

# Perceptions and practices of self-medication among medical students of Lahore Medical and Dental College, Lahore, Pakistan

ZAHABIA KHALID\*, SHAZIA ASIM\*\*, AMINA ZUBAIR\*, JAVARIA ARSHAD\*\*\*, MONEEB ASHRAF\* AND AYESHA TALAT\*\*\*

\*Department of Pharmacology, Postgraduate Medical Institute, Lahore.

\*\*Department of Pharmacology, Lahore Medical & Dental College, Lahore.

\*\*\* Department of Pharmacology, CMH medical College, Lahore.

## ABSTRACT

**Background:** The practice of self-medication is increasing day by day, which can result in many problems. This study aims to assess perceptions and practices of self-medication among medical students

**Methodology** The present study was conducted from January 2019 to January 2020 in Lahore Medical and Dental College of Lahore, Pakistan. This cross-sectional study was performed with the help of a pre-designed questionnaire by using random sampling. 400 participants were included in the study.

**Results** Majority of respondents thought it to be a part of self-care 278(69.5%), encouraged its practice 261(65.25%), and advised it to others 255(63.75%). Almost half of the participants thought it to be problematic 209(52.25%). Majority of participants thought antibiotic resistance to be the major problem arisen by self-medication 321(80.25%), with the best method of addressing it to be through spread of awareness and education regarding it 342(85.5%).

**Conclusion** As inappropriate medication can cause harm not only to medical students but to others also, it is important to spread awareness and education regarding self-medication among medical students.

**Keywords:** self-medication, antibiotic resistance, medical students

---

## INTRODUCTION

Self-medication refers to frequent use of medicines without medical prescription and advice, for self-treating a medical issue. It may also include use of spare medicines present at home, taking medical advice from friends and buying medicines by utilizing old prescriptions (Biswas et al. 2015). The main reason for self-medication is the easy availability of medicines over the counter. Many people may adopt self-medication as a part of self-care or due to high costs of medical checkups (Afridi et al. 2015). The most common medicines used for self-medication comprise of NSAIDs, antihistamines, antibiotics, multivitamins, cough syrups, antacids, antimalarial, anthelmintics and analgesics. Many complications have been linked with practice of self-medication including development of drug resistance, life threatening drug reactions, chronic ailment, allergy, serious side effects, drug dependence, renal dysfunction and addiction (Gyawali et al. 2015). It can also cause perplexities of disease by delaying symptoms and diagnosis. However, if taken properly, self-medication can help in relieving acute pain, saving money and time. It can also compensate for lack of access to health care facilities in remote areas and acts as an economical choice towards mild ailments (Helal & Abou-E Wafa 2017).

The reason of practicing self-medication varies from person to person. A medical student may adopt self-medication to execute their knowledge into practice (Krishna, Babu & Goel 2015). The most common cause of self-medication include headache, sore throat, dysmenorrhea, diarrhea, abdominal pain, stomach ache, fever, common cold, muscle pain, menstrual cramps, cough and heartburn (Fadare & Tamuno 2018). According to a previous study, females and individuals from poor

background are more indulged in self-medication. The individuals with less age are more prone towards self-medication due to influence of advertisement and partial knowledge of medicines (Alina et al. 2016). In developing countries like Pakistan, the situation is worse as prescription only medicines are available as non-prescription medicines and pharmacists and medical students are highly involved in writing prescriptions on their own (Alhomoud et al. 2017). Moreover, the lack of licensed and qualified pharmacists may worsen the situation. A previous research work conducted in Rawalpindi found only 19% licensed and 22% qualified pharmacists (Mostafa, Hany & Ayed 2015).

Previous research works have reported incidence of self-medication in medical students to be 94% in Hong Kong, 88% in Croatia, and 54% in Turkey (Fadare & Tamuno 2018). Similarly, a research work performed in Karachi documented self-medication to be 76% and 95.5% in Abbottabad. A study performed in Islamabad indicated that students were adopting self-medication due to economic reasons (Qasim et al. 2017). The research works conducted in Karachi, Abbottabad and Islamabad indicated that antibiotics, antipyretics and analgesics are most common medicines used for self-medication (Mostafa, Hany & Ayed 2015).

Although self-medication is a common practice among students, when considering medical students, it becomes additionally important as they have more information regarding side effects and indications of medicines (Bilal, Haseeb & Khan 2016). As far as prevalence and causes of self-medication among medical students of Pakistan are concerned, the present literature is meagre. Thus, further exploration in this field is highly required (Khalid et al. 2017). In order to address this need of hour, aim of this research work is to assess frequency of self-medication among medical students of Lahore Medical

---

Received on 12-01-2020

Accepted on 28-03-2020

and Dental College, Lahore, Pakistan. Moreover, the reasons for adopting self-medication will also be deduced. This will give an overview of self-medication practices among medical students, which will be helpful in addressing this sheer problem.

**METHODOLOGY**

The present study was conducted from January 2019 to January 2020 in Lahore Medical and Dental College of Lahore Pakistan. This cross-sectional study was performed with the help of a pre-designed questionnaire by using random sampling. The questionnaire consisted of multiple response questions related to demographics, concepts, patterns, reasons and indications of self-medication and medicines self-medicated. 400 medical students, who were willing to participate in the study, were randomly selected from classes, cafeterias and classes. The informed consents were collected from all the students and the purpose of study was explained.

**Inclusion and exclusion criteria:** Medical students of age range 19 to 25 years were included whereas house officers and postgraduate students were excluded.

**Data analysis:** Data was analyzed with the help of SPSS v17. Frequencies and percentages were calculated for categorical variables, whereas, means and standard deviations were estimated for non-categorical variables.

**RESULTS**

The demographics of the study are shown in Table 1. The mean age of participants was 21.2±1.5 years. The study consisted of female participants in majority 243( 60.75%), in comparison to male respondents 157(39.25%). Majority of the students were day scholars 328(82%) and belonged to 3<sup>rd</sup> year of medical education 101(25.25%).

The concepts regarding self-medication are shown in Table 2. Majority of respondents thought it to be part of self-care 278( 69.5%), encouraged its practice 261(65.25%), and advised it to others 255( 63.75%). Almost half of the participants thought it to be problematic 209(52.25%). Majority of participants thought antibiotic resistance to be the major problem arisen by self-medication 321(80.25%), with the best method of addressing it to be through spread of awareness and education regarding it 342( 85.5%).

The reasons for self-medication are shown in Table 5. The main reason among medical students for self-medicating was found out to be urgency and quick relief 211( 90.55%) followed by economical causes 201(86.26%) and treatment to minor ailment 198( 84.97%).

The patterns of self-medication among medical students are shown in Table 3. Majority of the participants 265(66.25%) practiced self-medication. Among these students, the frequency of practicing it was mainly 'some times' 182(68.67%). The most widely used source of information for self-medication was found to be the previous prescription 201(75.84%). Almost all the self-medicating students acquire basic information about medication, especially the dosage and frequency 263(99.24%). About 239 (90.18%) participants had advised medicines to friends and relatives, whereas, 233(87.92%) participants had self-medicated in the last 6 months.

The type of self-medication is shown in Table 4. Majority of self-medicating participants had used over the counter medication 182(8.11%).

The indications for self-medication are shown in Table 6. The self-medication was mainly adopted by students to counter aches or pains 211(90.05%), fever 199(85.40%) and stress or anxiety 187(80.25%).

The type of medicines self-medicated are shown in Table 7. Analgesics 209( 89.69%) were mainly used by medical students as self-medication, followed by anti-pyretic 194(83.26%) and antitussives 183(78.54%).

Table 1: Demographics

Characteristics	Frequency	%age
<b>Gender</b>		
Male	157	39.25
Female	243	60.75
<b>Year of medical education</b>		
1 <sup>st</sup>	46	11.5
2 <sup>nd</sup>	98	24.5
3 <sup>rd</sup>	101	25.25
4 <sup>th</sup>	72	18
5 <sup>th</sup>	83	20.75
<b>Place of living</b>		
Day scholar	328	82
Hostelite	72	18

Table 2: Concept about self-medication (n=400)

Concepts	Frequency	%age
<b>Part of self care</b>	278	69.5
<b>One should practice it</b>	261	65.25
<b>Advice it to others</b>	255	63.75
<b>It is problematic</b>	209	52.25
<b>Type of problem that arises</b>		
Treatment failure	72	18
Wrong dosage of medicine	82	20.5
Adverse drug reactions	173	43.25
Worsening of symptoms	288	72
Antibiotic resistance	321	80.25
<b>Ways to address problem arisen</b>		
Prevent purchase without prescription	322	80.5
Spread awareness and education	342	85.5
Monitoring of pharmacists	288	72
Easy availability of healthcare facilities	265	66.25

Table 3: Pattern of self-medication (n=265)

Characteristics	Frequency	%age
<b>Practicing self-medication</b>	265	66.25
<b>Frequency of self-medication</b>		
Always	83	31.32
Sometime	182	68.67
<b>Source of information</b>		
Reading material	186	70.1
Media	93	35.09
Previous prescription	201	75.84
Pharmacist	188	70.94
Senior student	21	7.92
Friends/relatives	19	7.16
<b>Acquiring knowledge</b>		
Expiry	251	94.71
Dosage and frequency	263	99.24
Adverse effects	201	75.84
Advising medication to friends/relatives in last 6 months	239	90.18
Doing self-medication in last 6 months	233	87.92

Table 4: Type of self-medication (n=233)

Type	Frequency	%age
Over the counter	182	78.11
Prescribed	51	21.88

Table 5: Reasons of self-medication (n=233)

Reasons	Frequency	%age
Minor ailment	198	84.97
Self-knowledge	167	71.67
Previously prescribed	188	80.68
Urgency/quick relief	211	90.55
Economical	201	86.26
Saving time	192	82.40
Easy availability of medicines	32	13.73

Table 6: Indications for self-medication (n=233)

Indications	Frequency	%age
Aches and pains	211	90.05
Fever	199	85.40
Infection	156	66.95
Flu/cold/sore throat	187	80.25
Constipation	165	70.81
Diarrhea	154	66.09
Heartburn/ acidity	133	57.08
Insomnia/ sleeplessness	65	27.89
Stress/ anxiety	190	81.54
Rash/ allergy	180	77.25
Others	77	33.04

Table 7: Type of medicine self-medicated (n=233)

Type of medicines	Frequency	%age
Antipyretics	194	83.26
Antitussive	183	78.54
Analgesics	209	89.69
Anti-histamines	178	76.39
Antibiotics	153	65.66
Anti-diarrheal	140	60.08
Antiemetic	38	16.30
Antispasmodic	82	35.19
Anti-ulcer	69	29.61
Sedatives/ anxiolytic	62	26.60

## DISCUSSION

The present study showed that most common indications for using self-medication were pains, fever and stress. This is in accordance with previous research works, which have indicated fever to be an important reason for self-medication (Chughtai et al. 2016). However, some studies have pointed out that common cold and headache are main reasons for self-medication (Zardosht et al. 2016). The indications of pains and stress are also becoming important, which can be attributed to high competency and tension with decreased motility among youngsters.

The classes of drugs most commonly self-medicated included analgesics, followed by antipyretics and antitussives. This is in accordance with previous research works (Haroun & Al-kayali 2017). However, antitussives have not previously been indicated as an important self-medication. Majority of self-medicating students declared urgency and quick relief to be the sole reason for adopting self-medication. On the other hand, many would adopt in due to economic issues or due to consideration of ailments as minor ones. This is in accordance with previous research works (Jagadeesh et al. 2015). The students may

find it useless to consult a doctor for a simple problem, and in order to save time, go for a previously prescribed medicine (Ramadan et al. 2018).

It has been noted that self-medicating students have mostly used over the counter medicines for self-medication in the previous 6 months. Majority of them have also prescribed them to their friends and relatives. About 66.25% practice self-medication, with the majority (68.67%) declaring that they use it sometimes. The most commonly used source of information of self-medication is previous prescription. However, previous research works have declared medical books, the internet and classmates to be important sources of information for self-medication (Kanwal et al. 2018).

Nearly all the self-medicating participants acquired knowledge about expiry, dosage and frequency of medicine. However, adverse effects were considered by only 75.84% of students. The reason for this pattern of self-medication is that the majority of the participants considered self-medication safe (47.75%) and a part of self-care (69.5%). Moreover, about 65.25% considered it to be practicable while 63.75% encouraged it by advising it to others. This thinking makes participants use them again and again (Kasulkar & Gupta 2015). Resultantly, not only self-medicating individuals become more vulnerable towards side effects and abuse of medicine but also asserts risk on individuals who are actually liable to be prescribed by such medicines (Mushtaq, Gul & Naz 2017). The participants, who thought self-medication can be problematic, indicated that antibiotic resistance (80.25%) is the major problem caused by it. However, some people thought that adverse drug reactions and wrong dosage of medicine can also be the problems arisen by self-medication. The most important way of coping with the problems arisen by self-medication is through spread of awareness and education (85.5%), and prevention of purchase of medicine without prescription (80.5%).

## CONCLUSION

Majority of medical students who adopt self-medication are unaware of adverse effects of medicines they are using and advising it to others. As inappropriate medication can cause harm not only to medical students but to others also, it is important to spread awareness and education regarding self-medication among medical students.

## REFERENCES

- Afridi, M, Rasool, G, Tabassum, R, Shaheen, M, Siddiquillah & Shujaiddin, M 2015, 'Prevalence and pattern of self-medication in Karachi: A community survey', *Pak J Med Sci*, vol 31, pp. 1241-5.
- Alhomoud, F, Aljamea, Z, Almahasnahm, R, Alkhalifah, K, Basalelah, L & Alhomoud, FK 2017, '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', *Int J Infec Dis*, vol 57, pp. 3-12.
- Alina, B, Sana, S, Rumaisa, I & Maryam, Z 2016, 'Practices and Reasons for Self Medication in Medical Students', *Journal of Rawalpindi Medical College Students Supplement*, vol 20, no. S-2, pp. 114-117.
- Bilal, M, Haseeb, A & Khan, M 2016, 'Self-Medication with Antibiotics among People Dwelling in Rural Areas of Sindh', *JCDR*, vol 10, no. 5, pp. 8-13.

5. Biswas, S, Ghosh, A, Mondal, K, Dalui, S, Haldar, M & Biswas, S 2015, 'Self-medication with antibiotics among undergraduate nursing students of a government medical college in Eastern India', *IJPR*, vol 5, no. 10, p. 239.
6. Chughtai, S, Khan, M, ul-Haq, MZ, Shahzad, A, Hussain, F, Nazar, F & Chughtai, MA 2016, 'Self-Medication amongst the university students of Multan, Pakistan-A questionnaire based survey', *Pak. J. Pharm. Res.*, vol 2, pp. 142-145.
7. Fadare, J & Tamuno, I 2018, 'Antibiotic self-medication among university medical undergraduates in Northern Nigeria', *Diseases*, vol 6, p. E32.
8. Gyawali, S, Shankar, P, Poudel, P & Saha, A 2015, 'Knowledge, Attitude and Practice of Self-Medication Among Basic Science Undergraduate Medical Students in a Medical School in Western Nepal', *J Clin Diagn Res*, vol 9, pp. FC17-22.
9. Haroun, MF & Al-kayali, RS 2017, 'Self Medication among Undergraduate Medical Students in Two Universities in Syria', *Int. J. Pharm. Sci. Res*, vol 8, p. 1881.
10. Helal, R & Abou-E Wafa, H 2017, 'Self-medication in university students from the city of Mansoura, Egypt', *J Enviro Public Health*, vol 2017, pp. 193-194.
11. Jagadeesh, K, Chidananda, KN, Revankar, SP & Prasad, NS 2015, 'Study on self-medication among 2nd year medical students', *International Journal of Basic & Clinical Pharmacology*, vol 4, no. 1, pp. 164-167.
12. Kanwal, ZG, Fatima, N, Azhar, S, Chohan, O, Jabeen, M & Yameen, MA 2018, 'Implications of self-medication among medical students-A dilemma', *J Pak Med Assoc*, vol 68, no. 9, pp. 1363-1367.
13. Kasulkar, A & Gupta, M 2015, 'Self Medication Practices among Medical Students of a Private Institute', *Indian J Pharm Sci*, vol 7, pp. 178-82.
14. Khalid, A, Afsar, A, Khalid, S, Ghafoor, A & Ahmed, N 2017, 'Assessment of Self-Medication Practice Among 4th Yr MBBS Students in NMC, Multan-Pakistan', *Research on Humanities and Social Sciences*, vol 7, no. 5, pp. 22-28.
15. Krishna, J, Babu, G & Goel, S 2015, 'An evaluation of self-medication among undergraduate medical students of a rural medical school from western Uttar Pradesh', *International Archives of Integrated Medicine*, vol 2, no. 6, pp. 116-22.
16. Mostafa, A, Hany, A & Ayed, E 2015, 'Patterns of self-medication misuse among university students', *International Journal of Healthcare Sciences*, vol 2, no. 2, pp. 180-186.
17. Mushtaq, M, Gul, S & Naz, F 2017, 'The practice of self-medication among Pakistani university students', *Pak. J. Pharm. Sci.*, vol 30, no. 4, pp. 1377-1381.
18. Qasim, A, Alam, M, Maqbool, R, Qasim, J, Zaib, N & Ain, N 2017, 'Rising Trend of Self – Medication Among Undergraduate Medical Students', *APMC*, vol 11, no. 1, pp. 68-75.
19. Ramadan, M, Eltaweel, A, El-Nakhal, T, Hamead, H, Maraqa, A, Abish, D, Essam, R & Baraka, A 2018, 'Self-medication among undergraduate medical students of Alexandria faculty of medicine: where do we stand?', *International journal of medical students*, vol 6, no. 2, pp. 52-55.
20. Zardosht, M, Dastoorpoor, M, Hashemi, FB, Estebarsari, F, Jamshidi, E, Abbasi-Ghahramanloo, A & Khazaeli, P 2016, 'Prevalence and Causes of Self Medication among Medical Students of Kerman University of Medical Sciences, Kerman, Iran', *Global Journal of Health Science*, vol 8, no. 11, pp. 150-159.