



## Knowledge, Attitude and Practices of Self-Medication among Medical Students of Women Medical and Dental College, Abbottabad

Asya Tauqir<sup>1\*</sup>, Hira Ejaz<sup>3</sup>, Iqbal Ahmad Khan<sup>1</sup>, Maham Bashir<sup>1</sup>, Rubina Bibi<sup>1</sup>, Anwar Shahzad<sup>2</sup>, Uswah Noor<sup>1</sup>

<sup>1</sup>Department of Community Medicine, Women Medical and Dental College, Abbottabad.

<sup>2</sup>Department of Community Medicine, AIMI, Abbottabad.

<sup>3</sup>Shifa College of Nursing, Islamabad.



Received date: 10-06-2023

Publication date: 01-08-2023

### Abstract

A descriptive cross-sectional study was carried out in Women Medical & Dental College students in all professional years of MBBS to evaluate the tendency towards self-medication practices and the background knowledge of the students about self-medication. A predesigned questionnaire was implemented among two hundred students by simple random sampling. Data were analyzed by SPSS-23 version through descriptive statistics, spearman correlation and binomial logistic regressions. The study's findings indicate that analgesics are the most frequently used self-medication, with antibiotics coming in second. Self-medication awareness was most commonly conveyed through family members and friends (65%), media (20%), books (10%) and miscellaneous (5%). Self-medication was practiced mostly by 1<sup>st</sup> and 4<sup>th</sup> year MBBS students, with a higher frequency of (65%) while only 35% students were from 2<sup>nd</sup>, 3<sup>rd</sup> and final year MBBS. Adverse effects were: marked headache (40%), GIT disturbances (35%), sleep disturbances (15%) and miscellaneous (10%). Analgesics were available from online drug stores, while muscle relaxants were available through local pharmacies, anxiolytics and antibiotics were mostly received through friends and family, miscellaneous medicines are only available from online pharmacies. Pearson correlation was significant at the 0.0 level and two-tailed at 0.05 level, knowledge of self-medication shows a positive correlation towards the side effects observed and adverse effects. Students below 21 years of age and above 23 years of age were very less vulnerable to using self-medication. Over burning academic activities and easy availability were the most triggering factors to adopt self-medication. Students need health education regarding the pros and cons of self-medication from teachers and administration.

**Keywords** Knowledge, Attitude, Practices Self-Medication, Medical Students.

### 1. Introduction

Self-medication has become the norm in society inevitably due to many reasons. According to the World Health Organization, self-medication is “the use of medicine by the patient himself without being properly diagnosed by the authorized physician or intermittent or continual medication for chronic and recurrent diseases and clinical situations with a chronic picture” (1). Self-medication has emerged as a social issue, particularly in the last few years, highly witnessed in elite societies. It

is now common worldwide in slums and lower communities as well. Self-medication adaptation results from the pharmaceutical companies' promotion and the easy availability of medicines over the counter (OTC). The most commonly available OTC (over-the-counter) medicines are analgesics, cough and cold medicines and anti-allergy specifically (2). Beside these medicines Antibiotics, multivitamins and energy tonics are widely available without any prescription by registered physicians (3). Despite strict legislation and periodic

**Corresponding author at:** Asya Tauqir  
**Email address:** [asyatauqir123@gmail.com](mailto:asyatauqir123@gmail.com)

<https://doi.org/10.56600/jwmdc.v2i1.66>



checks, prohibited medications like opioids, antidepressants, and antipsychotics are also available in society prompting drug abusers to use them frequently, which leads to serious outcomes (4). In developing countries this issue has emerged as a burning issue because of many factors, particularly social media advancements, online pharmacies, mutual parties and the availability of online consultancies. In corporate societies, 'life has become only an investment where loss and benefits depend only on risk measurement and chance dilemmas (5). Social aspect of self-medication can't be ruled out, as self-medication has widely affected the communities over time (6). Many factors promote self-medication with divergent amplitudes owing to their strong associations. These factors include age and educational status. Family attitudes, socioeconomic barriers and the tireless availability of medicines and drugs (7). Self-medication in students at the university level has been witnessed over the decades. Still, this societal tragedy has crept up to the point that it has recently invaded schools and even madrassas or other religious tombs (8). Though initially self-medication results in ease of symptoms which promotes further continuation of the practices but later on, self-medication results in the appearance of serious adverse effects and outcomes, especially dependency and tachyphylaxis in some cases and resulting in permanent impairment and making it almost impossible to completely cure the other pathologies in the users, which results in drug dependence (9). Self-medication is being adopted due to the easy availability of medicines, it's economical as the cost of health care delivery is becoming unbearable for the common people in society (10). Also the overly busy schedules of the students, especially medical graduates, are the mainstay of their decision to adopt self-medication in dire situations (11). Self-medication adaptation among medical graduates is enhanced by avoiding authorized physicians for checkups, busy study schedules, and easy availability of medicines from various sources (12).

## 2. Methodology

A cross-sectional study was carried out on 200 medical students of MBBS program at Women Medical and Dental College There were a total of 750 students in both Women Medical and Dental College, Abbottabad and 250 students were recruited by WHO software for sample collection by simple random sampling

technique after categorization of the classes and self-administered questionnaires were distributed among the students in each class, 50 questionnaires were distributed among the students in each class through random selection by the attendance regarding knowledge, attitude and practices of self-medication. Only 200 students replied. The Questionnaire used in the study was developed from the questionnaire used in various studies (12). Data was entered and analyzed through the SPSS-24 version. Descriptive statistics, and binomial logistics regression were used to analyze the results.

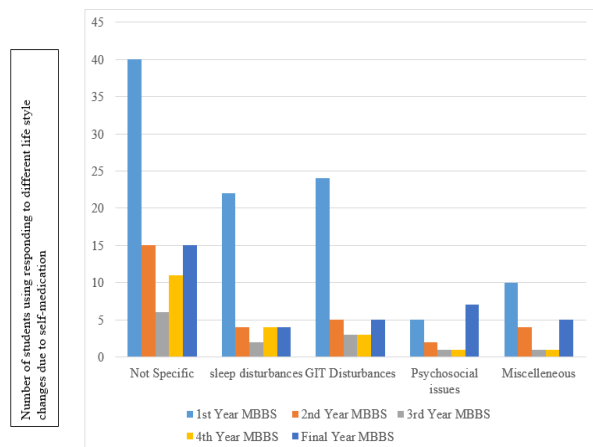
## 3. Results

**Table 1:** Socio-Demographic Characteristics of the study population

	Variable	Freq.	%
<b>Age</b>	18-20 years	60	30
	21-23 years	27	13.5
	24-26 Years	64	32
	26 Years	51	25.5
<b>Professional Year</b>	1 <sup>st</sup> Year MBBS	46	23
	2 <sup>nd</sup> Year MBBS	36	18
	3 <sup>rd</sup> Year MBBS	38	19
	4 <sup>th</sup> Year MBBS	37	18.5
	Final Year MBBS	43	21.5
<b>Residential Status</b>	Day-Scholar	98	49
	Boarders	102	51
<b>Socioeconomic status</b>	Elite class	15	7.5
	Rich Class	45	22.5
	Middle class	130	65
	Lower Middle class	10	05

Table 1 shows the sociodemographic variables of the study, in which a maximum number of students were between 24 and 26 years of age (32%), while 21-23 years were the minimum (13.5%). Regarding professional years of the study, 1<sup>st</sup> year students were 23%, 2<sup>nd</sup> year MBBS students were 18 %, 3<sup>rd</sup> year were 19%, 4<sup>th</sup> year students were 18.5% and final-year MBBS students were 21.5%. Nearly half the students were day scholars and 51% were boarders. Social class

results showed that 7.5% belonged to the elite class, 22.5% to the rich class, and 65% to the middle class, while 0.5 % belonged to the lower middle class.



**Figure 1:** Adverse effects of self-medication in various professional years of MBBS students.

Fig. 1 shows the adverse effects among the students after self-medication in various professional years of MBBS. Nonspecific adverse effects were very common in 1st year MBBS students along with sleep and GIT disturbances, while 2<sup>nd</sup> year MBBS students suffered from non-specific changes and GIT disturbances, Final year MBBS suffered mostly psychosocial changes.

in various professional years were different for different professional years.

#### 4. Discussion

Self-medication is becoming a global issue in medical communities, especially among students’ day by day. A cross-sectional study conducted at Madinah, concluded the self-medication prevalence in medical college students to be 65%, with significant differences in the different grade-wise medical years. Likewise, our study showed higher self-medication among 1<sup>st</sup> year MBBS students compared to senior medical college classes. The self-medication reported in the study was to treat fever, headache, gastro-intestinal problems, respiratory tract infections and skin problems, while in our study, self-medication was primarily for headache, different types of infections and sleep disturbances. Self-medication in this study mostly marked analgesics, antibiotic, antipyretics, vitamins and antihistamines, while in our study mostly analgesics, antibiotics, hypnotics, anxiolytics and the students used miscellaneous. In this study, the main source for self-medication was studying the books and learning experiences. In contrast, in our study, the main sources for adopting self-medication were friends, and internet resources (3). A study conducted on first-year MBBS medical students in the Arabian Gulf University,

**Table 2:** Responses of the students towards various factors responsible for self-medication

Variable	Knowledge Adjust OR (95% CI)	p-value	Attitude Adjusted OR (95% CI)	p-value	Practices Adjusted OR (95% CI)	p-value	
Age	0.78 (0.74-1.92)	0.46	0.91 (0.84-1.98)	0.81	0.83 (0.74-1.92)	0.71	
Professional Year (MBBS)	1 <sup>st</sup> Year	1	1	1	1	1	
	2 <sup>nd</sup> Year	0.94 (0.74-1.44)	0.51	0.91 (0.69-1.113)	0.54	0.81 (0.75-1.87)	0.53
	3 <sup>rd</sup> Year	0.70 (0.60-1.10)	0.58	0.82 (0.60-1.22)	0.59	0.84 (0.69-1.113)	0.57
	4 <sup>th</sup> Year	0.75 (0.65-2.85)	0.42	0.71 (0.65-1.45)	0.51	0.75 (0.65-1.85)	0.59
	Final Year	0.94 (0.64-1.22)	0.78	0.98 (0.84-1.22)	0.58	0.99 (0.84-1.14)	0.53
Residential Status	0.88 (0.74-1.12)	0.79	0.84 (0.64-1.04)	0.84	0.87 (0.84-1.90)	0.74	
Socioeconomic Status	0.71 (0.64-1.78)	0.71	0.74 (0.54-1.94)	0.74	0.74 (0.54-1.94)	0.68	
	0.77 (0.70-1.74)	0.61	0.77 (0.60-1.94)	0.71	0.74 (0.60-2.88)	0.63	

Table 2 shows the students’ responses towards various factors responsible for self-medication. The p-value of knowledge concerning age was 0.46, while the p-value of attitude was 0.81. The p-values of knowledge and attitude

Bahrain, revealed that the knowledge about the benefits and risks of self-medication was highly adequate. In contrast, in our study students’ knowledge was satisfactory and adequate. In this study, respondents



adopted self-medication perhaps due to time-saving, convenience and providing quick relief in emergencies. In contrast, in our study, self-medication was adopted due to busy schedules, the fear of inappropriate attitude by the physicians, and the easy availability of the self-medication to the students. Most of the respondents in this study showed a positive attitude towards self-medication (2).

Another study conducted at Jazzan University to assess the knowledge, attitudes and frequency of self-medication among medical college students reported that self-medication practice was highly prevalent among the medical students, especially among female students than male. Sedatives were mostly used as self-medication in different studies, while anxiolytics were mostly used by the final-year MBBS students in our study. A bivariate correlation study showed a strong correlation between self-medication knowledge and use with *p* values of 0.005, along with correlation between self-medication sources, easy availability, and use of self-medication among medical students. These results were also found in a study conducted by Bedard and his coworkers. (13). The commonest reason presented by students in the study done at Jazzan University for adopting self-medication practice was the belief that they exhibit sufficient information, previous personal experience, and the experience of family members and colleagues, while in our study students are influenced by family members and friends as well. Many students agreed that self-medication could be very harmful and may be linked to some serious adverse effects. The same perceptions can be seen in our study, where the majority of the students thought that self-medication is associated with adverse effects (2).

A study conducted by Pragna Patel *et al.* on 157 participants concluded that 1<sup>st</sup> year MBBS students favored self-medication with incomplete knowledge. In contrast, 2<sup>nd</sup> year MBBS students had comparatively sound knowledge, even though they knew the expiry date of the medicines and their adverse effects. In our study, 1<sup>st</sup> and 2<sup>nd</sup> year MBBS students were more aware of the need and adverse effects of self-medication and the availability of self-medication (14). Rajanish *et al.* found in a study in Rajasthan (India) that the commonest reason for self-medication was the medical students' opinion, who considered there was no need to visit the physician for minor illnesses. The majority received information for self-medication adaptation

from previous prescriptions, and the source was a medical store nearby. Most students adopted this for headaches followed by coughs, colds and fevers. Colds and coughs have been labeled by Shivaraj *et al.* as the main morbidity for seeking self-medication and antibiotic. The first choice for self-medication, has been considered a first step to protect against medical problems by some students as self-care (15).

One study reported that the common reason for adopting self-medication was a prior experience, followed by self-confidence about self-medication knowledge and quick relief. The prevalence of self-medication practices was more prevalent among the 3<sup>rd</sup> year students while least amongst the 1<sup>st</sup> year students, perhaps due to an increase in self-medication after studying pharmacology in 3<sup>rd</sup> year MBBS. Self-medication was commonly practiced for the common cold, followed closely by fever and headache. Drugs used for self-medication were antipyretics and analgesics. Most commonly, multivitamins were used as self-medication, followed by native herbs and steroids secondarily (12).

Another study revealed that the main reason behind self-medication was a prior experience, followed by self-confidence regarding the knowledge of the drug used for self-medication. Old prescriptions and the local pharmacist were the most common sources of information. A study conducted by Supriya *et al.* concluded about the self-as common practice in today's era among medical students. The status of medical students differs from that of the general population because of their prior knowledge about diseases and drugs (4). The most important reason for self-medication was that it was believed that in minor illnesses, visit to the physician is not required at all and self-medication provides quick relief. The most prominent reasons for avoiding self-medication included students' beliefs about a lack of adequate knowledge to practice self-medication. Headache was the most common reason for self-medication, followed by cough and cold and analgesics were the most common drugs used for relief (16).

## 5. Conclusion

Self-medication has been practiced by the population generally and medical college students, particularly in recent years, despite knowing the adverse outcomes of the bad habit. Our study concludes that counseling is

much needed to address students' problems. Health education should be promoted to educate medical students to abstain from self-medication and adopt alternatives to overcome their issues.

**Conflict of Interest** There is no conflict of interest

**Acknowledgment** We are grateful to all the participants who willingly participated in the study and contributed to the development of the questionnaire. All the authors have approved the manuscript.

## References

1. Abebe D, Tenaw G, Dessalegn H, Franelee AZ. Knowledge, attitude and practice of self-medication among health science students at Debre Markos university, Northwest Ethiopia. *Journal of Public health and Epidemiology*. 2017;9(5):106-13.
2. Albasheer OB, Mahfouz MS, Masmali BM, Ageeli RA, Majrashi AM, Hakami AN, et al. Self-medication practice among undergraduate medical students of a Saudi tertiary institution. *Tropical Journal of Pharmaceutical Research*. 2016;15(10):2253-9.
3. Aljaouni ME, Hafiz AA, Alalawi HH, Alahmadi G, AlKhawaja I. Self-medication practice among medical and non-medical students at Taibah University, Madinah, Saudi Arabia. *Int J Acad Sci Res*. 2015;3(4):54-65.
4. Bhatia MK, Ripudaman S, Akashdeep S, Bhardwaj B. Knowledge, Attitude and Practice of self medication among undergraduate medical students of Punjab. *J Med Res*. 2017;3(3):151-4.
5. Ghadeer AS, Mayada S, Dana AD, Hebah A-I, Al-Motassem MY, Rula MD. A cross-sectional study on knowledge, attitude and behavior related to antibiotic use and resistance among medical and non-medical university students in Jordan. *African Journal of Pharmacy and Pharmacology*. 2012;6(10):763-70.
6. Gyawali S, Shankar PR, Poudel PP, Saha A. Knowledge, attitude and practice of self-medication among basic science undergraduate medical students in a medical school in western Nepal. *Journal of clinical and diagnostic research: JCDR*. 2015;9(12):FC17.
7. James H, Handu SS, Al Khaja KA, Otoom S, Sequeira RP. Evaluation of the knowledge, attitude and practice of self-medication among first-year medical students. *Medical principles and practice*. 2006;15(4):270-5.
8. Karmacharya A, Uprety BN, Pathiyil RS, Gyawali S. Knowledge and practice of self-medication among undergraduate medical students. *Journal of Lumbini Medical College*. 2018;6(1):21-6.
9. Kumar N, Kanchan T, Unnikrishnan B, Rekha T, Mithra P, Kulkarni V, et al. Perceptions and practices of self-medication among medical students in coastal South India. *PloS one*. 2013;8(8):e72247.
10. Patel P, Prajapati A, Ganguly B, Gajjar B. Study on impact of pharmacology teaching on knowledge, attitude and practice on self-medication among medical students. *Int J Med Sci Public Health*. 2013;2(2):181-6.
11. Shankar PR, Dubey AK, Dwivedi NR, Nandy A, Barton B. Knowledge, perception and practice of self-medication among premedical and basic science undergraduate medical students. *Asian Journal of Medical Sciences*. 2016;7(6):63-8.
12. Thadani S, Salman MT, Ahmad A. Knowledge, attitude and practice of self medication among second year undergraduate medical students. *J Ration Pharmacother Res*. 2013;1(3):131-4.
13. Bedard GBV, Reid GJ, McGrath PJ, Chambers CT. Coping and self-medication in a community sample of junior high school students. *Pain Research and Management*. 1997;2(3):151-6.
14. Patil SB, Vardhamane S, Patil B, Santoshkumar J, Binjawadgi AS, Kanaki AR. Self-medication practice and perceptions among undergraduate medical students: a cross-sectional study. *Journal of clinical and diagnostic research: JCDR*. 2014;8(12):HC20.
15. Sankdia RK, Agrawal M, Rekha PB, Kothari N. A questionnaire based study regarding the knowledge, attitude and practice of self-medication among second year undergraduate medical students. *International Journal of Pharmacology and Clinical Sciences*. 2017;6(1).
16. Uppal D, Agarwal M, Roy V. Assessment of knowledge, attitude, and practice of self-medication among college students. 2014.

