

# Self-Medication with Antibiotics Among Third Year Medical Students

Self-Medication  
Among Medical  
Students

Afsheen Siddiqi<sup>1</sup>, Zainab Nazneen<sup>2</sup>, Syed Yasir Hussain Gilani<sup>3</sup>, Nadia Haleem<sup>1</sup>, Wajid Ali<sup>4</sup>  
and Haq Nawaz<sup>1</sup>

## ABSTRACT

**Objective:** This study was conducted to assess the frequency and the common reasons of using antibiotics for the purpose of self-medication among the medical students, the highly educated youth of a country as little is known about self-medication with antibiotics in medical students in this region.

**Study Design:** This descriptive cross sectional study.

**Place and Duration of Study:** This study was conducted in Ayub Medical College Abbottabad from Jan 2020 to June 2020.

**Materials and Methods:** We performed this study on Third year MBBS and second year BDS students. Data was collected through self-administered questionnaire and analyzed using SPSS version 16.

**Results:** Among 240 medical students 65% were male and 35% were female. Prevalence of self-medication with antibiotics in this study was found to be 85%. Convenience (56%) or over the counter drugs was the most common reason for self-medication and sore throat (37.1%) was the most common ailment for which antibiotics were used by the students. 40 % of students discontinued the drug during treatment, the reason being disappearance of symptoms. Participants (53%) accepted that self-medication with antibiotics could be harmful and is unacceptable.

**Conclusion:** In spite of being highly aware of the deleterious outcomes of self-medication, prevalence of self-medication with antibiotics was found to be high among the medical students. Hence further research is needed to study the patterns for antibiotic usage so that appropriate interventions could be made.

**Key Words:** Self-medication, medical students, antibiotics

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## INTRODUCTION

Self-medication is the traditional use of medication including drugs and herbs without the consultation of a doctor or health care professional.<sup>1</sup> It is the target of Millennium Development Goal to make sure the affordability and accessibility of essential drugs in developing countries. In accordance with this, self-medication is one of the main contributors for irrational use of medicines.<sup>2</sup> There is day by day rise in the prevalence of self-medication graph throughout the world. It is estimated that in developing countries 80 % of all the medicines are purchased without prescription and these include analgesics, antipyretics, anti-inflammatory drugs, CNS depressants, psycho stimulants and opiates etc.<sup>3</sup>

<sup>1</sup>. Department of Pharmacology / Community Medicine<sup>2</sup>/ Medicine<sup>3</sup>/Biochemistry<sup>4</sup>, Ayub Medical College Abbottabad.

Correspondence: Dr. Afsheen Siddiqi, Associate Professor of Pharmacology, Ayub Medical College, Abbottabad.

Contact No: 03345092422

Email: drafsheenfaisal@gmail.com

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The major problem with self-medication is the irrational use of antibiotics which has a number of unacceptable effects in the form of drug resistance, treatment failure, increase in antibiotic cost, extended hospitalization and increase morbidity and mortality.<sup>4</sup> Antibiotics take one of the highest positions among prescribed drugs worldwide but at the same time they are posing a big public health threat in the form of antimicrobial resistance. Statistics show that their irrational use is a danger for not only developing countries but also for developed countries.<sup>5</sup>

According to studies, level of education can be taken as one of the most relevant predictor of self-medication. Many studies have been conducted on tertiary level students around the world as they contribute to the highly educated portion of a country's population and possess more knowledge about health. Being more specific, students of medical colleges are the future health providers.<sup>6</sup>

Pakistan based data shows that 79% of self-medication practice is contributed by private sector.<sup>7</sup> Multiple studies in Pakistan showed the prevalence of self-medication with all medicines to be 61% and 66%.<sup>8,9</sup> However, data at the regional level on self-medication as a whole among medical students indicates its prevalence to be much higher i.e. 99%.<sup>10</sup> While a study conducted in Karachi on self-medication with antibiotics in particular shows its prevalence to be 71.4%.<sup>11</sup>

Determinants of self-medication in Pakistan include easy accessibility to drugs, excessive marketing of medicines, inadequate health knowledge, poor regulatory authorities, unreachable health care workers and paucity of medical facilities.<sup>12</sup> Therefore aim of this study was to determine the frequency and common reasons for the use of antibiotics as self-medication among medical students. It will help to draw awareness among the medical students about the adverse outcomes associated with self-medication with antibiotics. It will also be beneficial for developing appropriate interventions for its prevention.

## MATERIALS AND METHODS

This study was conducted in Ayub Medical College Abbottabad from 15<sup>th</sup> Jan 2020 till 15<sup>th</sup> June 2020. It was a descriptive cross sectional study. Ethical approval was taken by the Ethical committee of Ayub Medical College. We approached the medical students through lecture hall for data collection. All the currently enrolled 3<sup>rd</sup> year MBBS and 2<sup>nd</sup> year BDS students were included in the study. Out of the total 275 students, 240(87%) students responded of which 218 were from 3<sup>rd</sup> year MBBS and 22 from 2<sup>nd</sup> year BDS. A self-administered questionnaire was given to the students for collection of data after taking fully informed verbal consent and their confidentiality was guaranteed. Questionnaire was about the use of antibiotics and various aspects related to antibiotics and their opinion about self-medication with antibiotics. Data was entered and descriptive analysis of the data was done using SPSS version 16.

## RESULTS

In this study total number of students was 240 among which 90% were from MBBS and 10% from BDS. 157 students (65%) were male and 83 female (35%). 198 students (83%) were boarders. Prevalence of self-medication with antibiotics was 85%(Table 1). Among 134 students (56%) convenience was the most common reason for self-medication with antibiotics and sore throat was the most common complaint (37%) for taking antibiotics (Table 2). It was noticed that previous experience with antibiotic led to the selection of antibiotic in (31%) of cases. 34% students selected antibiotic by studying the literature. Most of the students (34%) got idea about dosage from family members. 95 students (40%) switched to another antibiotic during the course of treatment as antibiotic did not work in 112 students (48% of cases) as shown in (Table 3). When asked about discontinuation of antibiotics, 97 students (40%) stopped taking antibiotic when symptoms disappeared. Results demonstrated that among 128 (53%) self-medication was not an acceptable method.

**Table No. 1: Ever self-medicated with antibiotics**

Answer	Frequency	Percent
Yes	205	85.4
No	35	14.6
Total	240	100.0

**Table No.2: Complaints for using antibiotics**

Complaints	Frequency	Percent
Runny nose	23	9.5
Nasal congestion	15	6.3
Cough	24	10.0
Sore throat	89	37.1
Fever	20	8.3
Aches & pains	9	3.8
Diarrhea	11	4.6
Skin wounds	3	1.3
Others	11	4.6
NA	35	14.6
Total	240	100.0

**Table No 3: Reasons for switching antibiotic**

Reasons	Frequency	Percent
Former did not work	112	46.7
Former ran out	15	6.3
Later one was cheaper	9	3.8
Adverse effects of former	44	18.3
Others	25	10.4
NA	35	14.6
Total	240	100.0

## DISCUSSION

Self-medication is self-consumption of drugs for the treatment of illness without seeking advice from a physician. In a country like Pakistan, with weak law enforcing systems, effective and safe use of medicines cannot be guaranteed. One can understand the utilization of drugs by those with no knowledge of medicine but the picture gets worsened when it comes to the most educated population of a country with complete awareness. The purpose of this study was to assess the prevalence of self-medication with antibiotics among third year medical students.

In this study frequency of self-medication with antibiotics among medical students was 85% which is quite near to the study conducted by Aslam M et al in Karachi<sup>11</sup>, while variable prevalence rates are reported by diverse studies showing 70% prevalence in Ghana<sup>4</sup>, 53% in Nigeria<sup>11</sup> and 71% in India<sup>12</sup>. Prevalence results may vary from country to country due to variable demographic features, different socioeconomic conditions and methodologies. Poor restrictions on the sale of antibiotics in Pakistan has led to easy accessibility to antibiotics which is one of the major reason for high prevalence of self-medication and the

current study demonstrated that “convenience” was the main reason for self-medication in 56% of students other factors being ignorance, lack of time and cost saving. This finding was consistent with the work done by Bennadi.<sup>13</sup> In our study sore throat was the most common reason for the use of antibiotics due to geographical conditions and weather differences in this area which is supported by a study with comparable objectives conducted in Nepal G<sup>14</sup> however contrasting results were seen in a Nigerian study where diarrhea was the major reason for the use of antibiotics<sup>11</sup>. In our study previous experience with antibiotic for treating similar illness was the major reason of antibiotic selection which was also mentioned in a study in Ethiopia.<sup>15</sup> In a recent study information of medicine was acquired by studying package inserts in 63% of nursing students<sup>16</sup> which is in agreement with our study. Various analysts<sup>17,18</sup> revealed that respondents switched antibiotic during the treatment because it was found ineffective. The present study was in concordance with these studies. When asked about the discontinuation of medicine 40% students stopped taking antibiotic when symptoms disappeared which is analogous with the findings of another study where 28% discontinued antibiotic when symptoms disappeared<sup>19</sup>. As self-medication is not a justifiable act, our students (58%) regarded it as a harmful act which is in agreement with a study in Karachi where it was not acceptable.<sup>19</sup>

## CONCLUSION

This present study demonstrated the high use of antibiotics among third year medical students. Controlling the usage of antibiotics is of utmost significance not only among the general population but also among the health providers. Awareness about the outcome of irrational use of antibiotics in the form of awareness programs must be stressed especially about antimicrobial resistance to avoid imminent future medical disaster. Government should make efforts to discourage this practice as much as possible by making strong policies regarding dispensing of antibiotics.

### Author's Contribution:

Concept & Design of Study:	Afsheen Siddiqi
Drafting:	Afsheen Siddiqi, Syed Yasir Hussain Gilani
Data Analysis:	Zainab Nazneen, Wajid Ali,
Revisiting Critically:	Haqnawaz, Nadia Haleem
Final Approval of version:	Afsheen Siddiqi, Zainab Nazneen

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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