

# Self Medication Patterns amongst Undergraduate Medical Students of a Private Medical college

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## Abstract

**Objective:** To determine the pattern and preferences of self-medication practices among the undergraduate medical students of Islamabad Medical and Dental college Islamabad.

**Material & Methods:** This cross-sectional study was undertaken at Islamabad Medical and Dental College Islamabad during a three months period (October 2012 to December 2012). The study population consisted of medical students from first to final year, selected by consecutive sampling method, within the age group of 17-29 years with mean age 21.4 years and SD 2.4. A pre-tested semi-structured questionnaire was administered to them. The data were analyzed using SPSS version 16 and summarized. Percentages were used in the analysis and interpretation of the results.

**Results:** Out of 100 students a total of 88 students [40 (45.5%) female participants and 48 (54.5%) male participants] said that they practiced self-medication. Among these 54.2% attributed their source of information to electronic media 18% to print media and 27.9% to drug promotional activities, 62.9% said that they have sufficient knowledge regarding self medication. The leading percentage that is 51 % used analgesics, 44.3% used antibiotics, and 4.5% used psychiatric drugs. Out of those who used psychiatric drugs, 75% used short acting anxiolytics and 25% used long acting antidepressant drugs.

**Conclusion:** There is high prevalence of self medication among under graduate medical students and diversity exists in its pattern.

**Keywords:** self-medication, students, medical colleges, anti-depressive agents

## Introduction

Self-medication can be defined as obtaining and consuming drugs without the advice of a physician for diagnosis, prescription or surveillance of treatment.<sup>1</sup> It has also been defined as obtaining and consuming medication without professional supervision, which comprises of acquiring medicines without a

prescription, purchasing drugs by resubmitting/reutilizing an old prescription, taking medicines on advice of relative or others, or consuming left-over medicines already available at home.<sup>2</sup> There is much public and professional concern about the irrational use of drugs. The prevalence rates are high all over the world; up to 68% in European countries,<sup>3</sup> while much higher in the developing countries<sup>4</sup> with rates going as high as 92% amongst adolescents of Kuwait.<sup>3</sup> Various studies have shown that self medication is a common practice for the economically deprived community people. It has its good and bad effects. On the other side, if self medication carried out properly, can save time spent in waiting to consult a physician, may be economical and can save lives in acute conditions and the direct financial cost of treatment.<sup>4</sup> Self medication increases the chances of illicit use of drug and drug dependency and most of all masking the sign and symptoms of underlying disease hence are complicating the problem, creating drug resistance and delaying diagnosis. Easy availability of the drugs is another factor responsible for self medication.<sup>5</sup> The World Health Organization (WHO) has appropriately pointed out that self-medication can help prevent and treat diseases that do not require medical consultation and provides a cheaper alternative for treating common illnesses. The practice of self-medication must be based on authentic medical information otherwise irrational use of drugs can cause wastage of resources.<sup>6</sup> There is growing concern about the consumption of medications, since the majority of these cause side effects that frequently are more serious than the original disease itself. In addition, the momentary relief of symptoms may mask the underlying disease and could aggravate it. Therefore, various medications that should be used only on medical prescription are indiscriminately sold.<sup>7</sup> The most common drugs used for self medication are;

analgesics and antimicrobials. Study on self medication shows that it is influenced by many factors such as education, family, society, law availability of drugs and exposure to advertisements. A high level of education and professional status has been mentioned as predictive factor for self medication.<sup>8</sup> The internet is emerging as a major source of information on health issues and (with appropriate control) offers great promise in helping people with self-care. The type and extent of self-medication and the reasons for its practices may vary from country to country. In developing countries, both modern drugs and traditional medicines are commonly used for self-medication. There is, therefore, a need to know the prevalence, determinants and risk factors associated with self medication practices among the various segments of the community to devise appropriate educational, regulatory and administrative measures utilized in alleviating the public health risks arising from improper practices of self-medication.<sup>9</sup> There are many reasons for the increased likelihood of self medication among medical students. These students have easy access to information from drug indices, literature, and other medical students to self-diagnose and self-medicate. In addition, they have easy access to the medication itself through physician samples provided by pharmaceutical representatives, and "The White Coat" guarantees trouble free access to drugs available in pharmacies.<sup>1</sup> Self-medication assumes a special significance among the medical students as they are the future medical practitioners and have a potential role in counseling the patients about the advantages and disadvantages of self-medication. Medical students also differ from the general population because they are well-exposed to the knowledge about diseases and drugs.<sup>6</sup> This study was conducted with the aim to assess the pattern and preferences of self-medication practices among the undergraduate medical students.

## **Materials and Methods**

This cross-sectional study was undertaken in Islamabad Medical and Dental College Islamabad during a three months period from October to December 2012 with approval from the Institutional Ethics Committee. The study population consisted of medical students from first to final year, within the age group of 17-29 years. 100 Students were selected for the study by consecutive sampling method. The participants were briefed about the nature of the study, informed written consent was taken and a pre-tested semi-structured questionnaire administered

to them. The information on the questionnaires included social demographic variables such as age, gender, marital status, locality and course of study. In addition to questions on demographic information, the questionnaire included questions on involvement in self medication practices, frequency of self medication, sources of medicines used, and reasons for self-prescribing. According to our set criteria the respondent who self medicated in last six months was actually labelled as a positive case of self medication. The information pertaining to the pattern of self-medication and drugs used for self-medication were included in the questionnaire. The investigators were present in case the respondents required assistance. For the purpose of the study, certain medical terms like antibiotics, analgesics, long and short acting psychiatric drugs were explained to the students. The data was analyzed using SPSS version 16 and summarized. Generally, simple percentages were used in the analysis and interpretation of the results

## **Results**

A total of 100 students participated in the study; of them 48 (48%) were female and 52 (52%) were male respectively. Out of 100 respondents 5 were currently married 1 divorced 2 separated and 92 not yet married. Among respondents 18, 19 and 29, 18, 4 were studying in their first year, second year, third year, fourth year and final year respectively. Out of total participants 43% were living in hostel and 57% were day scholars. According to our set criteria that the respondent who self medicated in last six months will be actually labelled as a positive case of self medication, a total of 88 students 40 (45.5%) female participants and 48 (54.5%) male participants said they practiced self-medication.

Out of 88 students who self medicated 54.2% attributed their source of information to electronic media 18% to print media and 27.9% to drug promotional activities, 62.9% said that they have sufficient knowledge to self medicate. Out of those who self medicate 88% had the previous history of use of similar medicines, 72.7% said they took advice from salesman other than pharmacist at drug store, 83.3% are in habit of taking advice from their family friends, 74.2% said that for minor ailments they don't consult doctor but self medicate. In response to the question, "why do you self medicate", 25% said that they opt for self medication as it is a cheaper source of getting medicine, 51% considered it a time saving activity and 24% said it's both cheaper and time saving.

The leading percentage that is 51.1% used analgesics 44.3% used antibiotics, and 4.5% used psychiatric drugs. Out of those who used psychiatric drugs 75% used short acting anxiolytics and 25% used long acting antidepressant drugs. Of all who self medicate, 57.1% were of belief that self medication may harm their health, 42.9 % said that it can't harm their health. Out of all those who self medicate 16.5% think that they have

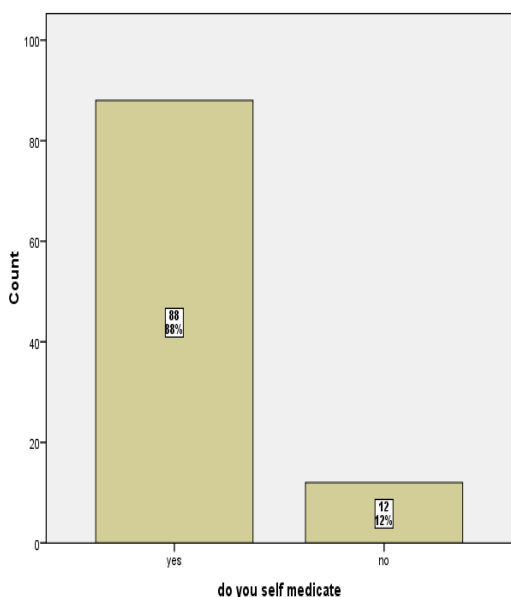


Fig 1: Distribution of Self Medication During the last six months

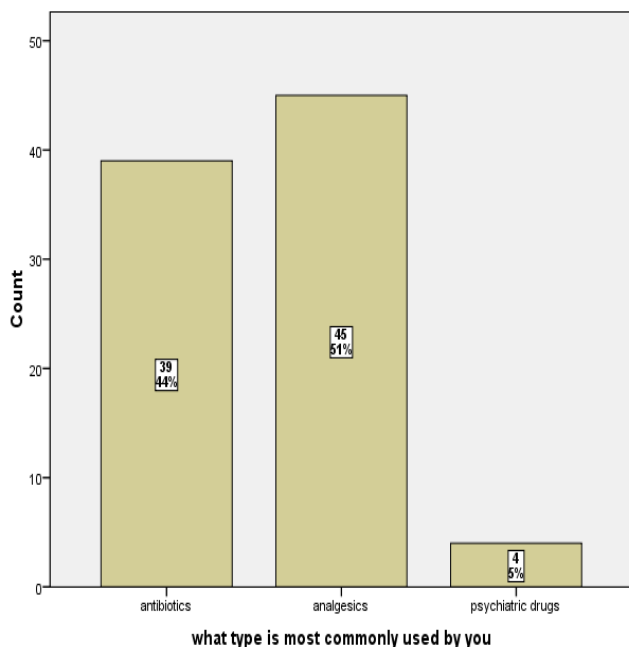


Fig 2: Distribution of Type of Medicine Used

become dependent on drugs, Out of those who think that they have become dependent on drugs 70.4% were of belief that they can quit self medication while 29.6% said that they can't quit it.

Characteristics	Do you self medicate		p value
	Yes	No	
Age of Participant			
< 20 years	29	7	0.189*
20 - 25 years	53	5	
> 25 years	6	0	
Gender			
Male	48	4	0.168*
Female	40	8	
Year of study **			
1	18	0	0.121*
2	14	5	
3	25	4	
4	17	1	
5	3	1	
Residential status			
Hostel	40	3	0.179*
Day scholar	48	9	

\* Difference was not significant at 5% level of significance

\*\* MBBS student of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and final year

The analysis shows that there was no statistically significant relationship between age, gender, year of study and residential status and self medication. That is there was no significant (p value > 0.05) association between age and self medication although participants having age < 20 years had a greater tendency (80%) for it. Male participants of the study also showed a higher tendency (92% vs. 83%) of self medication but this was not significant (p value > 0.05). Similarly there was no association between year of study and self medication. Although hostel living students have a greater inclination towards use of self medication (93% vs. 84%, p value 0.179) as compared to day scholar students but this difference was insignificant as given in table 1.

## Discussion

Self medication is getting increasingly important in healthcare with the passage of time.<sup>10</sup> Studies show that it is more prevalent amongst medical students. This study finds the prevalence of self medication among medical students of IMDC to be 88% in contrast to a study conducted among medical students in Karnataka (53%),<sup>11</sup> 42% in study conducted in university students of Islamabad<sup>2</sup> and 59% in a non-medical population in a previous study in Nepal.<sup>12</sup>

In our study it was found that more male students practice self-medication than female students. This is similar to a study conducted by Badiger and his colleagues<sup>1</sup>, however it is in contrast with another study conducted among medical students, which showed a greater prevalence among female students than male students.<sup>12</sup> In our study 25% said that they opt for self medication as it is a cheaper source of getting medicine, 51% considered it a time saving activity, 24% said it's both cheaper and time saving. These observations are comparable with the findings of previous studies which also showed that the most common reasons for self-medication were minor ailments (82%) and lack of time to consult a doctor.<sup>1</sup> Other studies have reported that the reasons as mild illness (40%) and shortage of time to consult a doctor (32%).<sup>13</sup> Self medication among the students also appears to be influenced by economic factors. This observation agrees with studies done in Sudan and Bogotá.<sup>14,15</sup> In this study it was noticed that the classes of drugs that were commonly used were analgesics (51.1%), antibiotics (44.3%), psychiatric drugs (4.5%). In another study it was reported that the classes of drugs that were commonly used were antipyretics (71%), analgesics (65%), antihistamines (37%) and antibiotics (34%).<sup>1</sup> Another study showed antipyretics (43%), analgesics (81%), antibiotics (6%) and antihistamines (13%) were commonly used.<sup>16</sup> In other studies it was found that medical students used more types of antibiotics compared to the non-medical students, which may be because of their knowledge about antibiotics.<sup>16</sup> By comparison some studies done in Pakistan and Iran did not show significant differences in self medication between medical and non-medical students.<sup>16,3</sup> These observations highlight the geographical and cultural variation in determinants of self medication.

In the study conducted in Karachi, analgesics were the most common (88.3%) followed by antipyretics and antibiotics; the study in Bahrain also reported analgesics to be the most commonly used drug group (81.3%) with antibiotics contributing only 6% of the

total share.<sup>17,3</sup> In our study of all who self medicate 57% were of belief that self medication may harm their health, 43% said that it can't harm their health. Out of all those who self medicate 16.5% think that they have become dependent on drugs, Out of those who think that they have become dependent on drugs 70.4% were of belief that they can quit self medication while 29.6% said that they can't quit it. This shows diverse attitude towards self medication practices suggesting a result oriented interventions. The practice of self-medication may be a risk factor for later substance misuse, which is especially common in anesthesiology, emergency medicine and psychiatry.<sup>18</sup> Personal and professional development programmes have a role in challenging and changing such behaviours.

Practicing self medication is very common among medical students worldwide. Though the medical students have the facility to consult the relevant physician at next door, they are reluctant to do it practically. Many a times a false belief that they know the exact etiology and treatment, makes them self medicate. On one hand self medication plays an important role in dealing with medical emergencies while on other end it may lead to fatal outcomes. Right from the induction in medical college the medical students start self medication practices. Not only this, but they also start providing consultation to their non medical colleagues and family members which could result into many unwanted results. Multiple studies in medical institutions across the country to assess the knowledge attitude and practices of self medication and its frequency, should be conducted. Findings of such studies will suggest how to incorporate concepts and principles of responsible self medication in medical curriculum.

**Limitation of Study:** The limitations of this study included the absence of a comparative group, such as students from another field; the small sample size; and the absence of interventions, like providing information regarding hazards of self-medication.

## Conclusion

The practice of self-medication is fairly common amongst medical students; this tendency is facilitated by the easy availability of drugs and information. Since inappropriate self-medication has the potential to cause serious harm, not only to the students themselves but also to those whom they suggest medication. Potential problems of self-medication should be emphasized to the students, to minimize this risk. Restriction of sale of drugs with potentially harmful effects should be implemented effectively

with monitoring systems between the physicians and pharmacists.

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