

# EXPLORING ATTITUDES TOWARDS THE USE OF ANTIBIOTICS AND SELF-MEDICATION PRACTICES

Shilpa K<sup>1</sup>, K. Revathi<sup>2</sup>, Bernaitis L<sup>2\*</sup>, T. Sasmitha<sup>3</sup>, R. Subha Dharshini<sup>3</sup>

<sup>1</sup>Department of Microbiology, Vydehi Institute of Medical and Research Center, Bangalore, Karnataka – 560066.

<sup>2</sup>Department of Noi Nadal And Noi Mudhal Naadal (Pathology Including Microbiology), Nandha Siddha Medical College and Hospital, Erode-638052.

<sup>3</sup>Under graduate students, Nandha Siddha Medical College and Hospital, Erode-638052.

Received: 15/11/2024 | Accepted: 20/12/2024 | Published: 03/01/2025

## Abstract:

**Background:** Self-medication, especially with antibiotics, is increasingly practiced among university students due to ease of access, cost-effectiveness, and perceived knowledge of treatment. However, improper self-medication can lead to serious health risks including antimicrobial resistance and treatment failure.

**Objective:** To evaluate the knowledge, attitudes, and practices of self-medication with antibiotics among university students.

**Methods:** A cross-sectional questionnaire-based survey was conducted among 210 students from diverse educational backgrounds. The questionnaire assessed their self-medication behavior, antibiotic use, sources of information, and awareness of risks.

**Results:** Approximately 53.8% of respondents reported self-medicating with antibiotics. Cost-saving and convenience were the primary motivations. Many students lacked accurate knowledge of dosages and relied on online sources or family advice. A significant number experienced adverse effects and sought medical help afterward.

**Conclusion:** Although self-medication provides short-term benefits, improper antibiotic use poses significant health risks. Educational campaigns and stricter pharmacy regulations are needed to promote safe practices.

**Keywords:** Self-medication, Antibiotic use, University students, Antimicrobial resistance, Over-the-counter drugs, Health behavior patterns.

## Cite this article:

Shilpa, K., Revathi, K., Bernaitis, L., Sasmitha, T., Dharshini, R.S., (2025). EXPLORING ATTITUDES TOWARDS THE USE OF ANTIBIOTICS AND SELF-MEDICATION PRACTICES. *World Journal of Applied Medical Sciences*, 2(1), 1-4.

## Introduction

Self-medication refers to the use of drugs by individuals to treat self-recognized conditions without consulting a medical professional. This includes the purchase of medicines without prescriptions, reusing old prescriptions, and using leftover medications from previous treatments [1]. It is a growing public health concern globally, particularly in low- and middle-income countries where healthcare access is limited [2].

While self-medication may provide a convenient way to manage minor health issues, it becomes dangerous when

individuals use prescription medications like antibiotics without adequate knowledge of their indications, dosages, or side effects [3]. Incorrect use of antibiotics can lead to antimicrobial resistance, adverse drug reactions, and complications from misdiagnosed illnesses [4,5].

Globally, the prevalence of self-medication with antibiotics ranges from 38% to 92% among different populations [6]. In Asia, the average prevalence is 71% (95% CI: 63–78%), which is among the highest globally [7]. Among students, particularly those pursuing higher education, self-medication is driven by the belief in their medical

## \*Corresponding Author

Bernaitis L\*

Department of Noi Nadal And Noi Mudhal Naadal (Pathology Including Microbiology), Nandha Siddha Medical College and Hospital, Erode-638052.

This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license



knowledge, availability of information online, time constraints, and cost-saving motives [8,9].

Common sources of medication advice include pharmacists, family members, previous prescriptions, and online content [10]. Although many students are aware of the risks, they often underestimate the consequences of inappropriate antibiotic use, such as resistance and masking of serious illnesses [11].

The World Health Organization (WHO) supports responsible self-medication for minor ailments but warns against its misuse, especially with antibiotics [12]. The growing trend of over-the-counter (OTC) antibiotic availability and poor regulatory control in developing nations has worsened the problem [13].

This study aims to assess the attitudes, knowledge, and practices regarding the use of antibiotics and self-medication among university students, to identify knowledge gaps and potential health risks, and to propose recommendations for safer practices.

## Materials and Methods:

### Study Design and Participants

A descriptive cross-sectional study was conducted among 210 university students from various disciplines. Participants were selected through convenience sampling.

### Inclusion Criteria

The inclusion criteria for the study required participants to be university students aged between 18 and 25 years who were willing to provide informed consent to participate in the research. Only those who met these conditions were considered eligible for inclusion in the study population.

### Data Collection Tool

For data collection, a pre-tested and structured questionnaire was employed as the primary tool. The questionnaire was carefully designed to gather comprehensive and relevant information regarding students' self-medication practices and antibiotic use. It was divided into several key sections. The first section captured demographic details, including age, gender, and field of study, to understand the background of the respondents. The second section focused on the frequency of self-medication, aiming to identify how often students engaged in this practice. The third section addressed the types of illnesses for which students typically self-medicated, such as respiratory or gastrointestinal symptoms. Another crucial part of the questionnaire explored the use of antibiotics without a valid prescription, highlighting the extent of potentially inappropriate antibiotic use. Additionally, the questionnaire included items to identify the sources from which students obtained both information and medications—such as pharmacies, online

platforms, or family advice. Finally, it assessed students' awareness of antibiotic resistance, potential side effects, and the risks associated with misuse, thereby providing insight into their knowledge and understanding of the implications of self-medication.

### Data Collection Procedure

Participants filled out the questionnaire voluntarily and anonymously. Data were collected over a four-week period. Ethical considerations were followed, including informed consent and confidentiality.

### Data Analysis

Data were analyzed using descriptive statistics (percentages and frequencies). SPSS software was used for data entry and analysis.

## Results

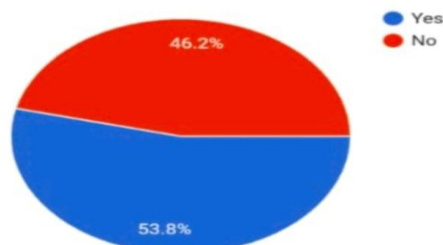
Out of the 210 respondents surveyed, 53.8% reported using antibiotics without a doctor's prescription, while 46.2% did not engage in antibiotic self-medication. Approximately 44.6% of students considered self-medication an acceptable practice for treating minor ailments. The most common conditions for which antibiotics were used included runny nose (28.5%), cough (25.7%), diarrhea (18.3%), and nasal congestion (14.8%). Pharmacies emerged as the primary source of antibiotics for 65% of the participants, with many of these establishments dispensing medications without requiring a valid prescription. The primary motivations for self-medication were cost-saving (47%), convenience (33%), and previous successful experience with the same medication (30%). When it came to seeking medical information, students largely relied on the internet (34%) and social media platforms (21%), while 19% consulted family members. Notably, 38% of those who practiced self-medication experienced adverse effects, prompting them to seek professional medical care afterward. Dosage determination was primarily based on personal experience or informal advice, rather than medical consultation or professional guidance.

### Figure 1: Distribution of Students Who Have Self-Treated with Antibiotics

This pie chart illustrates the percentage of students (N=210) who reported having treated themselves with antibiotics without professional medical advice. As shown, 53.8% responded "Yes," indicating engagement in self-medication with antibiotics, while 46.2% responded "No."

Have you ever treated yourself with antibiotics ?

210 responses

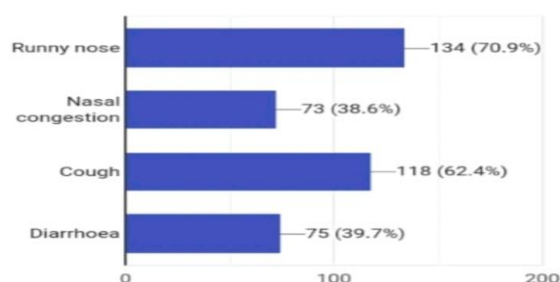


**Figure 2: Common Complaints for Which Students Used Antibiotics**

This bar chart presents the frequency of antibiotic use by students (N=189) for specific health complaints. The most common condition was **runny nose** (70.9%), followed by **cough** (62.4%), **diarrhoea** (39.7%), and **nasal congestion** (38.6%).

For which of the following complaint did you use antibiotics ?

189 responses



## Discussion

This study highlights the high prevalence of antibiotic self-medication among university students, aligning with findings from other countries. For instance, a study in Jordan found that 55.9% of university students used antibiotics without prescriptions [14]. Similar patterns were observed in India, where the prevalence ranged between 50–80% among youth populations [15,16].

Self-medication is often perceived as a practical approach to managing common ailments, especially in resource-limited settings. Students cite cost and time savings as primary motivators, which is consistent with previous literature [17]. However, the use of antibiotics for symptoms like the common cold and diarrhea — which are often viral — reflects a misunderstanding of the appropriate use of antibiotics [18].

The role of pharmacies dispensing antibiotics without prescriptions is concerning and represents a regulatory failure. Although WHO guidelines recommend that antibiotics should not be sold without prescriptions [12], this is rarely enforced in many countries, including India, Nepal, and several African nations [13,19].

Furthermore, students' reliance on the internet and social media for medical information increases the likelihood of misinformation and risky behavior [20]. A study conducted in Nigeria noted that 43% of students based their medication choices on online content rather than medical advice [21].

The findings underscore the need for educational interventions targeting students. Campaigns and curriculum changes emphasizing rational antibiotic use, dangers of resistance, and correct health-seeking behavior can mitigate the risks of self-medication [22]. In addition, policy enforcement to curb OTC sale of antibiotics is urgently needed to prevent misuse [23].

## Conclusion

This study demonstrates that self-medication with antibiotics is widespread among students, often driven by cost, accessibility, and misinformation. While self-care can be beneficial when done responsibly, the risks of misuse — especially of antibiotics — are considerable.

Improving students' awareness, tightening pharmacy regulations, and strengthening antibiotic stewardship programs in universities can reduce the prevalence and consequences of improper self-medication. Health education must be an integral part of university programs to promote rational drug use and combat antimicrobial resistance.

## References

1. Ruiz, M. E. (2010). Risks of self-medication practices. *Current drug safety*, 5(4), 315-323.
2. Omolase, C. O., Adeleke, O. E., Afolabi, A. O., & Ofolabi, O. T. (2007). Self medication amongst general outpatients in a Nigerian community hospital. *Annals of Ibadan postgraduate medicine*, 5(2), 64-67.
3. Bennett, P. N., & Brown, M. J. (2008). Nervous System: Pain and analgesics. *Clinical Pharmacology*. 10th ed. Edinburgh, Scotland: Churchill Livingstone, 293-6.

4. James, H., Handu, S. S., Al Khaja, K. A., Otoom, S., & Sequeira, R. P. (2006). Evaluation of the knowledge, attitude and practice of self-medication among first-year medical students. *Medical principles and practice*, 15(4), 270-275.
5. Grigoryan, L., Haaijer-Ruskamp, F. M., Burgerhof, J. G., Mechtler, R., Deschepper, R., Tambic-Andrasevic, A., ... & Birkin, J. (2006). Self-medication with antimicrobial drugs in Europe. *Emerging infectious diseases*, 12(3), 452.
6. Paula Martins, A., da Costa Miranda, A., Mendes, Z., Soares, M. A., Ferreira, P., & Nogueira, A. (2002). Self-medication in a Portuguese urban population: a prevalence study. *Pharmacoepidemiology and drug safety*, 11(5), 409-414.
7. Gupta P, Bobhate PS. (2011). Self-medication practices among medical students in Mumbai. *J Assoc Physicians India*. 59:100–1.
8. Hughes, C. M., McElnay, J. C., & Fleming, G. F. (2001). Benefits and risks of self medication. *Drug safety*, 24, 1027-1037.
9. World Health Organization. Guidelines for the regulatory assessment of medicinal products for use in self-medication. WHO/EDM/QSM/00.1. Geneva: WHO; 2000.
10. Bennadi, D. (2013). Self-medication: A current challenge. *Journal of basic and clinical pharmacy*, 5(1), 19.
11. Montastruc, J. L., Sommet, A., Lacroix, I., Olivier, P., Durrieu, G., Damase-Michel, C., ... & Bagheri, H. (2006). Pharmacovigilance for evaluating adverse drug reactions: value, organization, and methods. *Joint Bone Spine*, 73(6), 629-632.
12. WHO. (1998). The role of the pharmacist in self-care and self-medication. Report of the 4th WHO Consultative Group. Geneva: WHO.
13. Calva, J. (1996). Antibiotic use in a periurban community in Mexico: a household and drugstore survey. *Social science & medicine*, 42(8), 1121-1128.
14. Al-Azzam S, et al. (2007). Self-medication with antibiotics in Jordanian university students. *Pharm Pract (Granada)*.5(3):177–82.
15. Badiger, S., Kundapur, R., Jain, A., Kumar, A., Pattanshetty, S., Thakolkaran, N., ... & Ullal, N. (2012). Self-medication patterns among medical students in South India. *The Australasian medical journal*, 5(4), 217.
16. Shankar, P. R., Partha, P., & Shenoy, N. (2002). Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. *BMC family practice*, 3, 1-7.
17. Sawalha, A. F. (2008). A descriptive study of self-medication practices among Palestinian medical and nonmedical university students. *Research in Social and Administrative Pharmacy*, 4(2), 164-172.
18. Napolitano, F., Izzo, M. T., Di Giuseppe, G., & Angelillo, I. F. (2013). Public knowledge, attitudes, and experience regarding the use of antibiotics in Italy. *PloS one*, 8(12), e84177.
19. Okumura, J., Wakai, S., & Umenai, T. (2002). Drug utilisation and self-medication in rural communities in Vietnam. *Social science & medicine*, 54(12), 1875-1886.
20. Basak S, Sathyanarayana D. (2010). Community pharmacists' attitudes towards the use of antibiotics. *Int J Pharm Pract*.18(2):70–6.
21. Afolabi, A. O. (2008). Factors influencing the pattern of self-medication in an adult Nigerian population. *Annals of African medicine*, 7(3), 120-127.
22. Dutta R, Raja D, Dcruz S, Kasav JB, Bhargava A. (2013). Practice and awareness regarding self-medication among students. *Natl J Med Res*. 3(1):14–7.
23. Llor, C., & Bjerrum, L. (2014). Antimicrobial resistance: risk associated with antibiotic overuse and initiatives to reduce the problem. *Therapeutic advances in drug safety*, 5(6), 229-241.