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Original Research Article

A community based study to assess the reasons behind self-medication of antibiotics among college students

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ABSTRACT

Self-medication with antibiotics among college students is a growing concern due to its potential adverse effect and emergence of antibiotic resistance. This study was aimed to investigate the prevalence, reasons, and associated factors of self-medication with antibiotics among college students in Dakshin Kannada. Understanding the extent of self-medication practices and underlying motivations can inform targeted interventions to promote responsible antibiotic use and mitigate the risks associated with inappropriate antibiotic use.

A cross-sectional survey was conducted among college students to assess self-medication practices with antibiotics. A structured questionnaire was administered to collect data on demographic characteristics, self-medication behaviour, reasons for self-medication, sources of antibiotics, knowledge and awareness of antibiotic use, and healthcare-seeking behaviour. The data were analysed.

Demographic analysis revealed a predominantly young population, with 67.4% of respondents admitting to practicing self-medication with antibiotics. Convenience, cost-saving, and previous successful experiences with antibiotics were identified as primary motivations for self-medication. Antibiotics were often obtained from leftover prescriptions or through informal channels like friends or family members. Awareness of the risks associated with self-medication was relatively low, but a significant proportion of students sought professional medical advice afterward, particularly in cases of persistent or worsening symptoms.

The study highlights the widespread practice of self-medication with antibiotics among college students, driven by factors such as convenience and cost-saving. Efforts to improve education and awareness on self-medication of antibiotic are warranted to promote responsible antibiotic use and mitigate the emergence of antibiotic resistance.

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1. Introduction

This study is a community-based study aimed at investigating the reasons behind self-medication of antibiotics among college students. Self-medication with antibiotics without consulting a healthcare professional is a concerning practice that can lead to antibiotic resistance, adverse reactions, and other health risks. Understanding

the factors influencing self-medication behaviours among college students is essential for developing targeted interventions to promote responsible antibiotic use and mitigate potential health hazards.

The objectives of this study were to determine the prevalence of self-medication of antibiotics among college students and to explore the underlying reasons for this practice, such as convenience, cost-saving, and lack of access to healthcare services. Additionally, the study aims

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to assess the level of knowledge and awareness that college students have regarding the potential risks associated with self-medication of antibiotics. Finally, the study seeks to examine the healthcare-seeking behavior of students after they have self-medicated with antibiotics, providing a comprehensive understanding of their practices and attitudes toward antibiotic use.

2. Materials and Methods

This study was conducted through a community-based online survey employed a cross-sectional design to gather data on the self-medication of antibiotics among college students. The study is scheduled to take place over a two-month period, from 1st March to 30th April 2024. During this time, participants will be enrolled to provide insights into their self-medication practices, with the total number of participants constituting the sample size for the study.¹⁻³

2.1. Inclusion criteria

1. College students currently enrolled in academic programs within the community.
2. Students aged 18 years and above.
3. Students who provide informed consent to participate in the study.

2.2. Exclusion criteria

1. Individuals who are not currently enrolled in college or academic programs.
2. Students below the age of 18.
3. Students who do not provide informed consent to participate in the study.

2.3. Data source

Structured questionnaire will be developed based on relevant literature and research objectives. The questionnaire will include sections on demographic information, self-medication behaviours, reasons for self-medication, knowledge and awareness of antibiotic risks, healthcare seeking behaviour, and interest in educational interventions.

3. Result and Discussion

The community-based study on self-medication of antibiotics among college students in Dakshin Kannada revealed several significant findings regarding demographic characteristics, self-medication practices, knowledge, awareness, and healthcare-seeking behavior.

Demographically, the study encompassed a predominantly young population, with 73.3% falling within the age range of 18-21 years. Additionally, a majority of the respondents were female (57.1%), and a significant proportion were pursuing undergraduate degrees

in health or medicine-related fields (40.5%).⁴⁻⁸

The study found that a considerable number of college students (67.4%) had practiced self-medication with antibiotics without consulting healthcare professionals.

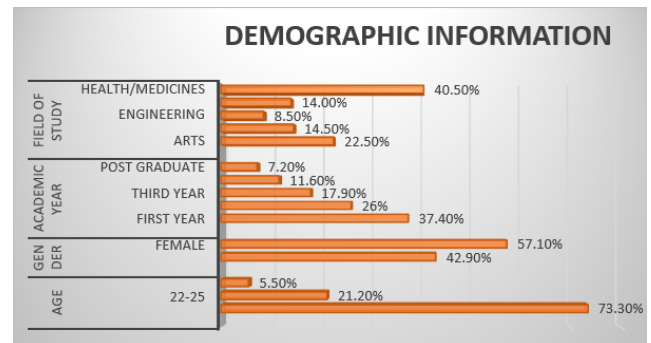


Figure 1: Demographic information

Among them, self-medication was often practiced on a sporadic basis, with 49.9% doing so rarely. The primary reasons cited for self-medication included convenience (49%), cost-saving (30.8%), and previous successful use of antibiotics for similar symptoms (29.8%).

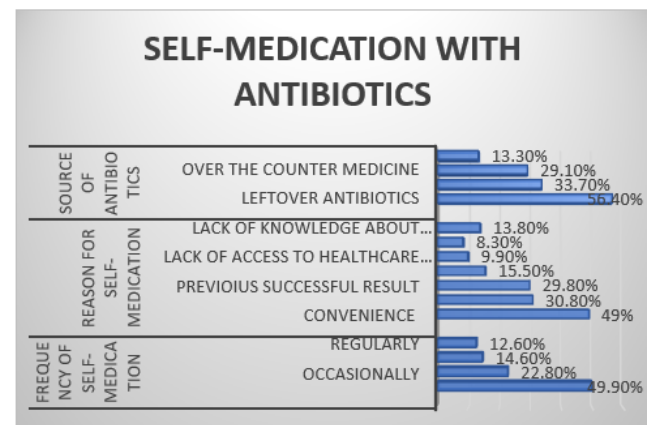


Figure 2: Self-medication of antibiotics

Interestingly, many students obtained antibiotics for self-medication from leftover prescriptions (56.4%), while others acquired them from friends or family members (33.7%) or purchased them over the counter (29.1%).

However, awareness of potential risks associated with self-medication, such as antibiotic resistance and adverse reactions, was relatively low, with only 52.7% indicating awareness.

Despite the prevalence of self-medication, a significant proportion of students (38.3%) sought professional medical advice afterward, particularly in cases of persistent or worsening symptoms (42.9%) and the development of new symptoms (30.2%).

Table 1: Self-Medication of Antibiotics

Self-Medication of Antibiotics Questions	Responses [%]
5. Have you ever practiced self-medication with antibiotics without consulting healthcare professionals?	
yes	366 (67.4)
no	177 (32.6)
6. If yes, how frequently do you self-medicate with antibiotics?	
a. Rarely	249 (49.9)
b. Occasionally	114 (22.8)
c. Often	73 (14.6)
d. regularly	63 (12.6)
7. What is the main reason for practicing self-medication with antibiotics?	
a. Convenience	266 (49)
b. Cost saving	167 (30.8)
c. Previous successful use of antibiotics for similar symptoms	162 (29.8)
d. Lack of time to visit healthcare professionals	79 (14.5)
e. Lack of access to healthcare services	54 (9.9)
f. Influence of friends or family members	45 (8.3)
e. lack of knowledge about the potential risks of self-medication	75 (13.8)
8. How do you usually obtain antibiotics for self-medication?	
a. Leftover antibiotics from previous prescription	306 (56.4)
b. Obtained from friends or family members	183 (33.7)
c. Purchased over the counter from the pharmacies or stores	158 (29.1)
d. Purchased online without prescription	72 (13.3)

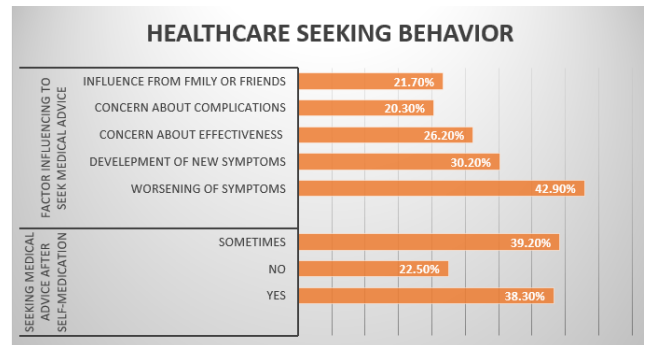


Figure 4: Healthcare seeking behavior

Regarding education and awareness, a substantial number of students (47.1%) reported receiving guidance on the appropriate use of antibiotics, and the majority expressed interest in attending educational sessions or workshops on the topic (56.9%).

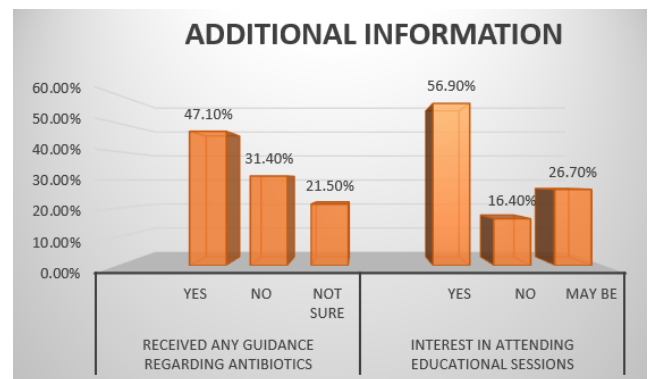


Figure 5: Additional information

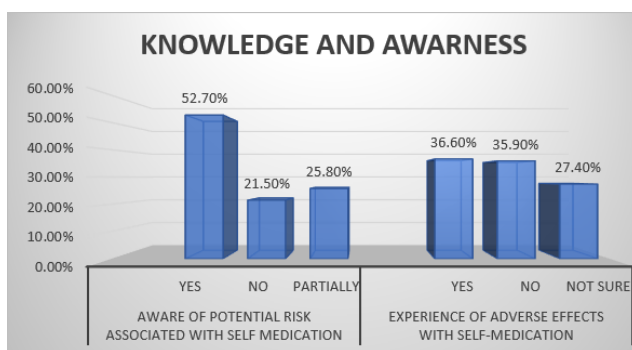


Figure 3: Knowledge and awareness

4. Discussion

Among the participants, majority of were women, with a higher proportion pursuing under graduate degree in health or medical related fields.

This study demonstrated that high percentage of students had self-medicated themselves with antibiotics without consulting health care professionals is similar with a Malaysian study showed that university students are more inclined to use antibiotics. Tiong T.W. and Chua S.S.⁴ This was further supported by the study conducted among medical and non-medical students at two prominent university in Benghazi city, Libya by Ghaieth M.F., Elhag S.R.M., Hussein M.E. et al.⁵

Awareness of potential risks associated with self-medication, such as antibiotic resistance and adverse reactions, was relatively low. This was consistent with studies in other countries which demonstrated that a majority of healthcare students had good knowledge but

poor attitude towards the use of antibiotics.⁴This will lead to the development of antibiotic resistance. Consumption of left-over antibiotics were the main source of self-medication with antibiotics followed by friends or family members and pharmacies similarity was observed in a study by Khan R et al.⁶ The primary reason cited for self-medication included convenience, cost saving and previous successful use of antibiotics for similar symptoms. Other reasons such as lack of time to visit healthcare professionals, lack of knowledge about the potential risk of self-medication, lack of access to healthcare services and influence from friends or family members in descending order this statement is supported by the similar study of Haque M., Rahman N.Z., McKimm J., et al.² In this study, it was showed that persistence or worsening of symptoms and development of new symptoms are the major factors which influences the participants to seek professional medical advice.

Self-medication with antibiotics is not recommended due to the risk of antibiotic resistance, making infections harder to treat. Antibiotics should only be used when prescribed by a healthcare provider after a proper diagnosis. Although self-medicating might seem convenient, especially with familiar symptoms, it's essential to use antibiotics judiciously and only under professional guidance to ensure their effectiveness and safety.

5. Conclusion

In conclusion, the study highlights the widespread practice of self-medication with antibiotics among college students in Dakshin Kannada, driven by factors such as convenience and cost-saving. However, there is a notable lack of awareness regarding the potential risks associated with self-medication. Efforts to improve education and awareness on antibiotic use and the risks of self-medication are warranted to promote responsible antibiotic use and mitigate the emergence of antibiotic resistance.

6. Source of Funding

None.

7. Conflict of Interest

None.

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