

## Self-Medication Among Undergraduate Students

Hina Khan, Jamil Ahmed Siddiqui, Muhammad Sajid Khan, Khaliq-ur-Rehman, Asad Raza Jiskani, Devi Kumari, Abdul Hayee, Muhammad Ahmad

### ABSTRACT:

**Objective:** To evaluate the frequency of self-medication among undergraduate students of medical sciences

**Study design and setting:** Cross-sectional Study was conducted at Al-Tibri Medical College Hospital, from October 2019 to February 2020.

**Methodology:** Data was collected after an ethical approval of concerned institute; total of 150 students included from the 1st, 3rd and final year of MBBS. Valid questionnaire was used to evaluate the response of the participants regarding self-medication. Verbal consent was taken from the students, and then they were asked to fill their responses. Data was evaluated in the form of frequency and percentages through SPSS version 21.0. Chi-square test was applied, and the level of significance was considered  $p < 0.05$

**Results:** Out of total of 150 students, 58.7% were males and 41.3% females. In students of 1st, 3rd and 5th year the most common morbidity for seeking self-medication was headache, flu/cough, fever, and pain. The percentage of drug/ drug groups commonly used for self-medication included antipyretics being 36%, 54% and 64%, antibiotics were 50%, 86% and 90%, and analgesics was 42%, 62% and 64% in 1st, 3rd and 5th years respectively. Common reasons for pursuing self-medication were minor illnesses (50%, 81%, 94%), easy availability (52%, 82%, 92%) and quick-relief (50%, 58%, 100%) in 1st, 3rd and 5th year respectively.

**Conclusion:** In the present study, self-medication was observed in a large percentage of students. Thus, medical curricula need further consideration to promote awareness regarding the disadvantages of self-medication in undergraduates so we can curb this self-medication culture from our society.

**Keywords:** Drug, Medical sciences, Self-medication, undergraduate

### How to cite this Article:

Khan H, Siddiqui JA, Kham MS, Rehman KU, Jiskani AR, Kumari D, Hayee A, Ahmad M. Self-Medication Among Undergraduate Students. *J Bahria Uni Med Dental Coll.* 2020; 10(4): 277-281

#### Hina Khan

Associate Professor, Department of Anatomy,  
Al-Tibri Medical College and Hospital, Karachi  
Email: drhinasalman@gmail.com

#### Jamil Ahmed Siddiqui

Assistant Professor, Department of Biochemistry  
Fazaia Ruth Phau Medical College (FRPMC) Faisal Base,  
Karachi

#### Muhammad Sajid Khan

Associate Professor, Department of Physiology  
Shahida Islam Medical & Dental College, Lodhran

#### Khaliq-ur-Rehman

Senior Lecturer, Department of Anatomy  
Chandka Medical College, Larkana

#### Asad Raza Jiskani

Associate Professor, Department of Community Medicine,  
Al-Tibri Medical College and Hospital, Karachi

#### Devi Kumari

Senior Lecturer, Department of Anatomy  
Al-Tibri Medical College and Hospital, Karachi

#### Abdul Hayee

Fourth Year MBBS Student  
Al-Tibri Medical College and Hospital, Karachi

#### Muhammad Ahmad

Fourth Year MBBS Student  
Al-Tibri Medical College and Hospital, Karachi

Received: 02-Jun-2020

Accepted: 24-Aug-2020

### INTRODUCTION:

Medication is a term often practiced for medicines and pharmaceutical drugs intended for the treatment of several diseases. Unfortunately the trend of self-medication without prescription of physician has been widely under practice by people mostly to treat general health problems.<sup>1</sup> The practice of self-medication has been frequently noticed. The self-medicated drugs utilized regularly include analgesics, antipyretics, anti-emetics, and certain cough syrups.<sup>2</sup> Self-medication has been described by the WHO (World Health Organization) as humans being treated by selecting the medications by themselves in disguise for diagnosed diseases.<sup>3</sup> The practice of self-medication is increasing worldwide, especially reported in underdeveloped countries.<sup>4</sup> Many factors create a base in the progress of self-medication like drug availability, easy accessibility, and economic and cultural trends. In terms of psychological factors, the self-satisfaction level in people also contributes to self-medication worldwide. Rise in social, educational, economic status resulting from amended educational levels with vast approaches toward evidence and facts; and raising awareness of personal health is increasing their needs to take their resolution and decision for fitness.<sup>5</sup>

University students are more prone to the self-medication

practices discovered by several studies.<sup>6</sup> Due to the publicity of drugs by multiple pharmaceutical companies and diversities of advertisements increase their keenness to use the drugs. These students are utilizing the products without consulting any medical practitioner.<sup>7</sup> In addition to that, most university students use medicines with their previous experience which they might have used in the past for similar problems. Also by the opinion of some friends or colleagues have noticed some common problems noticed in students. Furthermore lacking time, unavailability of the transport system is also considered the issues which enhance the self-medication in the university students.<sup>8</sup> The practice of self-medication proportion rate under different areas, such as in Asia, becomes 4-7.5% that can be considered comparatively higher than that of Northern Europe, which is about 3%.<sup>9</sup>

Self-medication comprises of two divisions, distinctly divided from each other based on the practice of self-medication including responsible practice and the other being irresponsible one. When individuals are utilizing the medicines without any prescription, but under professional advice that could be readily available is called over-the-counter (OTC) drugs. According to the Saudi FDA, it is included in responsible self-medication practice. Another category that is very dangerous and creates problems worldwide is that the drugs are being used without medical practitioners' advice and not obtainable legally.<sup>10</sup>

The rationale was to educate the students and improve their curriculum based on the results. The study's primary purpose was to evaluate the frequency of self-medication among undergraduate students of MBBS. At first-year level, the knowledge of the students are not sufficient, however, moving to the higher levels, like in 3rd-year, pharmacology subject is part a curriculum so, the frequency of self-medication should be increase as compared to 1st year. For final years, they know the management and diagnosis, and the frequency of self-medication should be more than others.

#### METHODOLOGY:

A cross-sectional study was done at Al-Tibri Medical College and Hospital from October 2019 to February 2020. A total of 150 numbers of undergraduate students from MBBS, 1st, 3rd and 5th years were included after taking verbal consent. The data was collected by using a valid questionnaire<sup>11</sup>; was used for the evaluation of self-medication among the medical students of South India. The study was approved from ethical review committee numbered IERC/ATMC/19/46. The briefing of the questionnaire was given to the participants and both genders were included based on convenient sampling. Non-medical students and students from allied medical sciences were excluded from the study. Data were analyzed through SPSS version 21.0 and presented in the form of frequencies and percentages. The Chi-square test was applied, and  $p < 0.05$  was considered as statistically significant.

#### RESULTS:

In this study, 150 medical students of 1st, 3rd and final years were included in which male students were 88 (58.7%), and female students were 62 (41.3%). Table 1 shows frequency and percentage of indication for self-medication among undergraduates and level of significance. Figure 1 shows percentage of reasons for self-medication among undergraduate medical students. The results observed the significant differences among the different levels of students in all given reasons was  $< 0.001$ . Figure 2 shows percentage of types of self-prescribed medicine among undergraduate medical students. The level of significance found in analgesics was 0.023, in antipyretic 0.016 as statistically significant. In prescribing antidiarrheals, antiemetics, antibiotics and sedatives the significant level observed with p-value was  $< 0.001$ . While the self-prescribed antacids with p value of 0.05. Table 2 shows frequency and percentage of miscellaneous drugs that are commonly prescribed as self-medication. There was a significant difference in prescribing vitamin P= ( $< 0.001$ ), and insignificant difference was found in ophthalmic preparation with a  $p = 0.266$  and  $p = 0.066$ .

Data of the present study also assessed the precautions that should be taken during self-medication. Frequency and percentages of students idea about self-medication among the students of 1st year was 29(58%), 3rd year 41(82%) and 5th year about 46(92%) and there was a significant difference among the students  $p = < 0.001$ . One of the main things is an idea about the complication of the self-prescribed drug which was in 1st-year students as 23(46%), 3rd years 29(58%) and final years 34(68%) respectively. There was no significant difference found among the students with a p value of 0.084, so there was uncertainty regarding the complication of prescribed drugs. Frequency and percentage of students that routinely check the insert of prescribed medicine was 32(64%) from 1st year, 44(88%) from 3rd year and 34(68%) from final year students with the significant difference among the students with a p value of 0.015. One of the important factors, checking of expiry date before use among first-year students was 36(72%), 44(88%) of 3rd year and 43(86%) from the final years. There was a significant difference found among the students with a p value of  $< 0.001$ .

#### DISCUSSION:

Various studies have generally remarked on the pattern of self-medication. In this study, it was evaluated in undergraduate students of medical sciences from 1st, 3rd and 5th year students. It was estimated that the frequency of self-medication would be high in 3rd years and 5th-year students compared with 1st-year students as they know of medicines. These findings are equivalent to the study conducted in the medical college of West Bengal.<sup>12</sup> Another research on 2nd year and fourth-year students of Arabian Gulf University Bahrain also revealed the frequent use of self-medication among 4th-year students compared with 2nd years.<sup>13</sup>

Table 1: Indications for Self-Medication among undergraduate medical students

Symptoms	1 <sup>st</sup> year		3 <sup>rd</sup> year		5 <sup>th</sup> year		P=value
	Yes	No	Yes	No	Yes	No	
<i>Response</i>							
Headache	30(60%)	20(40%)	45(90%)	5(10%)	45(90%)	5(10%)	<0.001
Cough/Flu	29(58%)	21(42%)	45(90%)	5(10%)	41(82%)	9(18%)	<0.001
Fever	29(58%)	21(42%)	38(76%)	12(24%)	41(82%)	9(18%)	0.021
Stomachache	13(26%)	37(74%)	31(62%)	19(38%)	36(72%)	14(28%)	0.022
Diarrhea	17(34%)	33(66%)	20(40%)	13(60%)	36(72%)	14(28%)	<0.001
Menstrual symptoms	2(4%)	48(96%)	23(46%)	27(54%)	16(32%)	34(68%)	0.270
Rash/Allergy	20(40%)	30(60%)	25(50%)	25(50%)	28(56%)	22(44%)	0.014
Anxiety	14(28%)	36(72%)	25(50%)	25(50%)	28(56%)	22(44%)	0.012
Ear problem	9(18%)	41(82%)	8(16%)	42(84%)	8(16%)	42(84%)	0.953
Vomiting	18(36%)	32(64%)	27(54%)	23(46%)	38(76%)	12(24%)	<0.001
Eye infection	6(12%)	44(88%)	18(36%)	32(64%)	16(32%)	34(68%)	0.015
Skin Problem	11(22%)	39(78%)	14(28%)	36(72%)	24(48%)	26(52%)	0.013
Toothache	8(16%)	42(84%)	17(34%)	33(66%)	34(68%)	16(32%)	<0.001
Insomnia	58(10%)	45(90%)	11(22%)	39(78%)	12(24%)	38(76%)	0.151
Pain	25(50%)	25(50%)	39(78%)	11(22%)	45(90%)	5(10%)	<0.001

Table 2: Miscellaneous Type of Self-Prescribed Medicine

Type of Drug	1 <sup>st</sup> year		3 <sup>rd</sup> year		5 <sup>th</sup> year		P=value
	Yes	No	Yes	No	Yes	No	
Vitamins	20(40%)	30(60%)	21(42%)	29(58%)	40(68%)	10(32%)	<0.001
Ophthalmic preparations	6(12%)	44(88%)	7(14%)	43(86%)	12(24%)	38(76%)	0.226
Cosmetic products	18(36%)	32(64%)	18(36%)	32(64%)	28(56%)	22(44%)	0.066

Figure 1: Reasons for Self-Medication among undergraduates

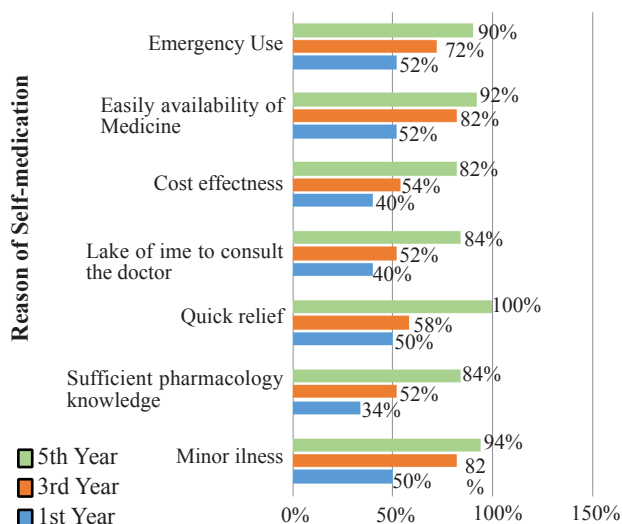
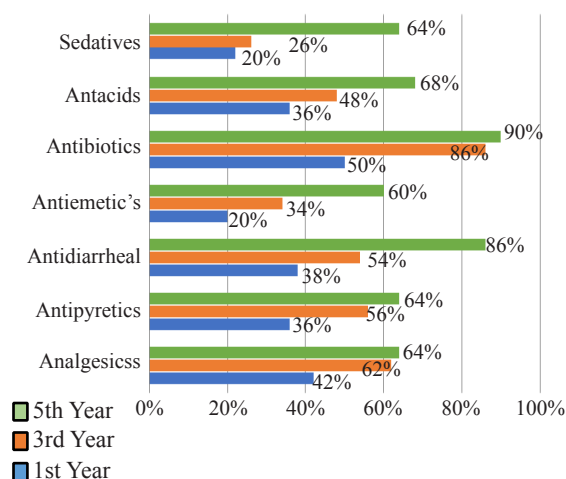


Figure 2: Type of Self-Prescribed Medicines



In comparison with that, the study conducted in 2011 on 1st and 3rd-year medical students noticed no significant difference.<sup>14</sup>In the present study, the most common indication for self-medication noticed in students of 1st, 3rd and 5th

years was headache, flu/cough, fever and pain with a p-value of < 0.001. Another study conducted on medical and non-medical students in which the medical students were observed to practice self-medication for bacterial and viral

infections had a p value of 0.001. While the medicines frequently consumed were analgesics, which were about 88.5%, others are antipyretics and vitamins.<sup>10</sup> In contrast with that in the current study, it was noticed that antibiotic consumption was more prevalent in the 5th year students. One of the studies conducted in Nepal noticed that the common utilization of drugs is 31% of antipyretics, 26.2% of antibiotics, 18.89% of analgesics, 10.1% of antihistaminics.<sup>15</sup> While in the current study, the percentage of antipyretics was 36%, 54%, and 64%; antibiotics were 50%, 86%, and 90%, analgesics was 42%, 62%, and 64% in 1st, third and 5th years respectively. According to the study of King Khalid University about the consumption of self-medication among the medical and non-medical students, the results showed that the majority of the medical and non-medical students prescribed self-medication.

The government authorities have to take an initial step to stop this unethical practice and improve awareness among the students. Similarly, in our society by the results of this study, maximum students agreed with their involvement in prescribing self-medication. The only difference was found among the initial level students as compared to other higher level of students.<sup>16</sup> One of the studies was conducted at the University of Gondar (Ethiopia) among the medical and non-medical students to evaluate the perception of self-medication from student's standpoint. The results concluded that the common ratio of students, both medical and non-medical had significantly engaged in self-medication with maximum students involved in prescribing analgesics same as in the present study.<sup>17</sup> Following the study in Iran which was designed to evaluate two different theories related to the Health Belief Model of self-medication and self-therapy among 90 students from medical sciences, the data was collected through test scores. After giving knowledgeable session to the students regarding benefits and hazards related to self-therapy or medication, students got higher scores in post-test analysis and researcher achieved his goal to educate the students about the consequences of self-medication.<sup>18</sup> Malaysian Defense University conducted a study about self-prescribed antibiotics by the students of medical sciences with results similarly showing significant number being involved in prescribing antibiotics as a purpose of self-medication. The ratio was approximately similar among medical and non-medical students. As per the study results of the present study, there is a higher percentage of medical students involved in self-prescribing drugs even in respect to students from any level.<sup>19</sup> Research that was conducted among the undergraduate students of pharmacy from Bangladesh about 88% of the total participants were involved in self-prescribing practice. About 83% of students had habit to check the label and 87% surely considered the expiry date. The study concluded higher percentage of undergraduate students involved in self-medication practice specifically in minor cases.<sup>20</sup> The reason might be that the students of 1st

year up till now do not go through the details of medications. Meanwhile, it is at a disquieting leap that learning and training of the students is necessary. Still, self-medication is tough to eliminate and the risks of drug interfaces with its adverse effects might upsurge.

It is recommended that through these findings, the medical curriculum should be upgraded to make the students aware regarding the unethical aspect of the self-medication, their consequences. Being a part of community and as health advocates, it is our responsibility to stop this unwanted act of medical or non-medical persons and take a step to eradicate the culture of self-medication from our society.

To address the limitations of the study, there may be an issue of accuracy and respondents may give fake information. Surveyor bias, may ask the question just to stimulate for the desire response. In-depth information may not be elicited and sample may not be a proper representation of the population.

#### CONCLUSION:

The results from the data concluded that a higher percentage of students were involved in self-medication. In respect to the level of the students, first-year students showed low frequency due to initial stage of studies while their level became upgraded and number of students significantly increased due to knowledge regarding pharmacology and management plan in clinical years.

#### Author Contribution:

Hina Khan: Conceptualization
Jamil Ahmed Siddiqui: Drafting of Article
Muhammad Sajid Khan: Drafting of Article
Khalique-ur-Rehman: Conceptualization
Asad Raza Jiskani: Final Approval for version
Devi Kumari: Data Analysis
Abdul Hayee: Data Collection
Muhammad Ahmad: Data Collection

#### REFERENCES:

1. Bennadi D. Self-medication: A current challenge. *Journal of basic and clinical pharmacy*. 2013;5(1):19-23.
2. Manchu T, Lella M, Vemu S, Chavla SD. A comparative evaluation of the perception of self-medication among medical students of a tertiary care teaching medical college and hospital—A cross-sectional study. *National Journal of Physiology, Pharmacy and Pharmacology*. 2019;9(8):714-8
3. AlRaddadi KK, Barakeh RM, AlRefaie SM, Al Yahya LS, Adosary MA, Alyahya KI. Determinants of self-medication among undergraduate students at King Saud University: Knowledge, attitude and practice. *Journal of Health Specialties*. 2017;5(2):95-101.
4. Ehigiator O, Azodo CC, Ehizele AO, Ezeja EB, Ehigiator L, Madukwe IU. Self-medication practices among dental, midwifery and nursing students. *European Journal of General Dentistry*. 2013;2(1):54-57

5. Al-Hussaini M, Mustafa S, Ali S. Self-medication among undergraduate medical students in Kuwait with reference to the role of the pharmacist. *Journal of research in pharmacy practice*. 2014;3(1):23-27.
6. Klemenc-Ketis Z, Hladnik Z, Kersnik J. Self-medication among healthcare and non-healthcare students at University of Ljubljana, Slovenia. *Medical Principles and practice*. 2010;19(5):395-401.
7. Al-Imam A, Motyka MA, Mishaal M, Mohammad S, Sameer N, Dheyaa H. The Prevalence of Self-Medication With Painkillers Among Iraqi Medical Students. *Global Journal of Health Science*. 2020;12(7):38-47.
8. Helal RM, Abou-ElWafa HS. Self-medication in university students from the city of Mansoura, Egypt. *Journal of environmental and public health*. 2017;2017:1-7.
9. Sawalha AF. Assessment of self-medication practice among university students in Palestine: therapeutic and toxicity implications. *IUG Journal of Natural Studies*. 2015;15(2).
10. AlRaddadi KK, Barakeh RM, AlRefaie SM, AlYahya LS, Adosary MA, Alyahya KI. Determinants of self-medication among undergraduate students at King Saud University: Knowledge, attitude and practice. *Journal of Health Specialties*. 2017;5(2):95-101.
11. Badiger S, Kundapur R, Jain A, Kumar A, Pattanshetty S, Thakolkaran N, Bhat N, Ullal N. Self-medication patterns among medical students in South India. *The Australasian medical journal*. 2012;5(4):217-220.
12. Banerjee I, Bhadury T. Self-medication practice among undergraduate medical students in a tertiary care medical college, West Bengal. *Journal of postgraduate medicine*. 2012;58(2):127-131.
13. Al Essa M, Alshehri A, Alzahrani M, Bustami R, Adnan S, Alkeraidees A, Mudshil A, Gramish J. Practices, awareness and attitudes toward self-medication of analgesics among health sciences students in Riyadh, Saudi Arabia. *Saudi Pharmaceutical Journal*. 2019;27(2):235-9.
14. Sontakke SD, Bajait CS, Pimpalkhute SA, Jaiswal KM, Jaiswal SR. Comparative study of evaluation of self-medication practices in first and third year medical students. *Int J Biol Med Res.* 2011;2(2):561-4.
15. Banerjee I, Sathian B, Gupta RK, Amarendra A, Roy B, Bakthavatchalam P, Saha A, Banerjee I. Self-medication practice among preclinical university students in a medical school from the city of Pokhara, Nepal. *Nepal journal of epidemiology*. 2016;6(2):574-81.
16. Alshahrani SM, Alavudeen SS, Alakhali KM, Al-Worafi YM, Bahamdan AK, Vigneshwaran E. Self-Medication Among King Khalid University Students, Saudi Arabia. *Risk Management and Healthcare Policy*. 2019;12:243-249.
17. Tesfaye ZT, Ergena AE, Yimer BT. Self-Medication among Medical and Nonmedical Students at the University of Gondar, Northwest Ethiopia: A Cross-Sectional Study. *Scientifica*. 2020;2020.
18. Bijani M, Haghshenas A, Ghasemi A. Evaluation of the effect of education based on health belief model on self-therapy and self-medication in students at fasa medical sciences dormitories. *International Journal of Pharmaceutical Research*. 2019;11(3):1732-1739.
19. Haque M, Rahman NA, McKimm J, Kibria GM, Majumder MA, Haque SZ, Islam MZ, Abdullah SL, Daher AM, Zulkifli Z, Rahman S. Self-medication of antibiotics: investigating practice among university students at the Malaysian National Defence University. *Infection and drug resistance*. 2019;12:1333-1338.
20. Seam M, Reza O, Bhatta R, Saha BL, Das A, Hossain M, Uddin SM, Karmakar P, Choudhuri M, Sattar MM. Assessing the perceptions and practice of self-medication among Bangladeshi undergraduate pharmacy students. *Pharmacy*. 2018;6(1):6. doi: 10.3390/pharmacy6010006

