

**EXPLORING SELF-MEDICATION DURING THE COVID-19 PANDEMIC:  
CHALLENGES AND OPPORTUNITIES**

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**ABSTRACT:**

Self-medication has become a pressing concern, particularly exacerbated during the COVID-19 pandemic. This review focuses on the widespread practice of self-medicating with allopathic drugs, examining its usage patterns, safety implications, and motivations. While safe when accompanied by adequate knowledge of dosage, timing, and potential side effects, self-medication often occurs without sufficient information, leading to serious consequences such as antibiotic resistance, skin issues, hypersensitivity, and allergies. This issue is particularly acute in developing countries like India, characterized by poor economic status, education levels, and inadequate healthcare facilities, where awareness of the risks associated with self-medication remains low. The dilemma of whether to encourage or discourage self-medication is complex. A holistic approach is recommended to mitigate this problem, involving comprehensive awareness campaigns and educational initiatives regarding the responsible use of medications. Additionally, stringent regulations on pharmaceutical advertising and improved dispensing practices are essential. Healthcare professionals play a crucial role in patient education, dedicating extra effort to ensure patients understand the implications of self-medication. Enhanced knowledge in this area can promote rational use of medications, potentially mitigating issues like emerging microbial resistance. Global research underscores that self-medication is a widespread phenomenon, encompassing over-the-counter drug use for common and minor ailments. While informed individuals may navigate self-medication safely, inadequate knowledge poses significant risks, potentially resulting in severe reactions like skin disorders, hypersensitivity reactions, or even anaphylactic shock. The prevalence of self-medication is notably high among educated individuals compared to those with lower literacy levels, particularly prevalent in rural India.

To address these challenges, governments and health authorities must prioritize initiatives aimed at raising awareness and regulating self-medication practices, particularly in underserved regions. These efforts are crucial for ensuring healthcare accessibility, affordability, and safety for all.

**KEYWORDS:** Self-medication, over-the-counter, medicine, COVID-19.

**I. INTRODUCTION**

The World Health Organization (WHO) and the International Pharmaceutical Federation define self-medication as the practice where individuals independently select and use medications to treat symptoms or minor health issues that they recognize themselves. When practiced responsibly, self-medication can contribute positively to an individual's health and is acknowledged by the WHO as an integral part of self-care. Self-care encompasses the actions individuals take to promote and maintain their health, encompassing aspects such as health management, nutrition, lifestyle choices, socioeconomic factors, and environmental influences, including self-medication. [1]

Self-care, including self-medication, is a daily practice for many in managing their health. In the Western context around the 1960s, self-care and self-medication were often viewed as unnecessary or potentially harmful practices. This paternalistic view of medicine, where healthcare systems primarily focused on treating illness rather than preventing it, persists in various countries today. Traditionally, self-medication is defined as "the use of drugs, herbs, or home remedies initiated by oneself or on the advice of others, without consulting a physician." Common sources of self-medication include advice from family, friends, neighbors, pharmacists, previously prescribed medications, or recommendations from advertisements in newspapers or popular magazines.



**Figure 1: Self-medication chart**

Nowadays, self-medication should be understood as the "desire and capability of individuals/patients to make informed and independent decisions regarding preventive, diagnostic, and therapeutic activities that concern them." [2] Self-care encompasses the actions people take to establish and maintain health, as well as to prevent and manage

illnesses (WHO, 1998). This concept encompasses various aspects such as hygiene, nutrition, lifestyle choices, environmental and socioeconomic factors, and includes self-medication. Self-medication, as part of self-care, refers to the selection and use of medications by individuals to treat illnesses or symptoms they recognize themselves (WHO, 1998). It involves the use of non-prescription medicines initiated by individuals themselves. Husain A and Khanum A (2008) similarly define self-medication as obtaining and using medications without professional supervision regarding indication, dosage, and treatment duration.<sup>[3]</sup>

Self-medication is a widespread practice globally. Today, countries across the spectrum—from rich to poor, developing to developed—engage in self-medication. There is a growing global recognition and acceptance of self-medication and self-care. Countries like Australia, Argentina, Brazil, Canada, China, Colombia, Costa Rica, El Salvador, Germany, Guatemala, India, Italy, Spain, Sweden, Switzerland, the UK, Venezuela, and many others practice self-medication, influenced by healthcare systems, cultural norms, education levels, economic factors, religious beliefs, awareness about medicines, and the impact of media and communication. However, the commonality across all is that individuals worldwide face similar challenges with minor illnesses and symptoms. Studies indicate variations in self-medication practices, such as higher usage in South Africa compared to other regions, and varying levels of satisfaction with over-the-counter medicines in countries like Mexico.<sup>[4]</sup>

Self-medication can be broadly defined as the use of medications to treat self-diagnosed conditions or symptoms, or the periodic or continuous use of prescribed medications for chronic or recurrent conditions or symptoms. This practice may involve herbal remedies, the storage and reuse of prescribed medications, or the direct purchase of prescription drugs without medical oversight. It is a prevalent practice globally, observed in both developed and developing countries, and is increasingly recognized as a significant aspect of healthcare management internationally.

Reasons for self-medication cited in the literature include mild illness, prior experience treating similar conditions, economic considerations, and limited access to healthcare professionals. The most commonly used medications for self-medication are analgesics and antimicrobials. Research indicates that self-medication behavior is influenced by multiple factors such as education level, familial and societal norms, legal access to medications, and exposure to advertisements. Higher levels of education and professional status are often predictive of self-medication practices.

Self-medication represents an area where governments and health authorities must ensure responsible practices, ensuring that safe medications are available over-the-counter and that consumers receive adequate information about their usage and when to seek medical advice. Unlike other aspects of self-care, self-medication involves the use of drugs, which carry both beneficial and potentially harmful effects. Pharmacists play a crucial role in this context. The current study aimed to assess the prevalence of (i) branded medication use among professional students, (ii) awareness levels, (iii) trust in the healthcare system, and (iv) reasons underlying self-medication practices.<sup>[8]</sup>

Self-medication is an undeniable reality influenced by cultural and economic factors, necessitating a comprehensive understanding of this global phenomenon at both collective and individual levels. Studies suggest that self-medication is practiced in 60% to 80% of cases involving health issues. In Germany, Eichenberg found through personal interviews that 94.9% of respondents engaged in self-medication practices.

**OBJECTIVES:**

Self-medication refers to the selection and use of medications without a doctor's prescription, including over-the-counter medicines, for minor illnesses or symptoms. According to the World Health Organization (WHO), self-medication involves the use of non-prescription medicines by individuals to treat self-recognized illnesses or symptoms and is practiced

globally. This article aims to investigate the reasons behind self-medication, the types of medicines commonly used for symptoms, the demographic profile of self-medication users, specific medications utilized, and common sources of information about these medicines. Painkillers, antipyretics, cough and cold remedies, anti-allergies, antacids, vitamins, and tonics are among the most frequently used medications.

While some medicines are generally safe and effective for treating minor health issues, their excessive or regular use can lead to serious health problems, side effects, and adverse reactions. The prevalence of self-medication varies across different regions and demographics, with higher rates observed among younger and educated individuals who may prioritize convenience over visiting a doctor.

This review emphasizes that self-medication is a global phenomenon and highlights its potential contribution to antibiotic resistance among human pathogens. The adverse consequences of irresponsible self-medication practices, such as the irrational use of antimicrobials without medical guidance, include inappropriate treatment, missed diagnosis, delayed appropriate therapy, pathogen resistance, and increased morbidity. It stresses the importance of ensuring that individuals using self-medication have adequate knowledge about dosage, timing of intake, and potential side effects to mitigate these risks.

**CONCLUSION:**

Self-medication remains prevalent among educated youth despite awareness of its potential harms. Strict policies are needed to regulate the advertising and sale of medications without prescriptions to mitigate this issue. Educational efforts are crucial to help individuals, especially students, make informed decisions about self-medication. Responsible self-medication can effectively manage and treat minor illnesses without the need for medical consultation, offering a more economical alternative. In countries like India, where healthcare professionals are scarce, informed self-medication can alleviate pressure on the healthcare system.

This study highlights the common practice of self-medication among undergraduate pharmacy students across five prestigious universities, facilitated by easy access to drugs and information from prior prescriptions. The misuse of antibiotics, antidepressants, and sedatives among some students, without proper medical supervision, poses serious health risks not only to themselves but also to others they may advise.

Healthcare professionals and drug regulatory authorities bear the responsibility of ensuring the safe use of medications. They must educate students about the holistic impact of drugs on the body and regulate self-medication practices effectively. In Siddhartha Nagar, Nepal, both medical and non-medical undergraduate students commonly engage in self-medication, predominantly for headaches using medications like Paracetamol. Initiatives at the national level are essential to raise health awareness among students, highlighting both the benefits and risks of self-medication.

Before the COVID-19 pandemic lockdowns, self-medication was prevalent, but practices decreased during the lockdown due to improved personal hygiene practices recommended by the WHO to prevent COVID-19 transmission. However, behaviors associated with self-medication emerged among individuals previously not engaged in such practices during the lockdown period. Those with higher lockdown index scores, characterized by increased health, financial, and employment concerns, showed a greater inclination towards self-medication. Addressing these behaviors through appropriate public health programs is crucial, especially in contexts where doctor availability is limited and future lockdowns are possible.

In the Middle East, self-medication is widespread and often associated with inappropriate drug use. Understanding the factors contributing to self-medication and assessing changing trends are vital for developing strategies to mitigate drug-related health risks in this region.

Educational interventions targeting the public and healthcare providers, along with strict regulations on non-prescription antibiotic use, could help address the challenges posed by self-medication effectively.

**REFERENCES:**

1. K. Chouhan, S. Baboo Prasad et al."Self-Medication And Their Consequences: A Challenge To Health Professional" Asian Journal Of Pharmaceutical And Clinical Research, 2016;9(2):314-317.
2. Darshana bennadi. Self-Medication: A Current Challenge. Journal of Basic and Clinical Pharmacy, 2014;5(1).
3. Girma Belachew Gutema, Diriba Alemayehu Gadisa. Self-Medication Practices among Health Sciences Students: The Case of Mekelle University" Journal of Applied Pharmaceutical Science,2011;1(10):183-189.
4. Vidyavati SD, Sneha A. et al."Self Medication- Reasons, Risks and Benefits. International Journal of Healthcare and Biomedical Research. 2016;4(4):21-24.
5. Naz Mohammed Ahmed, Dr. Karwan Hawez Sulaiman. et al."Self-Medication Practice among Patients Attending a sample of Primary Health Care Centers in rbil City. Journal of Education and Practice,2016;7(24).
6. Sineenart Chautrakarn, Waraporn Khumros. Self-Medication With Over-the ounter Medicines Among the Working Age Population in Metropolitan Areas of Thailand"Frontiers in Pharmacology. 2021;12.
7. Grace-Ange Elong Ekambi, Ce'cileOkalla Ebongue. Knowledge, practices and attitudes on antibiotics use in Cameroon: Self-medication and prescription survey among children, adolescents and adults in private pharmacies"2019.
8. Rohit K Verma, Lalit Mohan, Manisha Pandey. et al."Evaluation of self medication among professional students in North India: proper statutory drug control must be implemented"Asian Journal of Pharmaceutical and Clinical Research, 2010;3(1).
9. Del Toro Rubio, Moraima. Factors associated with self-medication in adolescents in the rural area of Cartagena, Colombia"Archivos de Medicina (Col), 2020;20(2).
10. Faten Alhomouda, Zainab Aljameaa. "Self-medication and self-prescription with antibiotics in the Middle East—do they really happen? A systematic review of the prevalence, possible reasons, and outcomes" International Journal of Infectious Diseases, 2017:3-12.