Res Adolesc. 2003;13(3):361-97.

7. Badiger S, Kundapur R, Jain A, Kumar A, Pattanshetty S, Thakolkaran N, *et al*. Self-medication patterns among medical students in South India. Australas Med J. 2012;5(4):217-20.

8. Sherina M, Lekhraj R, Nadarajan K. Prevalence of emotional disorders among medical students in a Malaysian University. Asia Pac Fam Med. 2003;2:213-7.

9. Whitman N, Henry O, Johnson P. Student stress: Effects and solutions. Association for the study of higher education. ERIC. 1985;6:210-20.

10. Shankar PR, Partha P, Shenoy N. Self-medication and nondoctor prescription practices in Pokhara valley, Western Nepal: A questionnaire-based study. BMC Fam Pract. 2002;3:17.

11. The World Drug Situation. Geneva: WHO; 1988. Available from: http://www.apps.who.int/medicinedocs/documents/s16222e/s16222e.pdf.

12. Montastruc JL, Bagheri H, Geraud T, Lapeyre-Mestre M. Pharmacovigilance of self-medication. Therapie. 1997;52(2):105-10.

13. Kasulkar AA, Gupta M. Self medication practices among medical students of a private institute. Indian J Pharm Sci. 2015;77(2):178-82.

14. Abay SM, Amelo W. Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar University, Ethiopia. J Young Pharm. 2010;2(3):306-10.

15. Singh G, Singh RP. Drugs on a medical campus I. Drug use among medical undergraduates. Drug Alcohol Depend. 1979;4(5):391-8.

16. James H, Handu SS, Al Khaja KA, Otoom S, Sequeira RP. Evaluation of the knowledge, attitude and practice of self-medication among first-year medical students. Med Princ Pract. 2006;15(4):270-5.

17. Rajesh B, Devangi RD, Anjum W. Pattern of drug usage among medical students in Tumkur, Karnataka. Natl J Physiol Pharm Pharmacol. 2017;7(2):214-217.